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I elb; di {kr%

fi z fo | kfFKZ!

, rr-f}rh; Lok/; k; I ki kua Hkor% gLrs I el; rA vflEu- I ki kus vfi i Fkel ki kuor- }kn'k i kBK%
I flurA I oã Fkeai | i kBK%rnulrjax | i kBK%rrLo ukV; }; al a ksttre-y[ku vflK0; fDrdrs I ðkny[que-
vuNny[que-bfr i kBKs orã i R; ða i kB%foLrrk%0; k[; k% vUo; k% HkkokFKZ; : i kf.k p fof'k"V
KkukFk; ksttrkfuA i R; ða i kB%vãkSkqfoHkDr%A vãkL; vUrs I kj kã k I ðdrHk"kk; kãfgUnHk"kk; kã-vfi
fyf[kra; sã Hkkockskus I k[; aHkorA i R; ðe-vãkL; mijkUra rã k[kckskul; i jh{k.kkFk±iz uk% nRr%
, rs iz uk% i k; %oLrqu"BRedk% I jyk%p I flurA i kBL; vUrs i kBKUriz uk% I Ei wã kBL; vcckskukFkã
nh?kRrjh; k% vfi I flur ; sã Hkorka y[ku{kerk; k% fodkl %Hkor~ i jh{kãdrs I E; d-vH; I ua HkorA
i kBsq'kCn: i kf.k/kkrq i kf.k vfi ; ksttrkfu ; kfu okD; fuekz.kHkorkal kgk; ; adfj"; flurA rku : i kf.k
i jh{kãdrs u I flurA y[kus dL; 'kCnL; dL; kãfoHkDR; kãfd : iãHkfo"; fr bfr I kjY; kFKZ i nRrkuA
i qrdL; vUrs vH; kl kFkã i wã qrdE- vf/kDR; iz ui=a vfi nUke- ; sã x | & i | ukVdfni kuka
vo/kã-y[kudkSkufodkl kFkã i nRri kBL; vH; kl %HkorA 0; kdj.kfo"k; dk%iz uk% vfi r= I a ksttrkA
vi fBrkãk}; ax | kRedai | kRedapã i kB; i qrdknfrjrdL; x | L; i | L; vockku{kerk; k% fodkl kFkã
orã foHkUul ðdr& i f=dkl q i nRr% dFkk% y[kku-vkn i fBRok LoKkuo/kãa djks
KkuktZsdnkfi I Ursk%u drD; %Kkusã , o eut; %dhrã yHkrA vr% , rsã I ki kusã Hkorkadhfrã Fk%
iz kLra Hkfo"; fr bfr 'kãkdekuk% i nh; UrA
mfUk"Br tkxr ikl; ojkflUckskrA

v/; {ki {kr%

fi z fo | kfkL!

I ãÑre-vLekdan'skL; xkjoe-vfLrA vLekdan'skL; ifr"Bk I ãÑreø vkfJrka vLekdaKkua
foKkua ikphuree-or's; r-ikphul ãÑrI kfgR; sl fyreA __Xon%fo'oL; I ãÑrKsikphure%
xðFK%A ; fn o; aLodh; I ãÑR; k , o ifjprk%u Hkoke%rfgz I ã kjsI EekuiwðdaLFkkrqu ikj; ke%A
vr , o }kn'kd{k; k% i kB; Øes I ãÑrfo"k; L; I ã kstua ÑreA ; s tuk% dõya I ãÑrKkus
vkReu%fodkl adrðePNfUr rsfi vus i kB; Øesk uua ykHkfuor k% Hkfo"; fUrA

Hkour% tkufUr , o bnkuhefi I ãÑrHk"kk; ka ik; % I lrf% i=i f=dk% idk'; UrA ifrfnuø
I kfgR; jpukl fjr~ vf/kdkf/kdosx i dgfrA Hkoku- vfi , RkL; ka Lo; kxnkua drq I {ke% Hkor~
bR; k'k; s , "k% i kB; Øe%fo'kSk: isk vk/kqudI UnHkz fofo/kkuke-mi ; kSxrkukan"V; k fufeZ%A

; s p fo}ka % font; 'p vL; i kB; ØeL; fuekz kfkE i kB; I kexhfodkl kfkE~ vkReu% ; kxnkua
Ñroul% rH; % I oH; % jk"Vh; eãfo | ky; hf' k{kkl ãFkkui {kr% I k/kpna Kki ; kfeA , "k% i kB; Øe%
i Fkeokjeø idkf'kr%A vr%; fn Hkorka eufl fdefi vU; r~Kkrø~bPNk Hkor~rfgz vo'; eø
I ãFkkua ifr Loi frfØ; ka i kfk; Rok vfLeu~{k=sLo; kxnkua dððrA o; aHkj rh; k% bfr xkj okLi ne-
vfLrA dnkfpnfi ghuHkkou; k =Lrk% u HkoEA rnð thoue~vf/kdkf/kda I qfU/kre~mTToya
I ekt dY; k.kdkj da ykHki na p Hkfo"; frA

HkjrL; i q% Hkx; kn; kfkE I oH; % eRi {kr% vudk% 'kHkdeuk% vudkfu vHkullukfu pA

v/; {k%

jk"Vh; eãfo | ky; hf' k{kkl I ãFkkue-

funskdi {kr%

fi z fo | kfFKZ!

jk"Vh; eäfo | ky; hf'k{kkl ðFkkuai fro"keHkorkal oðkafgre-vko'; drkapkubkoy i Lrkfor'skq i kB; ØeSkq of) a drqrRi j% HkofrA bnkuha ; kor~n'ked{kki ; Ura rq l ðÑri kB; Øe% fufeR% vkl hr~ i jUrq }kn'kd{k; k% Ñrs l ðÑrHkk"kk; k% i kB; ØeL; vHkko% vkl hrA , rka U; urka njhdræ~ bnkuha l ðFkkui {kr% l ðÑrHkk"kk; k% uohu% vk/kqud l UnHkkZupw% i kB; Øe% fodkfl r% vL; i kB; ØeL; vUrxra i lrd}; e~vfuo; z isk i Buh; eA i kBl% #fpi wkk% Hkos ð l el kef; dKkus foKkus p l a äk% Hkkjrh; l ðÑr% l E; d~ifri kndk% pkfj= dfodkl s l gk; dk% thous vkRexk% oHkkouk; k% fodkl dk% p Hkos ð bfr fcUngeufl fu/kk; fyf[krk% l Eikfnrk' p l flrA

rrh; si l rds }k i kB; ØeSk fufeRkSLr% ; ; k% e/; sHkour% Lo#P; uq kja dL; fpndL; p; uaÑRok i fBrq 'kDuoflUrA }k i kB; ØeSk Lr% 1- l ðÑra pð l ðÑfr% 2- iz kstueyda l ðÑreA i fkeoðfyi di =a Hkkjrh; l ðÑr; k% i fjp; a ink; Hkorka Kkus of) a dfj"; frA vij p i =e- vk/kqud; qsi = i f = dk. kla izdk' kukFk; l Eiknukfeko' ySk. kfkæfofHkUuSkqvi f{kri {kSkqHkorka dkyfodkl a dfj"; frA

dkfi Hkk"kk fdefi l kfgR; aok ; kor~thous l g l Ec) au Hkofr] rFkk i =dkfjrk; k% {ks= dkskya i kl; mi ; kfxrka y{; hÑR; vxu l jfr rkor~rL; ixfr% u l tk; rA Hkour% , o , rL; k% HkkxhjF; k% i dkgo/kzlk% l g; kxi nk; dk Hkkfojk"Vfuekz~kj' pA vr% Hkour% l ðÑrL; l ðÑrs p Kkus vkRekua l ð) a ÑRok ns kL; vxnrk% Hkkj rekr ð l R; k% l ðdk% Hkos ð bR; ð es gkfnZlh eukdkeukA

vL; i kB; ØeL; fuekzks ; s ; s fo}kd % font; 'p vkReu% veW; a l g; kxa i nuHkour% rH; % vga l ðFkkui {kr% gkfnZlha ÑrKrka Kki ; kfeA

Hkour% vfi /ku; k% ; Skka gLrs , "k% i kB; Øe% Loy{; i w z s xfe"; frA vlEu~ i kB; Øes ; fn Hkofö% fdefi l ð kskua l ð/kZa i fjorZa ok vi §; rs rfgZrSkka l oðkka i Lrkokuke= Lokxra Hkfo"; frA vr% fuLl ðkpa Hkour% Lol Eefra i Sk; UrA eri {kr% ; ðekda mTToyHkfo"; k; vusdk% 'kHkdkeukA

funskd%

jk"Vh; eäfo | ky; h f'k{kkl l ðFkkue

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II

1

- 1- thou-l ns'k%
- 2- ;fn tkukfl rn~on
- 3- vkjkk; a i jea l q[ke~
- 4- okpka e. Mua l R; e~
- 5- vfrykkk%u drD; %
- 6- jkt rs [kyq du; kdekjh
- 7- ,rn~mikL; e~
- 8- ij kfkz vkRekRl x%
- 9- dkysQyfr l kkkkX; e~
- 10- i rfur iji hMdk%
- 11- vuqNnyy[kue~
- 12- l oknyy[kue~

2

- 13- o"krp.kue~
- 14- verL; i Ufk%
- 15- fgeky; ksuke uxkf/kjkt%
- 16- ekuksfg egrka/kue~
- 17- dYi ukdhfr%fot; rs
- 18- i; kbj.kL; l j{k.ke~
- 19- Økskks uFkzdkjd%
- 20- vuUr%Kkul kxj%
- 21- 'kY; fpdfRI ktud%&l pqr%
- 22- d"Val; kl L; j{k.ke~
- 23- ân; i fjorue~
- 24- i =fy[kke%
- 25- i fj; kst uk&fuekz ke~

3

fodYi ^d*

- 26- l el kef; dal lÑri kfgR; e~
- 27- Hkkjrh; KkufoKkui jEi jk
- 28- l lÑre~vU; k% Hkkjrh; k% Hkk"kk% p
- 29- Hkkjrh; l lÑrks l ldkjk%

fodYi ^[k*

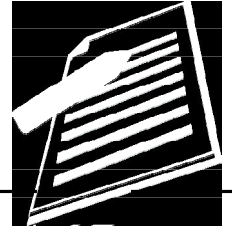
- 26- l lÑrL; iz kst uenydrk
- 27- tul xpkjek/; e%
- 28- l lÑri =dkfjrk
- 29- if=dkik: ie~
- 30- epzk=qV' kskue~

I ãÑre~

mPPkrjek/; fedLrj%

f}rh; Lok/; k; I ki kue~

Øela	fo"k; I ph	Lok/; k; I ki kue~	i"B I ǻ; k
13-	o"kr̄p.kue~	i Bue~¼i e½	1
14-	veṛL; i UFKk%	i Bue~¼i e½	24
15-	fgeky; ksuke uxkf/kjkt%	i Bue~¼i e½	46
16-	ekuksfg egrka/kue~	i Bue~¼i e½	70
17-	dYi ukdhr% fot; rs	i Bue~¼x e½	100
18-	i; kbj.kL; I j{k.ke~	i Bue~¼x e½	120
19-	Øks/kks uFkdkj d%	i Bue~¼x e½	141
20-	vullr%Kkul kxj%	i Bue~¼x e½	160
21-	'kY; fpfdRI ktud%&I φr%	i Bue~¼x e½	180
22-	d"Val; kl L; j{k.ke~	i Bue~¼ukVde½	198
23-	ân; i fjorue~	i Bue~¼ukVde½	220
24-	i =f̄y [kke%	yǻkue~	244
25-	i fj; kst uk&fuekz ke~	yǻkue~	259



13

o"kr̥p.kue~

Hk ofö% jkek; .kL; r̥q uke J̥ra L; krA bne~ vkfndfouk okYehfduk fojfpra egkdik0; e~ vflrA vflEu~ x̥lFks JhjekL; dFkk of.k̥r̥kA Jhjek% v; k̥; k; k% uiL; n'kjFKL; T; \$B%i̥% vkl hrA fir̥p̥vkK; k l %y{e.k̥u l hr; k p l g oue~ vxPNrA ousJhjekL; i Ruha l hrka jko.k% vgjrA l hrk; k%fo; kxs Jhjek% y{e.k% p rke~ vlošVq ous brLrr% vHkerkeA r; k% Hkerk% o"kr̥p̥_çkjHkrA mf}Xu% Jhjek% o"kr̥p̥ k% o.k̥za y{e.k̥a çfr djkrA

 m̥is̥; kfu

bea i kBa i fBRok Hkoku~

- o"kr̥p̥k% o.k̥za Lo'kCn% dr̥; k̥; % Hkfo"; fr(
- 'ykd̥ku~l Loja i fBr̥q'k{; fr(
- 'ykd̥kuke~vlo; a yf[kr̥q l eFk% Hkfo"; frk(
- i ; k̥; okfp'kCnkuka l a yua dr̥{ke% Hkfo"; fr(
- Dr&Y; i &'kr'kkupeR; ; kl̥rkuka i nkuka p; ua dr̥{ke% Hkfo"; fr(
- fØ; kin% l g dr̥nkfu ; kstf; "; fr(
- cg̥p̥hfgl eLri nkuka p foxga dfj"; fr(
- ur~'ik' 1/2 c̥ /kkr̥k% p : i.k.k̥a i z; k̥xa dfj"; frA



f0; kdyki %



13-1



13-2

v/k% dkufpr~okD; kfu fyf[krikfuA rskq dkufpr~ xh'eri E) kfu dkufpr~ p
o'kr E) kfu I flrA rkfu i Fkd&i Fkd~LrEHks fy[kUrA

1/d 1/2 e8kku~n"Vok e; jk% uR; flrA

1/4 k 1/2 tuk% 'khr i s a fi cflrA

1/x 1/2 I w L; vkri % vR; q. k% vflrA

1/2 k 1/2 ckyk% dxhuk&k% tys f{kiRok çl Uuk% HkoflurA

1/3 1/2 tyxe% Hkferki a uk' k; frA

1/p 1/2 xh'esk vkdyk% tuk% o{kk. kke~v/k% fr"BflrA

1/N 1/2 e. Mndk% Vj&Vjz bfr 'kCna dflurA

1/t 1/2 m". kk% ok; o% pyflrA

1/> 1/2 ekx&kq N=; çk% tuk% pyflrA

1/4 1/2 rMkxkuka tya 'kq; frA



Lou9kZukuka lyoxk% ççd) k%A
 fogk; funka fpj l flU#) keA
 vud: ik—fro.kZuknk
 uokEcđkkj kfhkgrk unflurAA5AA

o"iZosk foi yk% i rflur
 çokflur okr k% l eph.kbsk%A
 çu"Vdnyk% çogflur 'kh?ka
 u | ks tyafocfri UuekxkZA6AA

ujšj šnk bo i oššnk%
 l j šnnšks i ouks uhršA
 ?kukEcđđhks fhk"kp; ekuk
 : i afJ; a Lokfeo n'kz flurAA7AA

Dofpr-çxhrc bo "kV i nkšks%
 Dofpr-çuškk bo uhyd.BšA
 Dofpr-çeškk bo okj.kšn%
 foHkkur; udkJf; .kks oukUr k%A8AA

eđrkl ekhka l fyya i rn-oš
 l ŋuežya i = i ŋ/šq yXue~
 â"Vk foo.kPNnuk fogaxk%
 l j šnnška r"krk% fi cflurAA9AA

lyoxk% e&d]
 fpj l flU#) ke-¾ cgr l e; l s jkcdh gđ]
 fogk; ¾ NkMlej
 l eph.kbsk% vR; Ur rhoxfrokyh]
 foçfri Uuekxk% ekZcny fy, gđftUgkaus
 osufin; k]
 ?kukEcđđhks% ešK : ih tydy'kka l š]
 vfhk"kp; ekuk% vfhk"ka gksh gđ]
 "kV i nkšks% Hkejkacsl emka l š]
 uhyd.Bš% eljka l s
 okj.kšn% xtjktka l s
 foHkkflur ¾ l q kšhkr gksh gđ]
 vudkJf; .k% vudka dksvkJ; nussokyh]
 oukUr k% oui kUr] ouLFky
 irr-¾ fxjrsqg] fo"xk% i i hgs
 eđrkl ekhke-¾ eksh dsl eku vHkk oky]
 i = i ŋ/šq% i ūkadsnkska eš]
 foo.kPNnuk ¾ fofo/kj akaokyš]
 r"krk% l; kl s



13-2 cks'kç' uk%

1- emy i kBL; 'ykdoku~vk/kr; 'ykdoká kku~; kst; r

^d*

¼d½ egRI q ūkššq egh/kjk.kka
 ¼k½ vudlo.kš i ouko/kura
 ¼x½ ?kuki xka xxua u rkjk
 ¼k½ ç.k"Vdnyk% çogflur 'kh?ka
 ¼š½ Lou9kZukuka lyoxk% ççd) k%

^k*

¼½ Hkæš i rR; keQya foi DoeA
 ¼i½ u | ks tyafocfri UuekxkZA
 ¼ii½ foJE; foJE; i ŋ% ç; kflurA
 ¼v½ fogk; funka fpj l flU#) keA
 ¼w½ u HkkLdjks n'kZueH; q šra

2- fo'ksk.k% l g fo'ks'; inkfu ; kst; r

^d* LrEHk%

1/d 1/2 egRI q

1/4 k 1/2 ?kuki xwe~

1/8 x 1/2 ccd k%

1/2 k 1/2 funka

1/4 3 1/2 uo%

^[k* LrEHk%

1/4 1/2 xxue~

1/4 i 1/2 lyoxk%

1/4 ii 1/2 fpj l flu#) ke~

1/4 v 1/2 tykSk%

1/4 1/2 UlaSkq

3- v/kdfyf [kr' kCnkuka i ; k; i nkfu eyi kBkr~fpRok fy [kr&

; Fkk& 1/d 1/2 e; j% 3/4 uhyd.B%

1/4 [k 1/2 tye~ 3/4

1/8 x 1/2 l w % 3/4

1/2 k 1/2 Hke j% 3/4

1/4 3 1/2 eSkkuka 3/4

1/4 p 1/2 ok; o% 3/4



13-3 v/kuk voxPNke%

i Fke%vdk%

I Ei fr i Fkea 'ykda cks'kke%

i nPNn%

I eqgUr% l fyykfrHkkje~cykfdU% okfj /kj k% unUr%A

egRI q UlaSkq egh/kj k. kke~ foJE; &foJE; i u% i z, kFUAA1AA

vlo; % cykfdU% okfj /kj k% l fyykfrHkkje~ l eqgUr% unUr% egh/kj k. kke~ egRI q

UlaSkq foJE; foJE; i u% c; kFUAA

HkokFk%

cykdk% eSkku~n"Vok c l Uuk% Hkok r% l g vdk'ks mMM; UrA rs xtZa dPUr%

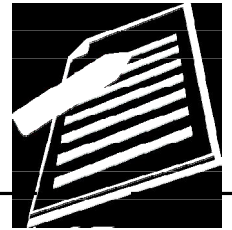
xPNfUrA , rr~n' ; e~vrho l #fpjaHkofrA , oacrh; rs ; r~eSkk% i oZ'kukaf' k [kj Skq

foJkea—Rok i u% vxs xPNfUrA

0; k[; k

v= ds c; kFUAA\ okfj /kj k% eSkk%A

fde~—Rok c; kFUAA\ foJkea



I eqgUr% l fyykfrHkkj
cykfdU% okfj /kj k unUr%A
egRI q UlaSkq egh/kj k. kke
foJE; foJE; i u% c; kFUAA 1AA



jl kdye "kvi ni fludk' ke
 çHKQ; rs tEcQyaçdkea
 vudlo.këi ouko/kre
 HkëkSi rR; keQyafoi DoeAA2AA

dê foJE; ç; kfUr\ i oZkuke-egRI q ÜkâSkq f' k[kjSkA eSkk% cykdkif{kfHK% ; D-rk%
 l q kSfHKrk% l flUR l fyyL; tyl; vfrHkjal eçgUr%ç; kfUR rsunUr%mpPlojsk
 ukna dPDr% xtZua dPDr% vxs xPNflUR

v/kuk f}rh; a 'ykda cksk%e

i nPNn% jl kdye- "kvi ni fludk' ke} i HkQ; rs tEcQye- izkea
 vudlo.kë- i ouko/kre- HkëkSi rfr vkeQye- foi DoeAA2AA

vlo ; % "kvi ni fludk' ke- jl kdye- tEcQye- çdkee- çHKQ; rA i ouko/kre-
 vudlo.kë- foi Doe- vkeQye- HkëkSi rfrA

HkokFk%

o"krk tEcQyfu vkeQyfu p çpjr; k HkoflUR i ouL; osu i Dokfu vkeQyfu
 N".ktEcQyfu p osu v/k% i rflUR tuk% rku; FkPNa [kknflUR , rku Qyfu
 LokLF; n"V; k ykHkdj.k 'kFDro/kZdkfu p HkoflUR

iLrri | s o"krk tEcQy&vkeQy; k% fp=.ke- vflrA

0; k[; k

tu%fde-çHKQ; r\ tEcQyeA

dhnd- tEcQye\ jl kdye- jl ; DreA tu% izkea; FkSve- bPNkuq kje- HkQ; rA
 "kvi ni fludk' ka tEcQya "kvi n% Hkej% l fludk' ka l n' ka- ".ko.kHkofrA tEcQyL;
 o.k% vfi Hkej% bo - ".k% HkofrA vkeQye- HkëkSi rfr] vudlo.kë} vudlo.kë} Dref
 i Doe- p vFkZ- i ouL; osu vo/kra izdfEi re- vkeQya HkëkSi rfrA

v/kuk r}rh; a 'ykda i Bke%

i nPNn% ogflr o"krur unflr Hkflur] /; k; flr ur; flr l ek' ol flrA
 u | %?kuk eÜkxtk% oukrk% fi z; kfoghuk% f' kf [ku% l yoak% AA3AA

vlo ; % u | % ogflr] ?kuk% o"krur] eÜkxtk% unflr] oukrk% Hkflur] fç; kfoghuk%
 /; k; flr] f' kf [ku% ur; flr] l yoak% l ek' ol flrA

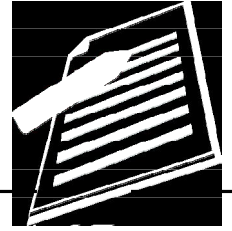
HkokFk%

o"krkç-fr% l oZ vrho çl luk n"; rA ouçkrk% uoi Yyo; D-rk% Hkrok l q kSfHKrk%
 HkoflUR xtK% e; jk% l oZ gf"krk% l flr fdUrq fo; kSxuka -rs rq o"krk% vrho
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 i'; rç

ogflr o"krur unflr Hkflur]
 /; k; flr ur; flr l ek' ol flr
 u | ks?kuk eÜkxtk% oukrk%
 fç; kfoghuk% f' kf [ku% l yoak% AA3AA



dk%ogflur\ u | %A dso"klur\ ?kuk%e9kk%A dsunflur\ eÜkxtk%A eÜkk%xtk%çI Uuk%
 Hkkok unflurA oukUr% ouçkUr% 'kšHkrk% HkofUrA fç; kfoghuk% fojfg.k% tuk%
 /; k; flur] Lofç; ka fplur; flurA f'kf[ku%e; jk%e9kku~n"Vøk çI Uuk% Hkkok uR; flurA
 f'k[kk vL; vflr bfr f'kf[ku} cgppus f'kf[ku%e; jk%A ds l ek'ol flur\ lyoak%
 okujk%A dFke\ ; r%v/kqk m".krk; k% l e; %xr%A vr, o okujk%vk'oLrk% l flurA
 rs m".krk; k% dkj .kk~d"Va u vuhkfo"; flurA

0; kdj .kfclno%

I flur/kPNsk%

jl kdye- ¾ jl \$ vkdye-
 iouo/kre- ¾ iou \$ vo/kre-
 irR; keQye- ¾ irfr \$ vkeQye-

I eLri nkuka foxgk%

"kV+n% ¾ "kV+nkfu ; L; I %¼kV+n% cgppfgl ekl %
 iouo/kre- ¾ iouu vo/kre-¼keel½ rrrh; k rRi # "kl ekl %
 fç; foghuk% ¾ fç; ; k foghuk% rrrh; k rRi # "k%

i ni fjp; %

çHkq; rs	ç \$	\sqrt{Hkq} - debkP; syV-	, dopue-
ogflur		\sqrt{og} - yV-ç- iq	cgppue-
Hkkflur		\sqrt{Hkk} yV-ç- iq	cgppue-
ç; kflur	ç \$	$\sqrt{; k}$ yV-ç- iq	cgppue-
egRl q	egr}	I lreh fo-	cgppue-
Ükaksq	Ükax]	I lreh fo-	cgppue-
HkæKS	Hkæej	I lreh fo-	cgppue-
f'kf[ku%	f'kf[ku}	çFkek fo-	cgppue-

ç—frçR; ; i fjp; %

I eqgllr% l e-\$ mr~	\sqrt{og} - 'kr' çR; ; %	çFkek fo- cgppue-
unUr%	\sqrt{un} - \$ 'kr'çR; ; %	çFkek fo- cgppue-



foi Doe- fo \$ \sqrt{ip} - \$ ä \$ uiq çFlek fo- , dopue-

i Fkeldkl kj%

cykdkfHk% I qkkSHkrk% ty/kj% i o'rf'k[kjSkq foJkea dØr% çrh; UrA tuk% Hkej%
I n'ka—" .ko.k±j I ; Øra tEcQya; FkSVa [kknfUrA i ouoxu vudo.kkzu foi Dokfu
vkeQykfu HkæS i rflUrA vfLeu~_rkSç—R; ka I oE I kØn; ±n' ; rsfdUrqfo; kSxuka
—rs v; e~_rØ vrho nØ[knk; h orzA

o"kkz __rq ea cknyka dk I kØn; Z vukS[kk gh glørk gA cd& i ää; ka I s I qkkSHkr
ty/kj i o'rf'k[kjka ij cBdj foJke djrsq çhr glørsgA i Foh ij o"kkz __rq
dsQy vke vkS tkepkadksnS[kdj fdl dk eu [kkusdsfy, ughayypkrkA vr%
yxs Hkejka tS sdksyj I hys tkeu th Hkjds [kkrsqA gok ds ox I si dsq vud
jacka okysvke i Foh ij fxjrsjgrsgA bl __rqeaç—fr ea I oE I kØn; ZgsfdUrq
fo; kxh tuka dsfy, ; g __rq nØ[knk; h gA



i kBxrc'uk% 13-1

- drī nkuka fØ; ki n% I g esyua fØ; rke-

1/d½ eÜkx t k%	1/½ ogflUr
1/4 k½ oukUr k%	1/ii½ o"kkzUr
1/x½ ?kuk%	1/iii½ unflUr
1/2k½ fç; kfoghuk%	1/v½ HkkflUr
1/3½ u %	1/4½ uR; flUr
1/p½ f' kf [ku%	1/vi½ /; k; flUr
- v/kksyf [krinkuka i ; kZ okfpi na 1/4 ½ bfr fpau fpàhd#r

1/d½ lyoak%	1/exk%@okuj k%
1/4 k½ okj /kj k%	1/eskk%@dy' kk%
1/x½ egh/kjk. kke-	1/o{kk. kke@i o'rkuke½
1/2k½ i ou%	1/ok; Ø@ i fo=%½
1/3½ i dkee-	1/tye@i ; klr½
1/p½ ÜkæSkq	1/f' k [kj Skq@exSkk½

3- i wkbKD; su mUkj r
¼d½ okfj/kj k% d# foJE; i q% ç; kflur\
¼[k½ e9kk% fde- l eðgflur% xPNflur\
¼x½ foi Doe~vkeQya d# i rfr\
¼k½ o"krk8 ds /; k; flur\
¼³½ lyoxk% fdefk± l ek' ol flur\

f}rh; %vdk%

v/kvk **prfkt' ykda** i Bke%A

i | sflEu-e9kkPNuus vkdk' ks tkrs fda Hkofr bfr o; a ckskke%A

i nPNn% ?kuki xwaxxua u rkj kj u HkklDj% n' kZue~vfhk&mi sra
uo% tyk9k% /kj .kh forlrkj reksfylrk u fn' k% idk' k%AA

vlo; % xxue~?kuki xwe~ u rkj kj u HkklDj% n' kZue~vh; q sra uo% tyk9k% /kj .kh
forlrk ¼Hkofr%A reksfylrk% fn' k% çdk' k% u ¼Hkoflur%A

Hkokfk2%

o"krk8e9k% vkPNkfnrsxxus rkj kx.kL; l wL; p n' kZua u Hkofra fnus l wL; vHkkos
jk=ks rkj kx.kL; vHkkosfn' kKkuau Hkofra iFoh tyL; vkf/kD; su rlrk Hkofra
l oZ= , o vU/kdkj% n' ; rA

0; k[; k

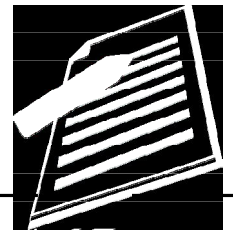
?ku% fde-mi xwe~ xxueA HkklDj% ¾ l w% u n' ; rA dFke~ ; r% e9kkPNkfnrs
xxusjk=ks rkj kx.k% fnus p l w% vfi u n' ; rA uo% tyk9k% uotyjkf' kuk iFoh
l Urqvk tkrkA fn' k% rel k vU/kdkj% fofylrk% vkPNkfnrk% l flurA vkdk' k%
e9kkPNu% Hkofr vr% o"krk8fn' kKkuau Hkofra

l Eifr **i xpea' ykdackskke%A**

i | sflEu-e. Mdkuka i d Uurk; k% o. kZue~vflra

i nPNn% Lou% ?kukuka lyoxk% i çð k% fogk; funke-fpj l flU#) keA
vud: i kÑfro.kZukn% uoEcðkkj kfhkgrk% unflurA

vlo; % lyoxk% ?kukue~Lou% fpj l flU#) ke~funke~fogk; i çð k% ¼ flur¼ ¼r~½
vud: i kÑfro.kZukn% uoEcðkkj kfhkgrk% unflurA



?kuki xwaxxua u rkj kj
u HkklDj% n' kZueH; q sra
uo% tyk9k% /kj .kh forlrkj
reksfylrk u fn' k% çdk' k%AA4AA

Lou% kZukuka lyoxk% ççð k%
fogk; funkefpj l flU#) ke~
vud: i k~fro.kZukn%
uoEcðkkj kfhkgrk unflurAA5AA



HkkokFlz%

e.Mwdk%e%kkukaxtZaJqok fpjdkykr-vo#) kafunkaR; DRok tlxirk%HkofUrA r%kke-
vudkfu : i kf.kj i Fkd&i Fkd-vkNir; % fofHkUuk% o.kk% fhUuk% uknk% p l flurA rs
o"kkZkkj kfHK% i hfMrk% çl Uuk% HkofUr g"kk k p 'kCna dçZUrA

0; k[; k

v= ds ççç k% lyoxk% e.Mwdk%A

dSkka /ofufHK% ççç k% e%kkuke-Lou%/ofufHK%A

dke-fogk; ççç k% funkeA fpjl flU#) ka fpjdkykr- l flU#) ka l fiprka funkeA
oLrç% e%kkuka xtZa Jqok e.Mwdk% fpjdkykr- l f prka funka R; DRok tlxirk%
HkofUrA

ds unfUr\ lyoxk% unfUr 'kCna dçZUrA rs vud: i k%A r%kke-vudk% vk-r; %
i Fkd&i Fkd-o.kk% uknk% p l flur uokEcçkkj kfHK% vfhkgrk% uotyj kf' kfHK% rkfMrk%
vFkkz~o"kkZkkj kfHK% i hfMrk e.Mwdk% unfUr 'kCna dçZUrA

bnkuha "k"Ba"ykda i Bke%A

vfLeu-i | smRdVi dkg; çrkuka unhuka o.kZua fo | rA o"kkZkkj Hkof~% vfi bh'ka n'; a
nf"VxreçA

i nPNn%

o"kkZkkj d%kk% foiky% i rflur] i dçflur okrk% l eph.kçsxk%A

izk"Vdnyk% i dçflur 'kh?ke} u | % tye-foifri UuekxkZAA

vlo; % foiky% o"kkZkkj i rflurA l eph.kçsxk% okrk% çokflurA ç.k"Vdnyk% foçfri UuekxkZ
u | % 'kh?ka tye-çogflurA

HkkokFlz%

o"kkZkkj rhozt yidkgu unhuka rVik% u'; flurA l oç tyeç nf"Vxra HkofrA u | %
Loekx± i fjor; Z ogflurA ok; o% vfi rhoçsxu ogflurA

0; k[; k

dhn'; % o"kkZkkj i rflur\ çoxk% i N"V% ox%; kl ka rkç rhoçsx; çrk% o"kkZkkj i rflurA

dk% çokflur\ okrkç; i ouk%A

dFka çokflur\ l eph.kçsxk% rhoçsxu i ouk% pyflurA

dk% çogflur\ u | %A

dhn'; % u | % ç.k"Vdnyk% u | % ç.k"Vik% dnyk%; kl ke-rk% u | %A

i çu% dhn'; % u | % foçfri UuekxkZç o"kkZ q tya oxsu ogfrA tyeu unhuka elxkZ
i fjofrçrk%HkofUrA

o"kkZkkj d%kk% foiky% i rflur]
çokflur okrk% l eph.kçsxk%
ç.k"Vdnyk% çogflur 'kh?ke}
u | ks tyafoçfri UuekxkZAA6AA

0; kdj .kfcUho%

I fu/ki z; ks%

?ku	\$ mi xke~	¾ ?kuki xke~¼	\$ m ¾ vks½ xqkl fu/k%
HkkLdj%	\$ n'küe~	¾ HkkLdjs n'küe~¼	fol tLh; L; m(fol xL fu/k% v \$ % \$ v @;] o] j] y] g] oxh; 3]4]5 o. kkk¼ vks
vfhk	\$ mi sr	¾ vH; q sr ¼	\$ m ¾ ; ~m ¾ ; q ; .k- l fu/k%
uos%	\$ tyksks /kj .kh	¾ uos tyksks /kj .kh ¼	fol tLh; L; j½ fol xL fu/k%
ty	\$ vksks	¾ tyksks ¼	\$ vks ¾ vks½ of) l fu/k%
Lou%	\$?kukuke~	¾ Loukskukuke~¼	fol tLh; L; j½ fol xL fu/k%
uo	\$ vEcqkkj \$ vfhkgrk%	¾ uoEcqkkj vfhkgrk%¼	\$ v ¾ vks½ ¼vk \$ v ¾ vks½ nh?kL fu/k%
u %	\$ tye~	¾ u ks tye~¼	fol tLh; L; ^m*½ fol xL fu/k%
re%	\$ fofylrk%	¾ reks fofylrk%¼	fol tLh; L; ^m*½ fol xL fu/k%

I ekl %

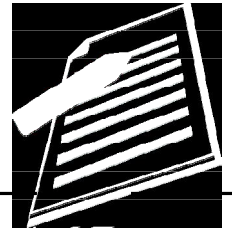
ç.k"Vdnyk%	¾ ç.k"V% dnyk%; kl ka rk%	¼u %½	cgøhfgl ekl %
foçfri Uuekxk%	¾ foçfri Uuk% ekxk%; kl ka rk%	¼u %½	cgøhfgl ekl %

i ni fjp; %

inkfu	eny'kcn%@/kkr%	folkfä%@ydkj%	opue~
funte~	funt	f}rh; k	, dopue~
?kukuke~	?ku	"k"Bh	cgøpue~
Lou%	Lou	r}rh; k	cgøpue~
unflr	un~	yVydkj%ç- i q	cgøpue~
çokflr	ç \$ ok	yVydkj%ç- i q	cgøpue~
çogflr	iz \$ og~	yVydkj%ç- i q	cgøpue~

ç—frçR; ; k%

forlrk	¾ fo	√ri~	Dr L=hfya~	çFkek fo-	, dopue~
fofylrk	¾ fo	√fyi~	Dr L=hfya~	çFkek fo-	, dopue~
ççk%	¾ ç	√çdk~	Dr i q	çFkek fo-	cgøpue~
vfhkgrk%	¾ vfhk	√gu~	Dr i q	çFkek fo-	cgøpue~





I (U#) ke-¾ I e- fu √#/k- Dr L=hfyaē- f}rh; k , dopue-
foçfri Uuk%¾ fo çfr √ir- Dr iq f}rh; k cgøpue-
fogk; ¾ fo √gk Y; i- v0; ;

f}rh; kkl kj%

o"krkēe% vkPNkfnrsxxusrkjx.kL; I w L; p n'kZua HkofrA vU/kdkj sp fn' k%
Li "V% u HkofUrA e%kkuka xtZua Jqok fpjdkykr- I qrk% e.Mwdk% tkxrk% HkofUr
uo/kkj kfhk% vkgrk%çl Uuk%HkofUrA unhuakdyk%ço/kØrsekxk%p i fjofrZ-k%HkofUrA

o"kkZ __rqa e%kka l sf?kjsvkd'k ear kjx.k vkj I w Zdsn'kZ ughagkrA vU/kdkj
dsdkj.k fn'kkvka dk Li "V Kku ughagk i krkA e%kka dh xtZuk I qdj fpjdky l s
l kş gq ead tkx tkrs gāvkj viusÅij o"kkZ dh ubZ ty/kkj dsfxjusl sçl Uu
gkrs gā ufn; k; viusekxZ dks dkV dj rhoxfr l sty cgkrh gā dxkjka ds dVus
l sjkLrs #d tkrs gā



i kBxrç'uk% 13-2

- 1- jç kkrdrkfu inkfu vf/k-R; ç'ufuekz ka dçpUrq
½d½ /kj.kh uotyks% forlrk trkA
¼k½ o"krkē l yoak% unflrA
½x½ u | % 'kh?ka çogflrA
¼k½ funka fogk; l yoak% ççç k% HkofUrA
¼¾½ o"krkē xxua ?kuki xka HkofrA
- 2- fjDrLFkkuškq; FkkufnZVa yVydkjL; fØ; ki nkfu ; kst; Urq
½d½ uokEcçkkj kfhkgrk% l yoak%&&&&& ¼un½
¼k½ foi yk% o"kk% oxu&&&&& ¼i r½
½x½ ç.k"Vdnyk% u | % tya 'kh?ka&&&& ¼ç\$og½
¼k½ HkkLdj% n'kZua u &&&&&& ¼vfhk\$mi \$b½
¼¾½ l eph.kōsxk% okrk% &&&&& ¼ç\$ok½
- 3- , di nsu mÜkjafy [kUrq
½d½ o"krkē reksfolylrk% dk% HkofUr\
¼k½ e%kkuka Lou% ds i çç k%
½x½ i z.k"Vdnyk% dk% ogflr\
¼k½ okrk% dFka i çkflr\

r`rh; %vdk%

bnkula o; a l Irea 'ykda i Bke%

vfLeu-i | s i o`rkuka o. kza or`ra o"kkLukrk% i o`rk% jE; k% HkofurA

i nPNn% uj%uj`bnk% bo i o`r`bnk% l j`bnn`nk% i ouki uhr%
?kukEcp`qHK% vfHKf"KP; ekuk% # i efJ; e-Loke~ bo n'kz fUrAA

vlo; % uj%vEcp`qHK% vfHKf"KP; ekuk%uj`bnk% bo l j`bnn`nk% i ouki uhr%?kukEcp`qHK%
vEcp`qHK% vfHKf"KP; ekuk% i o`r`bnk% Loke~: i e-fJ; e~ bo n'kz fUrA

Hkokfk%

; Fkk uj% tyd`qHK% uik. ke-vfHK"kdadp`ur rFk` bUnsk n`nk% iounou mi uhr%
e`k: i % tydy'k% i o`r`bnk. ke-vfHK"kd% HkofurA ; Fkk ui k% Loh; a: i ajkT; L; çxfra
'kfDre~, \$o; ±p çn'kz fUr rFk` i o`r`bnk% LOPNa/koya: i afJ; aoul Einka 'kkkka
çn'kz fUrA ; Fkk uj`bnk. kka tyd`qHKLukusu 'kkkk o/kz rFk i o`rkuka e`k tyLukusu
'kkkk o/kz`A

O; k[; k

i o`r`bnk% fdan'kz fUr\ : i e-fJ; e~'kkkkeA dhn'kk% i o`r`bnk% vfHKf"KP; ekuk% d%
vfHKf"KP; ekuk% ?kukEcp`qHK% ?ku: fi fHK% vEcp`qHK% ty/kj`SA dhn'k% ?kukEcp`qHK%
l j`bnn`nk% l j`bnk n`nk% i u% dhn'k% ?kukEcp`qHK% i ouki uhr%ok; uk vkuhr%SA d%
vfHKf"KP; ekuk% uj`bnk% bo\ uj% vEcp`qHK% vfHKf"KP; ekuk% uj`bnk% boA

I Eifr v"Vea 'ykda i Bke%

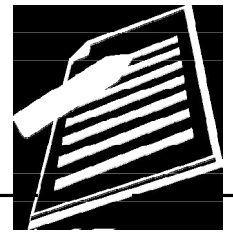
i | sfLeu-i Ñr% vnHk`ra l k`n; ±fo | ra

i nPNn% dofpr~ixhrk% bo "kVi nk`k% Dofpr~iu`kk% bo uhyd.B`SA
Dofpr~ie`kk% bo okj.k`n% fohkkfur vudkJf; .k% oukUr`kA

vlo; % Dofpr~"kVi nk`k% çxhkrk% bo Dofpr~uhyd.B% çu`kk% bo Dofpr~okj.k`n%
çe`kk% boA , rs vudkJf; .k% oukUr`k% fohkkfurA

Hkokfk%

ouSkqDofpr~Hkej`k% xk; fUr , oairh; rsouins`kk%, o xk; fUr] Dofpr~e; j`k% uR; fUr]
ouLFky; % , o uR; fUr] d`fpr~xt`bnk% ene`kk% Hkok fopj fUr oLr`% oukfu , o
e`kkfu tkrkfuA bRFke~, rs ouçkUr`k% vudskka thokuke~vkJ; % Hkok 'kkkUrA



uj`bnk bo i o`r`bnk%
l j`bnn`nk% i ouki uhr%
?kukEcp`qHK% vfHKf"KP; ekuk]
: i fJ; aLokfo n'kz fUrAA7AA

Dofpr~çxhkr bo "kVi nk`k%
Dofpr~çu`kk bo uhyd.B`SA
Dofpr~çe`kk bo okj.k`n%
fohkkur; udkJf; .k% oukUr`kA8AA



eðrkl ekhka l fyya i rn-oð
 l fyeÿya i =i ð/Skq yXueA
 â"Vk foo.kPNnuk fogak%
 l j ðnnðkarf"krk%fi cfUrAA9AA

0; k[; k

o"krkð ds fohkkfUr\ oukUrka dhñ'kk% oukUrka vudkUf; .k% vudSkke-vkUf; .k% vkU; nkrkj%oukUrka oukUrka d%çxhkrka "kV+ nkSk%Hkej.k.kka l eÿçxhkrk%Hkej.k.kka xku; ðrk%vU; s Hkej%oukUrka xqkxkua dðZUrA d%çuUkk% uhyd.B%e; j SA d% çeuUkk% okj.kðn% x tðnð

bnkuha **uoea 'ykda** ckskka

vflEu-'ykd s i f{k.kka tyi kuL; l ðnja o.kZuan' ; rA

i nPNn% eðrkl ekhke-l fyye-i rr-oð l fyeÿye-i =i ð/Skq yXueA
 â"Vk% foo.kPNnuk% fogak% l j ðnnðke-rf"krk%fi cfUrAA

vUo ; % eðkl ekhke-l fyeÿye-l j ðnnðke-i rr-oð l fyye-i =i ð/Skq yXue-¼n"Vøk½
 foo.kPNnuk% rf"krk% fogak% â"Vk% ¼kkok½ fi cfUrA

HkokFk%

dhñ'ka l ðnja o.kZue= nðkeA i f{k.k% i =Skq yXua tyafi cfUrA vkdk' kkr-i frrai =Skq l yXuatya eðkl n'kaçfrHkkfrA rn-n"Vøk fogak%çl Uuk%HkofUr ; rksfg rSkke-b; a çfrKk vflr ; r-rsvkd' kkr-i frratye-, o i kL; flr u rqHkkekð i f{k.kka i {kk%vfi fofHkUuo.kZuka 'kkkka /kkj ; flrA

0; k[; k

fogak% fde-fi cfUr\ l fyyeÿ tyeA dhñ'ka l fyye\ eðkl ekhka eðk bo vkHk ; L; rr-tyeA l fyeÿya LoPNap l fyyeA i ð% dhñ'ke-tye\ irr-l fyyeA vkdk' kkr-i rr-tyeA tyadeÿ l yXue-vflr\ i =i ð/Skq i =k.kka i ð/Skq i k=Skq yXua l DratyeA dsu nðkal fyye\ blns k nðkeA fogak% dhñ'kk% l flr\ foo.kPNnuk% fofo/ko.kk%Nnuk i {kk% ; Skka l flr rkn'kk% fogak% rsfogak% rf"krk%fi i kfl rk%vfi l flrA fogak% tyikusu dhñ'kk% tkrk% â"Vk% çl Uuk% tkrk% fdefk± çl Uuk% fogak% fogakuke-pkrdkuka i .k% vflr ; r-rs dðya o"kkz k% tyai kL; flr vr%rs çl Uuk% HkofUrA

0; kdj .kfclno%

I fu/kPNn%

- ?ku \$ vEcð ¾ ?kukEcð
- i oÿ \$ blnk% ¾ i oÿðnk%
- i ou \$ mi uhr% ¾ i ouki uhr%

uj% \$ ujbnk% ¼ ujıjbnk%

dıHk\$ vfHk"kp; ekuk% ¼ dıHk\$ fHk"kp; ekuk%

NRo fu; e%foo.kz \$ Nnuk ¼ foo.kPNnuka "N* dkj.kkr~"p* o.kL; vkxe%
gLoLoj \$ N ¼ gLoLoj \$ p~\$ NA ;fn aLoLojkr~ijsN o.k% Hkofr rnk p-
o.kL; vkxe% Hkofr ; Fkk Lo \$ Ne~¼ LopNej vuq \$ Nn% ¼ vuqNn%A

I ekl k%

uhyd.B% ¼ uhy% d.B% ; L; I % uhyd.B% r% cgpfhgl ekl %

eDrkl ekHke~ ¼ eDr; k I ee~vkHk ; L; rr~¼t ye½ cgpfhgl ekl %

"kV+ nk% ¼ "kV+ nkuke~vk% ¼r% "k" BhrRi q "k%

okj .k% ¼ okj .kkuke~bln% okj .k% ¼r% "k" BhrRi q "k%

i =i v'Skq ¼ i =k. kka i v'Skq "k" BhrRi q "k%

I jbnzÜke~ ¼ I jbnz k nÜke~ r`h; krRi q "k%

i ni fjp; %

n'kz; flur ¼ n'k-\$ f.kp- yV- ç- iq cgppue~

foHkflur ¼ fo Hkk \$ yV- ç- iq cgppue~

fi cflur ¼ i k yV- ç- iq cgppue~

ç-frçR; ; k%

nÜk% ¼ nk ä iq r`h; k fo- cgppue~

mi uhr% ¼ mi \$ vuh ä iq r`h; k fo- cgppue~

çxhkr% ¼ ç \$ vxS ä iq çFlek fo- cgppue~

çuÜk% ¼ ç \$ vur- ä iq çFlek fo- cgppue~

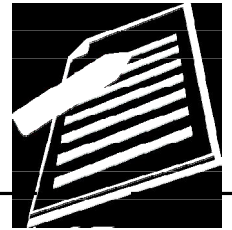
çeÜk% ¼ ç \$ ven- ä iq çFlek fo- cgppue~

â"vk% ¼ â"v" k- ä iq çFlek fo- cgppue~

r"krk% ¼ r" k- ä iq çFlek fo- cgppue~

vfHk"kp; ekuk% ¼ vfHk \$ vfl p~\$; ½debkp; ½ 'kkup~iq çFlek fo- cgppue~

irr~ ¼ ir~ 'kr` uiq çFlek fo- , dopue~





'kr'kkupiR; ; kS

yV% 'kr'kkupkA fglntHkk"kk; ka ^dk; Z djrs gq* bfr vFkš 'kr'kkupiR; ; ; k% iz k% fØ; rA ijLeš fn/kkrqHk% l g 'kriR; ; L; iz k% Hkofr vkReuš fn/kkrqHk% p l g 'kkup-iR; ; L; iz k% HkofrA 'kr'kkupiR; ; ; kUr in kuka iz k% fo'kSk.k: i sk HkofrA vr%fo'kSk.kL; fyæfoHkfD Dropukfu fo'kS; i nkuq kja HkofrA

'kriR; ; %

/kkrq	i q	L=h0	u0
xe-	xPNu-	xPNUrH	xPNr-
iB-	iBu-	iBUrH	iBr-
ue-	ueu-	ueUrH	uer-
ip-	ipu-	ipUrH	ipr-
dFk-	dFk; u-	dFk; UrH	dFk; r-
/ko-	/kou-	/koUrH	/kor-
on-	onu-	onUrH	onr-
gl-	glu-	glUrH	glr-
py-	pyu-	pyUrH	pyr-
f'k{k-	f'k{k; u-	f'k{k; UrH	f'k{k; r-

'kkup&iR; ; %

/kkrq	i q	L=h0	u0
l d-	l ðeku%	l ðekuk	l ðekue-
yHk-	yHkeku%	yHkekuk	yHkekue-
l g-	l geku%	l gekuk	l gekue-
o/k-	o/këku%	o/këkuk	o/këkue-
eŋ-	ekneku%	eknekuk	eknekue-
; r-	; reku%	; rekuk	; rekue-
dEi-	dEi eku%	dEi ekuk	dEi ekue-
; kp-	; kpeku%	; kpekuk	; kpekue-
l g-	l geku%	l gekuk	l gekue-
; qk-	; q; eku%	; q; ekuk	; q; ekue-

, "ka: i kf.k Øe'k% xPNrør} unhor} txrør-HkofrA , "ka: i kf.k Øe'k% nðor} yrkor} Qyor-HkofrA

/kkrq i kf.k

ur- 1/4kupuk1/2

yV- 1/4brëkudky%

ykV- 1/4kKk1/2

	, dopue-	f}opue-	cgøpue-	, dopue-	f}opue-	cgøpue-
i Fkei # "k%	uR; fr	uR; r%	uR; flur	uR; rq	uR; rke-	uR; Urq
e/; ei # "k%	uR; fl	uR; Fk%	uR; Fk	uR;	uR; re-	uR; r
mÙkei # "k%	uR; kfe	uR; ko%	uR; ke%	uR; kfu	uR; ko	uR; ke

y³- 1/4krdky%

yV- 1/4kfo"; rdky%

i Fkei # "k%	vuR; r-	vuR; rke-	vuR; u-	ufrZ; fr	ufrZ; r%	ufrZ; flur
e/; ei # "k%	vuR; %	vuR; re-	vuR; r	ufrZ; fl	ufrZ; Fk%	ufrZ; Fk
mÙkei # "k%	vuR; e-	vuR; ko	vuR; ke	ufrZ; kfe	ufrZ; ko%	ufrZ; ke%

fof/kfy³- 1/4kfkuk] bPNk1/2

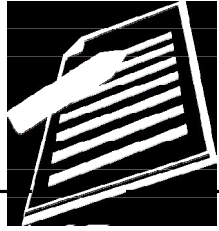
i Fkei # "k%	uR; s-	uR; rke-	uR; s ð
e/; ei # "k%	uR; %	uR; re-	uR; r
mÙkei # "k%	uR; s e-	uR; ð	uR; ð

fi cfr 1/4yV1/2 fi crq 1/4yV1/2 vfi cr- 1/4y³1/4 i kL; fr 1/4yV1/2 fi cr- 1/4cf/kfy³1/2 Lo; afy [krA

r`rh; kâkl kj%

vfHk"kdKri ja; Fkk jktku%LoL; jkT; L; çxfra' kfdre~, ðo; ±çn' kç flur rFkð eðk%
vfHk"kdRk%i oZbñk%Loa: iafJ; ap n'kç flurA ouSkqDofpr-Hkçjk% xk; flur] Dofpr-
e; jk% ur; flur dçfpr~ p xtñk% eneÜkk% Hkkok fopjflurA bRFka , rs ouçkürk%
vudSkka Hkkokuke~ vkJ; k% Hkkok 'kkkürA fofo/ko.kk% fi i kfl rk% fogak% vkdk' kkr-
ifraai =Skq l çXua tyaçl Uur; k fi cflurA

vfHk"kd dscn ftl çdkj jktk viusjkT; dh çxfri 'kfdri] , ðo; Zvkfn dk
çn'kü djrs gâ ml h çdkj eðk : ih tydy' kka }kjk vfHk"kd gkus ij ekus ; s
iojkt viusfueÿ : i vkç 'kkkk l Ei flük dk n'kü l k dj k jsggâ dgha Hkçj
xk jsggâ dgha eÿ ur; dj jsggâ rks dgha xtjkt elr gkdj fopj.k dj jsg
gâekusmudsek/; e l souins k gh xk jsggâ vkç ukp jsggâ bl çdkj ; souçkür
vud Hkkoka ds vkJ; cu dj l çkkçkr gks jsggâ fofo/k jakka okys l; kl s i hgs
vkdk' k l sfxjrs gq] i Ükka ds nsuka ea l çpr] ty çks [kq kh l s i hrs gâ



i kbxrç'uk% 13-3

- 1- vkçyf[krinkuka ; kstusu l elrinkfu jp; Urq

½ d ½ ujk.kke~blñk%¾	&&&&&&&&&&&&&&&&&&
¼ k ½ i ouu mi uhr-%¾	&&&&&&&&&&&&&&&&&&
½ k ½ uhy% d.B% ; L; l %¾	&&&&&&&&&&&&&&&&&&
¼ k ½ i =k.kka i ç/skq¾	&&&&&&&&&&&&&&&&&&
¾ ¾ ½ "kv i nkuke~vkçk%¾	&&&&&&&&&&&&&&&&&&
¼p½ okj .kkuke~ \$ blñk%¾	&&&&&&&&&&&&&&&&&&
- 2- l flurka dçprq

½ d ½ ujk% \$ ujñk%¾	&&&&&&&&&&&&&&&&&&
¼ k ½ dçhks \$ vfHk"kp; ekuk%¾	&&&&&&&&&&&&&&&&&&
½ k ½ foHkkflur \$ vudkçf; .k%¾	&&&&&&&&&&&&&&&&&&
¼ k ½ foo.kç \$ Nnuk%¾	&&&&&&&&&&&&&&&&&&
¾ ¾ ½ ioç \$ blñk%¾	&&&&&&&&&&&&&&&&&&
¼p½ "kv i n \$ vkçk%¾	&&&&&&&&&&&&&&&&&&



3- çnÜkkUo; ; k% fj DrLFkui fir±døÞrq

¼d½ cykfdu% ¼i½ &&&&& I fykfrrHkkje- I emögUr% ¼i½ &&& egh/kjk.kke-
¼ii½ &&&&& ÜkæSkq foJE; foJE; ¼v½ &&&& ç; kfUrA

¼[k½ ?kukuke- Lou% ¼i½ &&&&&funke- fogk; ¼i½ &&&&& vusd: ik-
fro.küknk% ¼ii½ &&&&&& lyoxk% ¼iv½ &&&&&A

4- ikBkr-i p äiR; ; kUr'kCnku-fpuqA



13-4 fde~vf/kxre~

- o"krkß/kj.kh rlrk tk; rA
- ç-R; ka l oZ= çl Uurk n' ; rs e.Mudk% unfUr] Hkøj k% xk; fUr] e; yjk% uR; fUr]
xtk% p eÜkk% HkofUrA
i Ñr% l kØn; ð-vnHkqre-HkofrA
- ä& äorqçR; ; ; k%ç; kx% Hkwr dkykFkßfØ; rA fo'kSk.k: isk vfi vu; k%iz kx%
HkofrA
- ä& äorçR; ; kUr'kCnkuka: i kf.k f="kqfyæSkqfoHkfä"kp fo'kS; kuq kj aHkofUrA
- 'kr`çR; ; L; ç; kx% i jLeS fn/kkrçkq 'kkup-çR; ; L; p iz kx% vkReusi fn/kkrçkq
fØ; rA
- cgøhfgl ekl s vU; i naç/kkua HkofrA
- ur-ik /kkrç; L; : i kf.kA



13-5 ; kx; rkfoLrkj%

¼d½ dk0; i fjp; % vkfndo% okYehd% jkek; .ke- HkkjrL; vkfndk0; eA
/kkfeZdufrde; kzkukarqv; adsk%, o orZ A HkkjrL; i kphu; çL; i jEi j.k.kkq
/kkj .kkukej- vkn'kkZuka p vfLeu-egkdk0; sfo' knao.kZafo | rA xðFKL; uk; d%
e; kZki # "kkßke% Jh jke% vfLrA vk/kqjuddkysfi rL; pfj=e- vuqj.kh; a
eu; rA jkek; .ke- , de-mi th0; a dk0; eA vusdSka egkdk0; kuka ukVdkuka p
eyl kr-%jkek; .ke-, o vfLrA vk/kqjudl kfgR; e-vfi vusu xðFKu vuq kf.krea
fo'ol; vusdki q Hkk"kkI q vL; vuqkn% tkr%A

¼[k½ dfoi fjp; %egf"kkokYehfd%, o vkfndfo% dF; rA l %ri Loh l k/kd% onkuka
Kkrkj l kekf t di Fkkuka ekU; rkuka p l l Fkki d% /keL; LrEHk% ykd kuj at uL;
l eFkd% vkl hrA

½½ HkfoLrkj%

• I ekHkFkZk% 'ykdk%

- 1- ^r"kkdy\$prkdi f{k. kka dty% iz kfprkLrks Hkj koyfEcu%A iz kfUr elna cgdkkj of"lz kks cykgdk% Jks=eukgjlouk%AA**

&^_rd gkje~ f}rh; % l x% 'ykdl d; k 3

¼; kl l si hfMf prkd i f{k; ka l si kfFkZ] tyka dsHkkj dks/kkj. k djusoky\$ vfr o"kkz djusoky\$ d. kē/kj 'kCn djusokyse\$ /khj &/khj svkd' k eaefMjk jgs g½

- 2- ^i dUkuR; a dtye | cfgZ kke**

*^_rd gkje~ f}rh; % x% 'ykdl d; k 6

¼uR; ea i dUk e; ij dty vc 'kkkk nsjgk g½

- 3- ^efjnr bo dnEcst kZ i ti % l eUrkr~i oupfyr' kk[k% f' kf[kfHkuR; rhoA gfl rfeo fo/kUks l fipfHk% dZrdhuka uol fyykfHk'kd fPNuUrki ks oukUr'AA**

&^_rd gkje~ f}rh; % x% 'ykdl d; k 24

¼uohu ty ds l ou l sftudk rki u"V gks x; k g\$, d k ; g ou insk mRiUu gq dnEc i ti ka l si z Uu gqk l k Kkr gkrk gA pkj kavkj iou l s i pfyr i M+dh Mkfy; ka l sukprk gqk l k yxrk gSrfk dZrdh dh dty; ka l s gjl rk gqk l k nh[krk g½

- 4- ^i gf"kr% dZrdi ti xU/kek?k; eUkk oufu>j \$kA i z kr'kCnkdtfyrk xtBnk% l k/k±e; ij % l enk unfUrAA**

&^jkek; .ke*

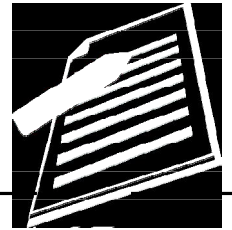
¼ou ds>juka dsl ehi ØhMk l smYyfl r gq eno"kkz xtjkt dØMsdsQny dh l qU/k dks l @kdj erokysgk smBsgA >jus dsty dsfxjusl stks'kCn gkrk g\$ ml l s vkdy gks ; s ekj ka ds ckyus ds l kFk-l kFk Lo; a Hkh xtZuk djrs g½

½½ Hk"kkfoLrkj%

• cgøhfgl ekl %

vU; i ni zkkuks cgøhfg%

"kV+n%	"kV+nkfu ; L; l %	¼kfej%
izk"Vdnyk%	izk"Vk% dnyk% ; kl ka rk%	¼u %½
foifriUuekxk%	foifriUuk% ekxk% ; kl ka rk%	¼u %½
uhyd.B%	uhy% d.B% ; L; l %	¼e; ij % f'ko%





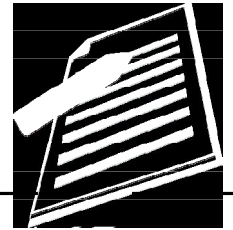
[kMxi kf. k%	[kMx% i k. kS ; L; I %	¼ sud%
i hrkEcj%	i hre-vEcje~; L; I %	¼o". k%
foew/kt%	foewk /kt% ; L; I %	¼i # "k%
uhyk&i ye-	uhye-mRi ya ; fLeu-rr~	¼ j%
i hrn&/kk	i hrn&/ka ; ; k I k	¼ckfydk½
n'kkuu%	n'k vkuukfu ; L; I %	¼j ko. k%

v= o; a i'; ke% ; r- l eLrinkfu vU; inkFk± ifr fo'kSk.k: isk iz ÞrkfuA ; nk
l eLrinkfu vU; 'Skka fo'kSk.k: isk iz Þrkfu HkofUr rnk cgþfng% l ekl % Hkofra



13-6 i kBlurç'uk%

- 1- 'krçR; ; a 'kkupçR; ; a ok ç; q; okD; i firã dþlurq
 ¼d½ l fyykfrHkkja &&&&&& ¼ e\$mn\$og\$ 'kr½ okfj/kj k% ç; kfUrA
 ¼[k½ ?kukEcþfHk% i o~tntk% &&&&& ¼/fHk\$fl p\$deþkP; \$ 'kkup½ Loka fJ; a
 n'kz flUrA
 ¼x½ vkdk'ks &&&& ¼un\$ 'kr½ ty/kjk% xPNflUrA
 ¼qk½ uHkl % &&&&& ¼i r-\$ 'kr½ tyan"Vek fogak% çl Uuk% HkoflUrA
 ¼³½ &&&&&& ¼ qk-\$ 'kkup½ l sudk% ns ka j {kfUrA
 ¼p½ ekrj&&&&& ¼ d-\$ 'kkup½ i #% eknrA
- 2- j[kkfidrinkukafoykeinkfu ç; q; fjäLFkkukfu ij; r
 ¼d½ tuk% fons kkr-Lons ke~vk; kfUrA okfj/kj k% i o~rkuka Úkax'Skq i #%&&&&
 ¼[k½ ykSHku% tuk% l nk vrlrk% HkoflUrA uotyKSk% /kj .kh &&& tkrkA
 ¼x½ ØhMuda çkl; f' k' k% çl Uu% Hkofra funka &&& lyoxk% unflUrA
 ¼qk½ i ou% elna pyfra o"kr-kS u | % &&&&& çogflUr
 ¼³½ vi Doa Qya foew/kt% Hkq³ DrA &&&&& vkeQya HkæS i rfr
- 3- äçR; ; ç; ksu okD; i fir±d#r
 ¼d½ uo% tyKSk% /kj .kh &&&& ¼o\$ ri-\$ Dr ½ tkrkA
 ¼[k½ ?kukuka Lou% lyoxk% &&&&A ¼ç \$ çdk-\$ ä½
 ¼x½ &&& ¼ç \$ u'k\$ ä½ dnyk% u | % çogflUrA
 ¼qk½ uokEcþkjk kfHk% &&&&&& ¼/fHk \$ gu-\$ ä½ lyoxk% i rflUrA
 ¼³½ HkæS &&&&& ¼o \$ ip-\$ ä½ vkeQya i rfrA



- 4- o"kr%o.kua i pokD; Skq dphr
 5- v/k% ^d* LrEHks i 'kij f{k.kka ukefU I flur ^[k* LrEHks p rSkka dk; kē.k fyf [krkfuA I efpresyua fØ; rke-

^d* LrEHk%

- 1/4 1/2 lyoaxk%
- 1/4 [k 1/2 lyoaxk%
- 1/4 x 1/2 fogxk%
- 1/4 k 1/2 "kv i nk%
- 1/4 3 1/2 cykdk%
- 1/4 p 1/2 f' kf [ku%

^[k* LrEHk%

- 1/4 1/2 i dDrc) k% vtdk' ks mMM; UrA
- 1/4 i 1/2 eSkku-n"Vok uR; flurA
- 1/4 i 1/2 uokEcqkjkj kfHkgrk unflurA
- 1/4 v 1/2 o"kkē k% tyafi cflurA
- 1/4 v 1/2 i ti Skq HkeflurA
- 1/4 v 1/2 o{kkr~o{kSkq dmnflurA

- 6- v/kfyf [krkuka i z ukuke~mUkj kf.k fy [kUrq

- 1/4 1/2 egh/kj k.kka ÜkaxSkq foJE; ds iz kfUr\
- 1/4 [k 1/2 o"kr kS ds ds o"krUr unflur uR; flur p\
- 1/4 x 1/2 eSk% vkPNkfnrs uHkfI dkl ka Kkua u Hkofr\
- 1/4 k 1/2 o"kkē k% osx i z k"Vdnyk% dk% i dkflur\
- 1/4 3 1/2 i oir hnk% dsu nÜk% tYk% vfhkf"kp; UrA
- 1/4 p 1/2 oukUr k% dsu dsu foHkfUr\
- 1/4 p 1/2 o"kr kS fogaxk% dhn' ka ty a i hRok a"Vl% HkofUr\

- 7- fufnZV ?kkrq i %okD; kfU ij; Urq

- | | |
|--------------------------------|------------------|
| 1/4 1/2 ckfydk%l ekj kgs-----A | 1/4 ur & yV 1/2 |
| 1/4 [k 1/2 mek g; %-----A | 1/4 ur & y 3 1/2 |
| 1/4 x 1/2 [kxk% ty a-----A | 1/4 k & yV 1/2 |
| 1/4 k 1/2 vge-nj/ke-----A | 1/4 k & yV 1/2 |
| 1/4 3 1/2 RoaQykukaj l a-----A | 1/4 k & ykV 1/2 |



13-7 mUkj kf.k

13-3 cskki z uk%

- 1- 1/4 1/2 iii] 1/4 [k 1/2 i] 1/4 x 1/2 v] 1/4 k 1/2 ii] 1/4 3 1/2 iv
- 2- 1/4 1/2 v] 1/4 [k 1/2 i] 1/4 x 1/2 ii] 1/4 k 1/2 iii] 1/4 3 1/2 iv



3- ¼[k½ l fyey} ½x½ HkkLdj% ¼qk½ "kv+n% ¼³½ ?kukuk} ¼p½ okrk%

iBxrižuk%

13-1 1- ¼d½ iii] ¼[k½ iv] ½x½ ii] ¼qk½ vi]
¼³½ i] ¼p½ v

2- ¼d½ okujk% ¼[k½ e%kk% ½x½ i ožkuke} ¼qk½ ok; qj
¼³½ i ; kire} ¼p½ f' k[kjSkq

3- ¼d½ okfj/kjk% egh/kjk. kka ÜkxSkq foJE; ç; kfURa
¼[k½ e%kk% l fyekfrHkkja l eđgUR% xPNfURa
½x½ foi Doe~ vkeQya HkweKS i rfra
¼qk½ o"krkS fç; kfoghuk% /; k; fURa
¼³½ lyoaxk% l ek' ol flur ; rksfg xh"erksxrsrm".krk; k%dkj. kkr~d"Va
u vuHkfo"; fURa

13-2 1- ¼d½ /kj. kh d% forlrk tkrk\ ¼[k½ o"krkS ds unfUR\
½x½ dk% 'kh?ka çoğfUR\
¼qk½ dke~fogk; lyoaxk% ççđ k% HkofUR\
¼³½ o"krkS fde~?kuki xwka Hkofr\
2- ¼d½ unfUR ¼[k½ i rflur ½x½ çoğfUR ¼qk½ vH; q šr ¼³½ çoğfUR
3- ¼d½ fn' k% ¼[k½ e. Mndk% ½x½ u | % ¼qk½ l eqh. kb%k%

13-3 1- ¼d½ ujbntk% ¼[k½ i ouki uhr% ½x½ uhyd. B% ¼qk½ i = i vSkq ¼³½ "kv+n%kk%
¼p½ okj. kb%k%

2- ¼d½ ujbntk% ¼[k½ dHkS fHkf"kp; ekuk% ½x½ foHkkUR; sddkf; .k%
¼qk½ foo. kPNnuk% ¼³½ i ožntk% ¼p½ "kv+n%kk%

3- ¼d½ ¼i½ okfj/kjk% ¼i½ unUR% ¼i½ egrl q ¼v½ i u%
¼[k½ ¼i½ fpj l ū#) ka ¼i½ ççđ k ¼i½ uokEcđkj kfHkgrk% ¼v½ unfURa

4- ¼i½ i çđ k% ¼qk½ forlrk% ¼³½ mi uhr% ¼i½ i xhrk% ¼³½ i eÜkk%

iBkUrižuk%

1- ¼d½ l eđgUR% ¼[k½ vfHkf"kp; ekuk% ½x½ unUR% ¼qk½ i rr~¼³½ ; q; ekuk%
¼p½ l ōeku%

2- ¼d½ ç; kfUR ¼[k½ rlrk ½x½ fogk; ¼qk½ 'kh?ka ¼³½ i Doe~

3- ¼d½ forlrk ¼[k½ ççđ k% ½x½ ç. k"Vk% ¼qk½ vfHkgrk ¼³½ foi Doe~

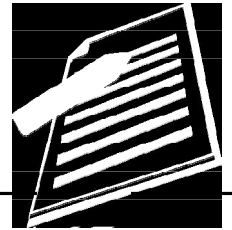
4- ¼d½ o"kkz rq__nuka jkkh dF; rA
¼[k½ xh"ekri s 0; kd%k% tuk% o"kkz k% vfHkUnua dđURa

1/4x 1/2 eðkk% mpp% xtílur o"klur pA
 1/2k 1/2 ç—fr% çQqYyrk tk; rA
 1/4³ 1/2 eðkku-n"Vök fogxk% â"Vk% HkoflurA

5- 1/d 1/2 vi] 1/4 [k 1/2 iii] 1/4x 1/2 iv] 1/4k 1/2 v]
 1/4³ 1/2 i] 1/p 1/2 ii

6- 1/d 1/2 okfj/kjk% 1/4 [k 1/2 eðkk% eðkxtk% e; yk% 1/4x 1/2 fn'kke~
 1/2k 1/2 u | % 1/4³ 1/2 l jðns k 1/p 1/2 Hkkj % e; y % xtðn%
 1/N 1/2 o"klr k fogxk% eðrkl eð l queye~i=i y/skq yXua tyai hRok â"Vk% HkoflurA

7- 1/d 1/2 UKR; flur 1/4 [k 1/2 vuR; r~ 1/4x 1/2 fi cflur
 1/2k 1/2 i kL; kfe 1/4³ 1/2 fi c





fVii.kh

14

verL; i UFK%

HkoUr% tkufUr ,o ; r-ftKkl k ekuoL; I gtk çofÜK%A o; afdefi oLrqfo"K; a
 0; fDraok n"Vek ra ifr ftKkl ka dç%A v | Ros rq ; Fkk ; Fkk ckydk%ckfydk%p
 o; I k of) açklupfUr rFkk rFkk Loi ; kçj.kL; fo"K; s rŞkarkl kap tkx: drk ço/kz-A
 vr% fofo/kku~ iz uku~ iPNfUrA , rŞkka ç'ukuke~ mÜkj.k.k T; ŞBK% JSBK% p tuk%
 Locç) ; uq kja onfUrA vLekda i wZt% __f"KfHK% , rkn'kkuka ç'ukuke~ mÜkj.k.k
 mDÜkkfuA rkfu vLekdal e) sl kfgR; smi yH; UrA onk%mi fu"kn%p I l-rok³e; L;
 evkZ; k% xŞk%A r= ftKkl kuka'keui wZda l eqpr: isk thou; ki uL; ekx% inf'kz-A I %
 ekx% , o verL; i UFK% vflRa vflEu~ i kBs o; e-verL; ekxL; I Ecl/ks i Bke%



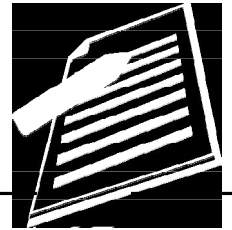
mİŞ ; kfu

bea i kBa i fBRok Hkoku~

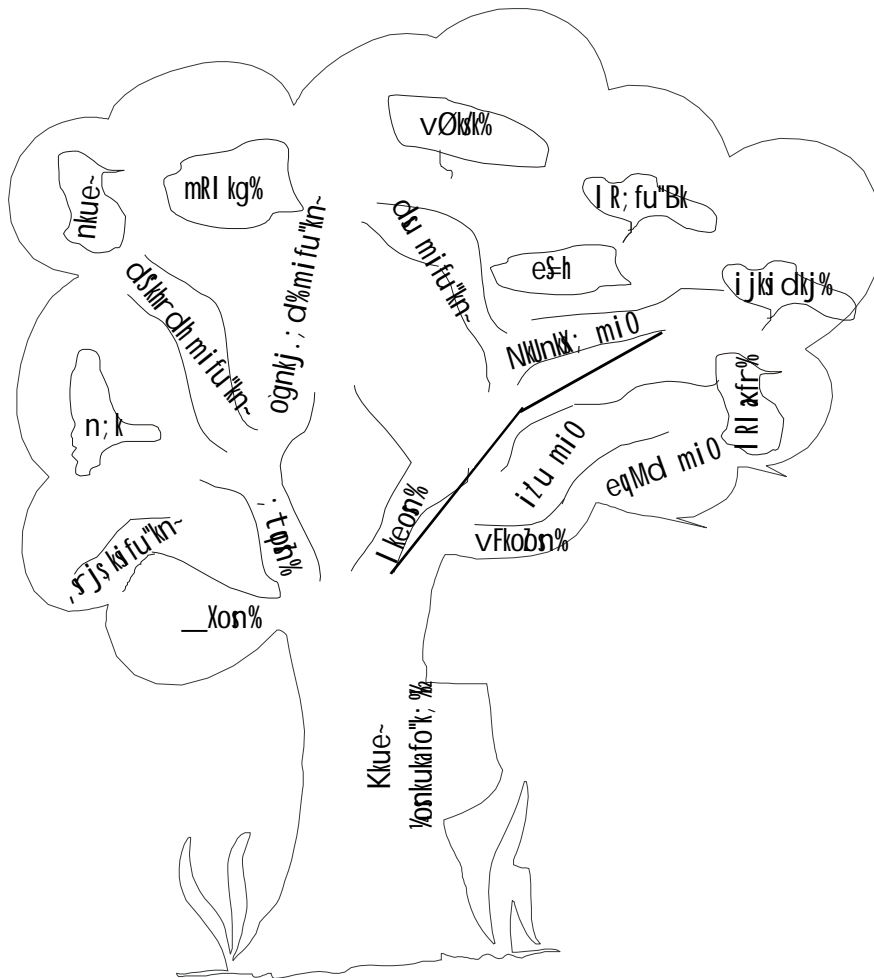
- i kBxr kuka eU=k. kka 'kç) a l Loje~ mPpkj .ka drç {ke% Hkfo"; fr(
- rŞkka eU=k. kka l anHk± yŞ [krq 'kDr% Hkfo"; fr(
- rŞkka eU=k. kka Hkkoa oDrq yŞ [krq p 'kç; fr(
- l w L;] l epL;] i fFk0; k% xk% p egÜoa yŞ [krq l eFk% Hkfo"; fr(
- i kfj okfj d0; ogkjL; Lo: i a o. kZ; rq {ke% Hkfo"; fr(
- eU=Şkq fufgr t houeW; kfu vfl/kdR; I Drhuka p; ua drç 'kç; fr(
- mi eŞ % l g mi ekukuka esyua dfj"; fr(
- bZ l çj} b"Bu~ i R; ; k% iz kxa drç 'kç; fr(
- T; kŞr"kJ} vkrEu} jktu} i fr] eul } plnel ~'kçn: i k. kka p; ua dfj"; fr(



fØ; kdyki %



fVli . kh



fp=an"Vøk v/kšyf [kri z ukue~mØkj annrq

- 1- onkukafo" k; %----- vflrA
- 2- onk% dfr I flr ----- =; %pRokj %ok\
- 3- onkukauekfu fy [kr -----
- 4- ----- _XonL; mi fu"knA
- 5- iz uki fu"kn----- onL; mi fu"knA
- 6- onškqmi fu"KRI qi fri kfnrkuka dškkf pr-i xpthouel; kukauekfu fy [klrA



fVii.kh



14-1 ey i k B%

verL; i UFk%

bnkuta onH; % mi fu"knH; % p l fyrku-eU=ku~i Bke%A

fdiLoRI w l ea T; ksr% fda l eqnd ea l j%A
fdiLoRi fFKO; So"khz ku} dL; ek=k u fo | rAA1AA

ca i w l ea T; ksr | k% l eqnd ea l j%A
bUn% i fFKO; So"khz ku-xkkrq ek=k u fo | rAA2AA

l u% i oLo 'ka xo} 'ka tuk; 'keo rA
'ka jktUukSk/kH; %AA3AA

fo'o: ia gfj.kat kronl i jk; .ka T; ksrjda ri UreA
l gl jf'e'kr/k orZeku% ik.k% iztkukeq; R; Sk l w %AA4AA

vkRekua jFkua fof) 'kjhja jFked rq
ci) a rq l kjfka fof) eu% i xgeD pAA5AA

frySkq rSy an/kuho l fi jki % o kr% loj . kh"q pkfXu%A
, oekRek Refu xg; rs l k l R; s l s a ri l k ; k s uq ' ; frAA6AA

vupr% fi r% i % ek=k Hkorq l euk%
tk; k i R; s e/k rha okpa onr q 'kkfUrokeAA7AA

ek Hkrk Hkrjaf}{ku~
ek Lol kjeBk Lol kA
l E; p% l ork HkrOk
okpa onr Hknz kAA8AA

'kCnkFk%

fdiLor-3/4 fdaLor-3/4 D; k
l w l ea 3/4 l w l dsl eku
l j% 3/4 rMkx% rkykc
o"khz % 3/4 vf/kd o"zokyk] vf/kd
vk; qdk] ek=k 3/4 l ekurk] mi ek
ca 3/4 i je'kDr : i bZoj
| k% 3/4 | qyk] xk% 3/4 xk;
tkronl e- 3/4 ft l l s foKku
mRiUu gkrsgd, d s l w l dks
l gl jf'e% 3/4 g tkj fdj . kkaokyk
'kr/k 3/4 l k l Mka i d k j l s
gkr 3/4 vk'oku d j usokyk] cykus
okyk] i oLo 3/4 'kq gk
'ka 3/4 dY; k.k] 'kfu r
vor 3/4 ?kM% d s fy,
vRRekue-3/4 vRRek dks
jFfke-3/4 jFk dk Lokeh
fof) 3/4 tkus
l kjfFke-3/4 jFk pykusokys dks
ixge-3/4 ?kM% s dh yxke
n/kuho 3/4 n/kfu \$ bo 3/4 t s s
ngh e} l fi jki % 3/4 l fi % \$
vki % l fi % 3/4 ?kh] vki % 3/4 ty
l k r% loj . kh"q 3/4 L=k r% q \$ vj . kh"q
L=k r% q 3/4 l k r% k e} mnx e LFkyk
e} vupr% 3/4 vupr dke d j us
okyk] ek=k 3/4 ekrk l } dsl kFk
l euk% 3/4 vPNseu okyk
tk; k 3/4 i Ruh
e/k rha 3/4 ehBh ok . kh dks
'kkfUroke-3/4 'kkfU r l s; q
f}{ku-ek 3/4 f}{kr-\$ ek
f}{kr-3/4 }sk djs
ek 3/4 er] ugha
l E; p% 3/4 l eku or oky} l eku
deZokys
Hknz k 3/4 mfpr jfhr l s



14-2 ck/ki t uk%

- ey i k Ba n"Vok fj Dr L Fkua i j; Urq
1/2 1/2 fda----- T; ksr%A
1/4 [k 1/2 xkkrq----- u fo | rA



1/2 vkrRekua----- fof) A

1/2 -----firfi e%

1/3 1/2 okpaonrq-----A

2. ^* LrEHks fyf[krkuka iz ukuka ^c* LrEHks fyf[kr% mUkj% I gj; k; k esyua dφBrq

^* iz uk%

c mUkj k.f.k

1/2 fda l enl ea l j%

1/2 vki % l k% qHkofUrA

1/2 eu% dhn' ke-fof) \

1/2 Hknz; k okpaonrA

1/2 vki % d e HkofUr\

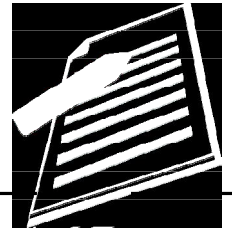
1/2 | k% l enl ea l j%

1/2 tk; k i R; s dhn' kha okpaonrφ

1/2 eu% i xgeφ fof) A

1/3 d; k okpaonr\

1/2 tk; k i R; se/kerhaokpaonrA



fVli . kh



14-3 v/kqk voXPNke%

i Fke%vd k%

eU=%&1

i nPNn% fde-flor- l w l ee-T; ksr% fde- l enl ee- l j%
fde-flor- i fFKO; So"khz; ku} dL; ek=k u fo | rAA

vUo; % l w l eaT; ksr% fdlLor\ l enl ea l j% fde\ i fFKO; So"khz; % fdlLor\ dL;
ek=k u fo | rA

0; k[; k

v= ; tφhL; i Fkeel=s __f" k% l f"VI Ecl/ks prj% iz uku- i PNfr&

v= d% i Fke% iz u% fdlLon- T; ksr% 1/2 vlR\ d s l ee\ l w l ee- vFkz~
l oT; ksr" kq l w L; T; ksr% JSBeA fda l w L; T; ksr" k l n' ke- vfi vU; r- fdefi
T; ksr%

f}rh; % iz u% d% fda l j% vlR\ d s l ee\ l enl ee- vFkz~ l epk l n' k%
tyk' k; %

r rh; % iz u% d% fdlLon- o"khz; % vlR\ dL; So"khz; ku\ i fFKO; So"khz; ku- vFkz~
i fFKO; k% i d± d% jfpr%

prf% iz u% d% dL; ek=k u fo | rA dL; r y u k u fo | rA

fdilLor l w l eaT; ksr%
fda l enl ea l j%
fdilLor i fFKO; So"khz; ku}
dL; ek=k u fo | rAA1AA



fVii.kh

fdāLor~l wā eaT; ksr%& l d kjscgfu T; ksrhā'k HkofUr ; Fk nhi T; ksr% vfxuT; ksr% plnā; ksr%A , rškq T; ksr"q l wā; ksr% iēqka eu; rA v=% izu% Hkofr ; r~l wā ea T; ksr% fde-vfLr\

fdal enā eal j%& l jkāl vudfo/kkfu HkofUrA xtesl j% ; = tuk%LukfUr] tya Loxge~vku; flur] ousl j%Hkofr ; = i'ko%if{k.k%p tyaficflur] uxjsl j%Hkofr ; r%l ođkj% ; U=}kj k tya ukxfjdk.kka xgškq iki ; frA l j% ¼ rMkx% ¾ iYoy%A __f"ke eurš ; r~l enā vfi egr~l j%A v= izu% Hkofr ; r~l enā eal j% fde-vfLr\

fdāLor~i fFkO; So"khz ku& i fFkoh vudh; %o"kh; %i w±jprkA vr%i fFkoh o) kA i fFkO; k%vi šk; k o) rj% d% i fFkO; k%i w±d% jfpr% vkl hr~v; e~vfLr v= izu% i fFkO; So"khz ku~fdāLor\

dL; ek=k u fo | r& l d kjsik; %l oškkaolrūka ekuafol rs?kuHkroLrūka rkyua dRok ekua Kk; rA rjykuka nD; k.kka ik=s k ekua fØ; rA oL=kfndL; vfi ekua Kk; rA v= izu% vfLr&dL; ekua u vfLr\ dL; rŋ; rkj rgyuh; rk u Hkofr\

; gla ošnd __f"k pkj izu i nRk g&

- 1- l wā ds l eku T; ksr dks l h gš
- 2- l enā ds l eku yEck pkMk rkykc dks l k gš
- 3- i fFkoh l s vf/kd i jkuk dks gš
- 4- fd l dh rgyuk fd l h nū jh oLrql suga dh tk l drh\

eU=%&2

i nPNn% cPe l wā ee~T; ksr% | k% l enā ee~l j%A
bln% i fFkO; So"khz ku~xl% rkek=k u fo | rAA

vlo; %l wā eaT; ksr%cā ½vfLr½ l enā eal j% | k%½vfLr½ i fFkO; So"khz ku~bln% ½vfLr½ xl% rkek=k u fo | rA

0; k[; k

vfLeu~eas i wā l ukapRokfj mūkj kf.k v= i nūkkfu l flurA Lo; efi fopkj; Urq; fn fdefi vl; r~vfi mūkje~prf fgZ fy [kUrA

l wā k l eaT; ksr% fdāLor\ l wā k l eaT; ksr% cā ½vfLr½A

l enā eal j% fdāLor\ | k% l enā ee~l j% ½vfLr½A

i fFkO; So"khz ku~d% bln% i fFkO; So"khz kuA

dL; k% ek=k u vfLr\ xl% rkek=k u vfLrA

cā l wā eaT; ksr&
| k% enā eal j%A
bln% i fFkO; So"khz ku~
xl% rkek=k u fo | rAA2AA

cã l w l ea T; ksr% ; Fkk l w l; ksr% vf/kda rst ke; a Hkofr rFkk , o cã vfi
 vf/kda rst ke; a HkofrA cã ije' kfdreku-ijekrek vflrA rL; rst% izyaHkofrA
| k% l eqnl ea l j% | gykd% rFkk folr% xEHkj% p orhs ; Fkk l eqn% folr%
 xEHkj% p HkofrA i fFkO; k% v/k% i krkykd% i fFkO; k% mi fj vUrfj {ke- vUrfj {kL;
 mi fj | gykd% | gykd% vfr folr% HkofrA

bUn% i fFkO; S o"khz ku& o"khz ku&vu; k% o) ; k% e/; s vfr'k; u v; a o) % bfr
 o"khz kuA o) L; o"kbfr vkn\$ k% bUn% nokukajtkA bUn% o"V% o"khz k% drkA bUn%
 i fFkO; k% i u± jfpr% vr% bUn% i fFkO; k% o) rj% vflrA

xk\$ rgek=k u fo | r& xk\$ rgek=k u fo | rA xk\$ rgyuk ds vfi drq u 'kD; rA
 xk\$ Hkkj rh; l Ldrk i i; k vflrA xk\$ ek=k l n' kh HkofrA vl kSuh# tan/ kannkrA
 rL; k i k% cyhonk% d' kdel d pZUrA vr% xk\$ vrgyuh; k HkofrA

¼ i Eke el= ea i n\$ x, izuka dk mUkj f}rh; el= ea fn; k x; k gA i Eke el= ea
 pkj izu i n\$ x, Fismu pkjka dk mUkj bl nU js el= ea fn; k x; k g&

- 1- l w l ds l eku izk' koku rst ke; cã gA cã l o' kfdreku ijefi rk i jekrek
 dks dgrs gA
- 2- l eqz ds l eku yEck] pMk vls xgjk | gykd g& i fFkohA i fFkoh ds uhp
 i krky ykd] i fFkoh ds Åij vUrfj {k g\$ vls vUrfj {k l s Åij | gykdA
- 3- i fFkoh l sigys bUnz dh l f"V gpZ FkA bl fy, bUnz i fFkoh l scMk vk; qokyk
 gA bUnz i fFkoh l s Hkh i jkuk gA
- 4- xk\$ dh cjkj h fdl h l sugha dh tk l drhA xk\$ vrgyuh; gA xk\$ gekjs fy,
 i i; gA

eU=%3

i nPNn% l u% i oLo 'ke-xo\$ 'ke-tuk; 'ke-voŕA
 'ke-jktu-u% vksk/kH; %AA

l u% i oLo 'kaxo\$ 'katuk; 'keoŕA
 'kajktUuksk/kH; %AA3AA

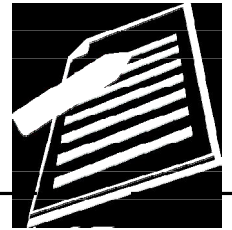
vlo; % jktu- l u% xos 'ka d# ¼ ¼ u% tuk; 'ka d# ¼ ¼ u% voŕs 'ka d# ¼
 vksk/kH; % 'ka d# ¼ i oLoA

0; k[; k

l keonL; vflEu-rirh; se s __ f" k% l keafda i kFkz fr bfr cksk% A

jktu- l % Roafda d# \ 1- u% xos 'ke- d# ¼ A 2- tuk; 'ke- d# ¼ A 3- ¼ u% voŕs
 'ke- d# ¼ A 4- ¼ u% vksk/kH; % 'ke- d# ¼ A 5- i oLoA

v; a eU=% l keonL; vflrA l ke% vksk/ke; % j l % HkofrA l nørkor- i kFkz % A



vli . kh



fVii.kh

I u%ioLo 'kaxo& u%¾ vLekda xos¾ i 'koA

v= , dopua tKR; Fk iz DpA vr% xkH; %¾ i 'kH; % v; e-vFk% xghr0; %A 'kaHkorq
¾ dY; k.kH I q'ka 'kfuR% HkorA gsl ke! RoaLo; aiolo i qhr% ifo=% HkoA

'katuk; & 'ka¾ dY; k.kH exyH 'kfuR% HkorA tuk; ¾ vLekdacU/koA v=kfi
tKR; Fk , dopua iz DpA tuH; %¾ cU/kH; % v; eFk% xghr0; %A

'ke-voHs& voH} vUok; A vLekda v' oH; % dY; k.kHkorq iolo & gsl ke Roa
oL=kfn}kjk fo' kH % HkoA

rhl jseU= ea_f'k I ke I si kFkuk djrk gsf d gsl ke! rH gekjsi 'kq/kadk dY; k.k
dj kH gekjs cU/kq cU/koka dk dY; k.k djks vkH gekjh vkSkf/k; ka dks dY; k.kdkjh
cukvka gsl ke rH Lo; aol= vkfn eaNkustk dj 'kH gksft I srqga i hdj ykx
LoLFk gkA

0; kdj .kfclno%

fdilLor~¾ fde-\$ fLor~¼/0; ; %

I w d ee~¾ I w d k I ee~¼r rh; krRi # "kl ekl %

I ep d ee~¾ I ep sk I ee~¼r rh; krRi # "kl ekl %

o"khz ku~¾ o) \$ bz I q~¼ R; ; % o) L; ^o"klz br; kns k%

jktUukSk/kH; %¾ jktu-\$ vkSk/kH; %¼; atul fu/k% Lojijsl fr ^u~ o.kL; f}RoaHkoFrA

i ; kH okfpu%

I ep% & I kxj% mnf/k% okjf/k% uhjfuf/k% tyf/k%

I w %& fnokdj% fnuef.k% I gl jf' e% I gl d j% I gl fdj.k% I gl nlf/kfr% I gl e jhfp%
I gl z kke] I gl i kn] I gl ka kH I gl kfp% frXentf/kfr%



i k B x r c' uk' 14-1

1- nUkkuke~mUkj k. ka i z uku~fy [kUrq

¼d½ xk% ek=k u fo | rA

¼k½ I ep d ea I j% | k% vflrA

¼x½ bUn% i fFk0; So"khz kuA

¼k½ I w d ea T; kfr% cā vflrA

2- mÙkj kf.k l ð dñu fy [kr

¼d½ cãfon% l w ± dhn' ka KkrouR% -----

¼f k½ vořs bfr 'kCnL; d% vFK% -----

¼x½ l ke% dLeSdLeSdY; k. ka dj křr \ -----

¼k½ i fFK; S o"kh; ku~ d% -----

¼³½ vLekde-bfr dL; i nL; vFK% -----

3- bž l qı- b"Bu~ i R; ; ; k% i z kxa dRok fjDrLFkus fy [kr

i dfr% ¼vknš k½ bž l qı- b"Bu~

¼d½ fi z % ¼i ½ ----- i šB%

¼f k½ i z kL; % ¼J½ Jš ku- -----

¼x½ oj% ----- ofj "B%

¼k½ vflurde~ ¼un½ unh; ku- -----

¼³½ vYi % ¼du½ duh; ku- -----

f}rh; %vák%

eU=%&4

i z uki fu"kn% vflEu-eas l w L; Lo: i ackškke%

i nPNn% fo'o: ie-gfj.ke- tkronl eř ijk; .ke-T; křr%, de~riUreA
l gl jf'e% 'kr/kk oržeku% i k.k% iztkuke~mn; fr , "k% l w šAA

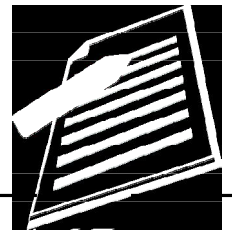
vlo; %fo'o: ieř gfj.keř tkronl eř ijk; .keř T; křr%, oeř riUre~ ¼ w ±
cãfon% fo}kd % KkrouR% ¼ ½ l gl jf'e% 'kr/kk oržeku% iztkuke~ i k.k% l w %
mn; fr , oA

[k. MKJo; %

cãfon% fo}kd % fda KkrouR% l w ± KkrouR% dhn'ka l w ž\ fo'o: ieA i qı%
dhn'ke\ gfj.keA i qı%dhn'ke\ tkronl eA i qı%dhn'ke\ T; křr% i qı%dhn'ke\
, deA i qı% dhn'ke\ riUreA d% mn; fr\ l w % mn; fr , oA dhn'k% l w %
mn; fr\ l gl jf'e% 'kr/kk oržeku% i k.k% dška i k.k% iztkuka i k.k%

0; k[; k

v= HkonfHk% l w L; Lo: ifo"ks ifBreA HkouR% vfi Loer; k dk'pu~ prl %
fo'křr% fy [kUr%



fVli . kh

fo'o: i agfj .ka tkronl ř
ijk; .ka T; křrjadariUreA
l gl jf'e% 'kr/kk oržeku%
i k.k% iztkuke; R; šk l w šAA4AA



fVii.kh

fili yknL; __"k% f' k"; k% re-vuodku-iz uku-viPNuA r= dkr; k; u% l "V% fo" k; s
viPNrA rL; iz uL; mUkjadFk; u-fili ykn% __f" k% l w L; mRi fUkfo" k; sLo: i fo" k; s
p vonrA

fo'o: ie& l oZ ieA fo'oskka tukuka: ial w ZA l oku-tuku-Loizdk'ksu n'kz fr]
rH; %: iannkrA vU/kdkjs dL; vfi : ian"Vau HkofrA izdk'ks, oa: ianf"Vxkpja
HkofrA vr% l w % l oSkka: ie-vfLrA

gfj.ke& gjfr bfr gfj.k%A l w % l oZ- vU/kdkja gjfr] jksku- gjfr] tya
ok"i: isk gjfr ; u o"kk% o"kuUrA vr% l w % gfj.k% ragfj.keA

tkronl e& tkrkfu osUk bfr tkron% ra tkronl eA l oku-mRi Uuku- l w %
tkukfrA vFkok tkrkfu onkAl foKkukfu ; Lekr- l tkron%A l w L ,oa l oSkka
foKkukuka dkj.ke-vr% vl kS tkron% ra tkronl eA

ijk; .ke& ij \$ v; ueA ijSkke-v; ue-vkJ; Hkre- l w ZA

T; ksr% & T; ksrLo: ieJ rstke; eA

, de& , dkfduEJ , dyh l w % , dkdh , o vkdk'ks HkefrA l dL; vfi l kgk; ; a
u viSkra

riure& rki a doreA l w % egku-vfXuxkyd% rL; rki % , o Atkz k% okr%A
l w % l "V% egku-LrEHk%A l w % pr-u L; kr-l f"V% u' ; rA

, rkn" ka l w ±cāfon% foKkroul%A

l gl jf' e& l gl aj' e; % ; L; l % vudfdj.koku- l w ZA

'kr/kk orZeku% vud% izdkj% fo | eku%A l oSkq i kf.k"kh oSkkq oLrUkq p l w L;
m"ek fo | rA vr% l w % rSkka: isk fo | eku% HkofrA

itzkuka ik.k% l w % ; fn u L; kr-rnk tuk% fez juA vr , o mae-& itzkuka
ik.kHkr% thoul; vk/kkj% thoul; j{kd%A

eU=%5

vfLeu-eas o; e-jFKLo: ia 'kjhja ckskke%A

vkRekuajffkuafof) 'kjhja jFkeo rq
cf) arq l kjffafof) eu% i xgeo pAA5AA

i nPNn%

vkRekue-jffkue-fof) 'kjhje-jFke-, o rA
cf) e-rq l kjffke-fof) eu% i xge-, o pAA

vlo; %vkrRekue-jffkue-fof)] 'kjhje-rqjFke~, o p cñ) e-rqI kjfFke-fof)] eu%
p i xge~, o ¼of) ¼A

0; k[; k%

__f"%"ftKkl ka 'kKE; fr&

vkReuafdafof) \ vkReuajffkue} 'kjhjarqjFke~, o] cñ) arqI kjfFk eu%p i xge~,
o tkulfgA

vkReuajffkua----- bfr eU=%dBki fu"kn%orA

vkReuajffkuafof)] 'kjhja jFke~, o r& ; Fkk jFK%Hkofr rFkk 'kjhja tkulfgA
'kjhja jFkl n'kA jFkL; Lokh jFkh dF; rA 'kjhjL; Lokh vkRek vflrA

cñ) arqI kjfFkafof) & jFkL; pkyd%I kjfFk% dF; rA I kjfFk% dñky%Hkofr pr-
jFka I E; d-pky; fr] vdñky%Hkofr pr~jFka I E; d-u pky; frA jFkL; pkyd%
I kjfFk% 'kjhjL; pkfydk cñ) %A cñ) %fu.kz a djksr 'kjhja dFka pkyf; r0; eA

eu% i xgeo p& jFkL; d"z ke-v'ok% dñUr , oe-bfUnz kf.k 'kjhje-br% rr%
vkd"ñUrA v'okuk i xgk% rku-fu; U=; flrA , oe~, o eu% 'kjhjL; i xg%A eu%
bfUnz kf.kA rn}kjk 'kjhja I UekxL LFkki ; frA vkRek eul %fu; U=.ku 'kjhja I E; d-
pky; frA

eU=%&6

vflEu-eU=s o; a vkReu% Kkua dFka Hkor~bfr cksk%A

i nPNn% frySkqrSye-n/kfu bo I fi %vki %I k% qvj.kh"kp vfXu%
, oe-vkRek vkRefu xg; rsvl kS I R; s , ue-ri I k ; %vuij' ; frAA

vlo; %; %vl kS I R; s ri I k , ue-¼vkRekue½ vuij' ; fr s vkRefu vkRek ¼rFkk½
x°; rs ¼ Fkk½ frySkqrSye- ¼x°; r½ n/kfu I fi % ¼x°; r½ I k% q vki % ¼x°; r½
vj.kh"kp vfXu% x°; rA

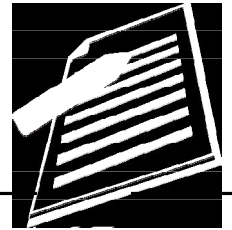
0; k[; k

; % de-vuij' ; fr\ vkRek , oe-¼vkRekue½ vuij' ; frA

, ue-dFke-vuij' ; fr\ I R; s ri I kA s vkRek vkRefu x°; rA

dFkax°; rA ; Fkk& 1- frySkqrSyaHkofrA 2- n/kfu I fi %boA 3- I k% qvki %boA
4- vj.kh"kp vfXu% boA

v; a eU=% Üor-kÜorjki fu"kn% xghr%A



vli.kh

frySkqrSyan/kuho I fi jki %
Óks%oj.kh"kp vfXu%A
, oekRek-Refu xg; rs I kS
I R; s ri I k ; ks uq' ; frAA6AA



fVii.kh

fryškq rſya ----- **pkfXu%A** ; Fkk fryškq rſya Hkofr] cfg% u n' ; rſ ; Fkk n/kfu | fi%& ?kire~ vUrfu[gra Hkofr] ; Fkk vki%&tya Lkſr% & mRl ſkq fo | ekua Hkofr] ; Fkk vj.kh"q vfxu% & ; Kl e; s vXu% mRi knuk; dk"Bfo'kſkL; mi ; kſ% fØ; rsrL; dk"BL; uke vj.kh bfr HkofrA ; KkjEHks } ; kſ% vj. ; kſ% ?k"Kz kſu vfxu% mRi | rA vl kſvfxu%vj. ; kſ% , o Hkofr cfgLr%u n' ; rA ije~, rſkkaſy&?kr&tykuka iki .ks vj.khH; % vXu% mRi knus tuſu Je% dj.kh; % HkofrA

,oekRefu ----- ; **ksuq'** ; **frA**

; Fkk frykfn"q rſykfnda i klrq Je% drD; % Hkofr rFkk , o vl kſvkRek vkRefu , o xg; r&ikl; rA dſu xg; rſ ; % , ue~vkRekua l R; ſu ril k p vuq' ; fr ; % tu% l nk l R; aonfr ril k&ifjJesk p 0; ogjfr l , o vkRefu vkRekua tkukfrA

l wZgh l kjsfo'o dk : i gA l wZgh l cdk vkJ; gA ; g 'kjhj , d jFk dſl eku gA jFk : ih 'kjhj dk Lokeh vkRek gA cfj) l kjFkh gA bſUnz kajFk dks [khpusokys ?kkaſgA eu yxke gA bl izdkj eu dſfu; U=.k l s'kjhh Hkyh Hkkar py i krk gA tks0; fDr bl vkRek dks l R; vkj ri l sn[krsgſosgh vkRek dks tku l drsgA

0; kdj .kfclno%

ini fjp; %

vkRekue~	& vkReu}	f}rh; k	, dopue~
jfFkue~	& jFk%vL; vflr bfr jfFku}	f}rh; k	, dopue~
n/kfu	& nf/kj	l lrehj	, dopue~
l kſ% q	& l kſ l }	l lrehj	cgppue~
vkRefu	& vkReu~	l lreh	, dopue~
ril k	& ril }	r rh; kj	, dopue~

fØ; kini fjp; %

fof)	& fon}	ykt}	e/; ei # "k% , dopue~
xg; rs	& xg~ debkP;	yV}	i Fkei # "k% , dopue~
vuq' ; fr	& vuq \$ n' k~¼ ' ; ½	yV}	i Fkei # "k% , dopue~

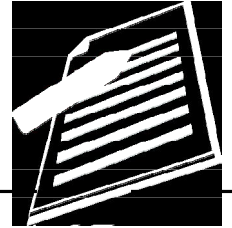
i R; ; %

jfFku~ & jFk \$ bfu ¼rf) ri R; ; %

l U/k; %

n/kuho	& n/kfu \$ bo	¼nh?k] fu/k%½
l fi jki %	& l fi % \$ vki %	¼ol x] fu/k%½
L=kſ%oj.kh"q	& Lkſr% q \$ vj.kh"q	¼. k} fu/k%½

vkRek · Refu & vkRek \$ vkRefu 1/4h?k] fu/k%
 I R; u&e~ & I R; u \$, ue-1/2of) I fu/k%
 ; ks uq' ; fr & ; % \$ vuq' ; fr 1/4ol x] fu/k%



fVli . kh



i k Bx rç' uk% 14-2

1- mHk; k% LrEHk; k% nÜkkue~ mi eš & mi ekukue~ mfpra esyua dØUrq

d LrEHk%

[k LrEHk%

1/4d 1/2 'kj hje~

(i) cç] %

1/4[k 1/2 i xge~

(ii) vkRek

1/4x 1/2 I kj fFk%

(iii) jFk%

1/4k 1/2 jFkh

(iv) eu%

2- mfpr i nafpRok fj DrLFkua i j; Urq

vfXu% I fi rš ršye} vkRefu] I k% % q

1/4d 1/2 fryškq-----

1/4[k 1/2----- vkRek

1/4x 1/2 vj . kç'kq-----

1/4k 1/2----- vki %

1/4³ 1/2 n/kfu -----

3- I ð drHk'k; k mÜkja fy [kUrq

1/4d 1/2 'kj hj : fi .k% jFkL; i xg% fde\

1/4[k 1/2 vkRefu vkRek d u xg; rð

1/4x 1/2 vj . kç'kq vfXu% dFke~ mRi k | rð

1/4k 1/2 fryškq fda Hkofr\

1/4³ 1/2 uj% I R; u dai' ; fr\

r`rh; %vák%

eu=%& 7

vfKobnL; eu=sfLeu~ i fjokjs LugoÜk% fodkl k; i kFkZuk fØ; rA

i nPNn% vuør% firç i ç% ek=k Hkorql euk%

tk; k i R; se/kørha okpe~ onrq' kçfUrokeAA

vuør% firç i ç%

ek=k Hkorql euk%

tk; k i R; se/kørha

okpaonrq' kçfUrokeAA7AA



fVii.kh

vlo; %i%fir%vupr%HkorA ek=k l æuk% HkorA tk; k iR; s e/kærha 'kkfUroke-okpe-onrA

0; k[; k&

i%fdahkorA fir%vupr%HkorA vU; r-fdahkorA ekrk l æuk%

tk; k dhn' khe-okpe-onrA e/kærheA i% dhn' khe\ 'kkfUrokeA dLeS iR; A

v; a eU=% vFkobnL; vLrA

vupr%fir%i%& i%fir%vupr% vupr%L; kr}fir%opuai ky; r}fir% vkKkdkih L; krA

ek=k Hkorq l æuk& ek=k l ekueuLd% HkorA ; Fkk ekrk fpUr; fr rFkk djkrA

i% ekr% bPNk; k% vogyuka u dq kA

tk; k iR; s ----- 'kkfUroke~

tk; k&iRuhj iR; s &Hk=} e/kærha e/kj kA 'kkfUroke&' kkfUr; ØrkA 'khryka okpa ok. kha onrA

v= ifjokjs pRokj% tuk% of.kr& fir k] ekrk] i% i%L; iRuhA oneU=%

vkfn'kfr ; r-i%fir%vupr%L; kr}fir%rje-vupr} i% ekr% bPNk; k% vknja

dq kA~l k ; Fkk okxNfr rFkk dq kA iRuhR; k% e/; sdyg%ek Hkorqvr%oneU=%

vkfn'kfr ; r-iRuh iR; s e/kj ka 'kkfUre; ha p ok. kha onrA

eU=% 8

vflEu eU=s i kfjokjdi k eU; a dhn' ka dke; rs bfr ckskkeA

i nPNn% ek Hkrk Hkrje-f}{ku} ek Lol kje~mr Lol kA

I E; p% l ork Hkrk} okpe-onr Hknz kAA

vlo; %Hkrk Hkrje-ek f}{kr} mr~Lol k Lol kje-ek 1/4}{kr 1/2 I E; p% l ork% Hkrk Hknz k okpe-onrAA

0; k[; k

Hkrk dau f}"; kr\ HkrjeA

Lol k dau f}"; kr\ Lol kjeA

; wafd onr\ okp} Hknz kA dFka I E; p% l ork Hkrk

ek Hkrk Hkrjaf}{kr& Hkrk Hkrjaifr }Skau dq kA l gknjai fr nsgau djkrA

mHks i ei wdaol rkeA ek Lol kje}Lol k&Lol k&Hkfxuh Lol kj& Hkfxuha i fr }Ska

u dq kA Lol k vU; ka Lol kja i fr nsgau dq kA mHks i E. kk fuol rkeA

ek Hkrk Hkrjaf}{ku~
ek Lol kje}Lol kA
I E; p% l ork Hkrk
okpaonr Hknz kAA8AA

I E; p% I ork ----- onr Hknz, kAA

I E; p%& I ekuxfrdk% I ekuer/kkfj .k% I ekufopkjolr%

I or%& I ekudeZk% I ekudk; žUr% Hkrok Hknz; k& fgriwkj tR; k dY; k.ke.; k i)R; kj e/kj sk okpaok. khaonRA onel=% vkfn' kfr ; r~; w al ož tuk% I ekuxfrdk% I ekuerolr% I ekudeždj k% ijLi ja e/kj; k ok. ; k&Hkk" k; k&fxjk 0; ogkja d#rA ; w a i e i w ž d a o l r A

%vFkobn ds ; snksel= ifjokj ea l d[ki w ž d ' k k f U r I s j g u s d k e k x Z c r k r s g A i e f i r k d k v k K k d k j h g k s v k j e k ; d h b P N k v k a d s v u d k j 0 ; o g k j d j A i R u h i f r l s e / k j o k . k h e a ' k k f U r i w ž d c k s y A 1 / 2

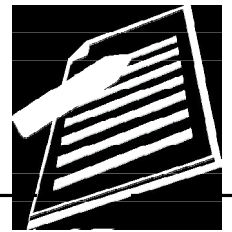
Hkkbz vi us n u j s H k k b z l s } s k u d j } u g h c g u v i u h c g u l s } s k H k k o j [k A I H k h y k s , d e r o k y s g k d j v i u s v i u s d e z e a y x a r F k k i j L i j f g r d k j h o p u c k s y A b l i z k j 0 ; o g k j d j u s l s u i f j o k j e a g h > x M k ; k v l U r k s k g k s k v k j u g h l e k t e A

0; kdj .kfcUho%

- vupr% & vu#raora ; u l % cgøp h f g l e k l %
- fir% & fir] i p e h j , dopue-
- ek=k & ekr] r r h ; k j , dopue-
- iR; s & i fr] p r f k h z , dopue-
- okpe- & okp} f } r h ; k , dopue-
- Hkkrje- & Hkkr] f } r h ; k , dopue-
- Lol kje- & Lol ` f } r h ; k , dopue-

'kCn: i kf.k

	T; kSRk" k- % u i d d f y a e 1 / 2			I j l - u i d d f y a e -		
	, dopue-	f } opue-	cgøpue-	, dopue-	f } opue-	cgøpue-
i 0 fo0%	T; ksr-%	T; ksr"kh	T; ksrh" k	I j %	I j l h	I j k a l
f } 0 fo0%	T; ksr-%	T; ksr"kh	T; ksrh" k	I j %	I j l h	I j k a l
r 0 fo0%	T; ksr"kk	T; ksrH; kž-	T; ksr f H k ž	I j l k	I j k a l ; ke-	I j k s H k %
p 0 fo0%	T; ksr"ks	T; ksrH; kž-	T; s r H ; %	I j l s	I j k a l ; ke-	I j k a l ; %
i 0 fo0%	T; ksr" k %	T; ksrH; kž-	T; ksrH; %	I j l %	I j k a l ; ke-	I j k a l ; %
"k 0 fo0%	T; ksr" k %	T; ksr" k k %	T; ksr" k k e -	I j l %	I j l k %	I j l k e -
I 0 fo0%	T; ksr" k	T; ksr" k k %	T; ksr" k q	I j f l	I j l k %	I j l l q
I Eckokue-	gsT; ksr%	gsT; ksr"kh	gsT; ksrh" k	gsI j %	gsI j l h	gsI j k a l



fVli .kh



fVii .kh

vkReu- ¼ ¶Vyα½

	, dopue- f}opue- cgøpue-			fir`		
iD fo0%	vkRek	vkRekuls	vkReku%	fi rk	fi rjks	fi rj%
f}O fo0%	vkRekue-	vkRekuls	vkReu%	fi rje-	fi rjks	fi ræ-
rO fo0%	vkReuk	vkReH; ke-	vkReHk%	fi =k	fi rH; ke-	fi rHk%
pO fo0%	vkReus	vkReH; ke-	vkReH; %	fi =s	fi rH; ke-	fi rH; %
i@ fo0%	vkReu%	vkReH; ke-	vkReH; %	fi rø	fi rH; ke-	fi rH; %
"kO fo0%	vkReu%	vkReuk%	vkReuke-	fi rø	fi =k%	fi række-
l O fo0%	vkRefu	vkReuk%	vkRel q	fi rfj	fi =k%	fi r"q
l Eckskue-	gsvkReu-	gsvkRekuls	gsvkReku%	gsfir%	gsfirjks	gsfirj%

Hkkkr]tkekr` nø 'kCnkuka: i kf.k firør-HkofUr

ekr`

	, dopue-	f}opue-	cgøpue-
çFkekfoHkfDr%	ekrk	ekrjks	ekrj%
f}rh; kfoHkfDr%	ekrje-	ekrjks	ekræ%

vU; kl qfoHkfDr"q: i kf.k firør-HkofUrA ngr` ¼ ¶h½ 'kCnL; : i kf.k ekrør-HkofUrA

nrk`

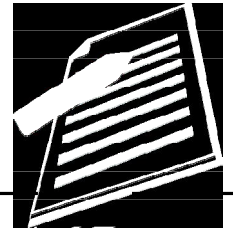
	, dopue-	f}opue-	cgøpue-
çFkek fo-	nrkr	nrkrjks	nrkrj%
f}rh; k fo-	nrkrje-	nrkrjks	nrkræ-

vU; kl qfoHkfä"q: i kf.k firør-HkofUrA

jktu- ¼ ¶y³e½

ifr ¼ ¶y³e½

	, dopue- f}opue- cgøpue-			, dopue- f}opue- cgøpue-		
iD fo0%	jktk	jktkuls	jktku%	ifr%	irh	ir; %
f}O fo0%	jktkue-	jktkuls	jktku%	ifre-	irh	irhu-
rO fo0%	jkKk	jkTH; ke-	jkTHk%	iR; k	ifrH; ke-	ifrHk%
pO fo0%	jkKs	jkTH; ke-	jkTH; %	iR; s	ifrH; ke-	ifrHk%
i@ fo0%	jkK%	jkTH; ke-	jkTH; %	iR; s	ifrH; ke-	ifrH; %
"kO fo0%	jkK%	jkKk%	jkKke-	iR; ø	iR; k%	irhuke-
l O fo0%	jkK@jktfu	jkKk%	jktl q	iR; ks	iR; k%	ifr"q
l Eckskue-	gsjktu!	gsjktkuls	gsjktku%	gsird	gsirh!	gsir; %



fVli . kh

eul - វិបិយ ១៤

plnæl - វិបិយ ១៤

	, dopue~	f}opue~	cgppue~	, dopue~	f}opue~	cgppue~
i 0 fo0%	eu%	eul h	eukål	plnæk%	plnæl kS	plnæl %
f}0 fo0%	eu%	eul h	eukål	plnæl e-	plnæl kS	plnæl %
r0 fo0%	eul k	eukål; ke-	eukålHk%	plnæl k	plnækål; ke-	plnækålHk%
p0 fo0%	eul s	eukål; ke-	eukål; %	plnæl s	plnækål; ke-	plnækål; %
i 0 fo0%	eul %	eukål; ke-	eukål; %	plnæl %	plnækål; ke-	plnækål; %
"k0 fo0%	eul %	eul k%	eul ke-	plnæl %	plnæl k%	plnæl ke-
l 0 fo0%	eul l	eul k%	eu% ធើ	plnæl l	plnæl k%	plnæl l ធើ
			eu l l q			plnæl l l q
l Eckkue-	eu%	eul h	eukål	gs plnæl%	gs plnæl kS	gs plnæl %



i kBrç'uk% 14-3

- mfprin p; usı fjDrLFkkui fir% fo/k% k
 i ធើ% i R; } l æuk} 'kkfUroke} okpa
 1/d 1/2 i ធើ% ek=k ----- HkorA
 1/4 [k 1/2 tk; k i R; s ----- okpaonrA
 1/x 1/2 ----- fi r ធើ vupr% HkorA
 1/2 k 1/2 Hknz; k ----- onrA
 1/3 1/2 tk; k ----- e/k ធើ okpaonrA

- pr ធើ; % LrEHkål; % inkfu fpRok n'k okD; kfu fy [kUr q

Hkkrk	Lol kje~	ek	f}"; kr~
Lol k	Hkkrje~		
i ធើ%	fi r ធើ	vupr%	
l E; p%	ekr ធើ		
l ork%	fi =k	l æuk%	Hkorq
	ek=k		
	Hkrok	okpa	onr

- ifjokjs l k ẽul; kF ធើ i ធើ% tk; k} Hkkrk Lol k p fdadq ធើ bfr fo" k; s" kM-okD; kfu fy [kUr ធើ

1/d 1/2 -----

1/4 [k 1/2 -----



fVli .kh

1/2 x 1/2 -----

1/2 k 1/2 -----

1/3 1/2 -----

1/4 1/2 -----



14-4 fde~vf/kxre~

- cā] | k\$ bln] xk\$ | "VKSfof' k"Vk% I flrA
- I ke% euq; k. kka dY; k. ka djkrA
- 'kjhja jFke~vflr vkRek rL; Lokeh jFkh vflrA
- vkRek vkRefu , o or'rs cfg% u fo | rA
- Jks=knhuke~bflnz; k. kka pruo~vkReu% , o HkofrA
- vLekfHk% i fjokjs i jLi ja i eHkou; k LFkr0; eA
- }; k% e/; s ryuk; ke~bz | u~ iR; ; % , dL; cggHk% ryuk; ka b"Bu~ iR; ; % iz q; rA
- 'ton* /krk% : i kf. k vkReu; ns HkoflurA



14-5 ; kx; rkfoLrkj%

I LdrL; okM-e; e~vfr I e) e~vflrA onk% pRokj% I flr& __Xon% ; tφh% I keon% vfkobn% pA onk% kfu "KV~I flr& f'k{kk] 0; kdj .ke} NUn% dYi % fu#Dra T; ksr"ka pA i æq kk% , dkn'k mi fu"kn% I flr& bz k&du&dB&i / u&eq Md& ekM; & , rjs & rSukjh; & NkUnk;] cgnkj .; d&Uor'kUorjkA jkek; .ka egkHkj ra p egkd0; s Lr%A

eU=k. kka I UnHk%

- ; tφh% pRokj% akr~v/; k; k% I flrA i Lrqi kBs i Fkks } ksel=kS; tφhL; Lr% 1- 1/4 tφh% v/; k; %3 eU=% 47 1/4 2- 1/4 tφh% v/; k; %23 eU=% 48 1/4
- r'rh; % eU=% I keonL; vflr%A I keons eU=k. kka xk; ua HkofrA vr% __XonL; vucls eU=k% I keons vfi I flrA mUkj kfpzde~v/; k; 9 [k.M 1 eU=% 1A

- prfík i pe% "k" B% , rs el=k% mi fu"knH; % xghrk%
 1- i žuki fu"kn-1-8
 2- dBki fu"kn-1-3-3
 3- Üosküörjki fu"kn-1- 15
- mi fu"krI q vkReu% i jekReu% fo"k; s fpUrua oržA , rs xfk% onkUrn' kU;L;
 vk/kkj Hkark% I fUrA
- i kBL; I Ire%v"Ve%p el=kSvFkožnL; Lr% ; = i fjokjL; I qkjhr% mDrkA
 vFkožn%3-30-4
 vFkožn%3-30-3

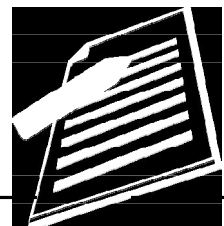
vFkožns cāKkuL; ykšdd0; ogkjL; p vuds fo"k; k% of.kk% I fUrA

HkkofoLrkj%

on fo'o dsl oā Eke xfk gA buea euq; dsfpUru vks ftKkl k dsvfHkyqk gA I wZ I epz i fFkoh dh fo'kskrkva dks nqkdj euq; ds eu ea ftKkl k gksuk LokHkfod gA ftKkl k dsHkšrd iz ukads vk/; kfRed mUkj i kdj euq; I f"V ds Lo: i vks ml dsjgL; ka dks l e> I drk gA cā | ykcd vks blnz dsLo: i dks l e>usdsfy, i k B eafn, x, el= vfr egüoi wkZ gA xkS dk egüo bl ea vPNh rjg crk; k x; k gSfd xkS ds xqka dh dkbZ cjkjh ugha gA vfxu I ke] vks I wZ euq; ka ds dY; k.k dsfy, gA euq; bu l s'kfDr vks ij.kk i kdj dY; k.k ekxz ij vxZ j gkrk gA

mi fu"knka ea mPpLrjh; vk/; kfRed fpUru fd; k x; k gA euq; ds vLrRo ds okLrfod : i dks l e>us ea mi fu"kn-xfk cgr I gk; d gksrsgA 'kjhj dōy jFk ds l eku gSftl dk I kjfFk vkRek gA vkRek gh oLr% Lokeh gA cf) bl jFk dks pykusokyh gSog I kjfFk ds l eku gA eu yxke gA vr% 'kjhj : i h jFk dks; fn fu; U=.k ea j [kuk gS rks eu dks dkcw ea j [kuk vko'; d gA eu dks l Uekxz ij yxkuk pfg, A ftl izdkj fryka ea sry gkrk gS vks ngh ea?kh gkrk gS oS sgh euq; dh vkRek ml ds vlnj gkrh gA tš sfryka l sry vks ngh l s?kh fudkyus ea i fJJe djuk i Mfk gS oS sgh vkRek dks igpkuus dsfy, Hkh l R; vks ri dk vkpj.k djuk i Mfk gA

ifjokj dh l Qyrk dsfy, ; g cgr vko'; d gSi e] i q=; k ekrk&fi rk , d nū js l se/kj 0; ogkj dja HkbbZcguka ea ijLij ixk<+ie gks rFkk os, d nū js ds i fr }Sk u dja dkbZfdl h dsfo#) vkpj.k u djs rFkk ijLij e/kj ok.kh l s0; ogkj dja ifjokj ea; fn 'kkfUr vks I qk gS rks l ekt , oajk"V" ea'kkfUr gksch vks bl l s l ef) vk; xhA 'kkfUr vks I Urksk gh l cl scMh l ef) gA



fVli.kh



fVii.kh

Hkk"kkfoLrkj%

0; atul fU/k%

*irfUr iji hMdk% bfr ikBs Hkof~% 0; atul fU/kfo"K; s ifBreA bnkuhe~ v= 0; atul U/k% fol xI U/k% p mngj.kkfu nh; UrA

l r~ \$ tu% ¼ lTtu%

rr~ \$ yhu% ¼ rYyhu%

okd~ \$ bz k% ¼ okxh' k%

d".ke~ \$ olhs ¼ d".ka olhs

okd~ \$ e; e~ ¼ ok³e; e~

rfLeu~ \$,o ¼ rfLelluo

fol x&l fU/k%

fol xk~ ijs Lojs 0; atus ok l fr r; k% esyus fol xI ; r~ ifjorZa Hkofr vI kS fol xI fU/k% HkofrA

xjk% \$ vkKk ¼ xjkjkKk

; 'k% \$ dk; % ¼ ; 'kLdk; %

cky% \$ xPNfr ¼ ckyks xPNfr

l % \$ iBfr ¼ l iBfr

jke% \$ fr"Bfr ¼ jkefLr"Bfr

d% \$ v; e~ ¼ dks; e~

nok% \$ olnuh; k% ¼ nok olnuh; k%



14-6 i kBKlrc'uk%

1- d LrEHkL; [k LrEHku l g esyua dØlrc

^d* LrEHk%

¼d½ vkRekua

¼[k½ l w l ea T; ksr%

¼x½ ek=k u fo | rs

¼k½ n/kfu

¼³½ i e%

^[k* LrEHk%

(i) xk%

(ii) l fi %

(iii) firØvuØr%

(iv) jffkuafof)

(v) cã

2- l ekl foxga dØlrc

(i) l w l ee~

(ii) l enl ee~

- (iii) I gl jf' e% _____
- (iv) vuφr% _____
- (v) I æuk% _____

3- I l d r s u m ù k j k f . k f y [k l r q

- ¼ d ½ i f f k o ; s o " k h z ; k u ~ d %
- ¼ [k ½ c ä f o n % d a k k r o l r %
- ¼ x ½ I k e % d l e s d l e s d y ; k . k a d j k r ð
- ¼ q ½ i k f j o k f j d k % t u k % f d a h k o k h k n k a o k p a o n l r ð
- ¼ ³ ½ v k r e f u v k r e k u a d k s t k u k f r \

4- L k v L ; L o : i a i p o k D ; s k q o . k z U r a

5- ^ k j h j a j f k e f l r * b f r f o " k ; s o k D ; p r ð v ; a f y [k l r a

6- v / k s y f [k r k u k a i n k u k a i f j p ; a f y [k l r q

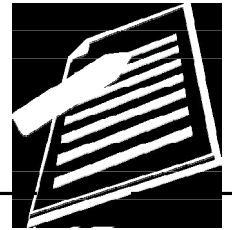
	i k f r i f n d e -	f o h k f D r %	o p u e ~
¼ ½ j k t f h k %	_____	_____	_____
¼ i ½ j k t l q	_____	_____	_____
¼ ii ½ i R ; s	_____	_____	_____
¼ v ½ i r h u k e ~	_____	_____	_____
¼ w ½ e u f l	_____	_____	_____
¼ y ½ e u k l ; %	_____	_____	_____
¼ z ½ p l ù n e l k s	_____	_____	_____
¼ 1 ½ p l ù n e l %	_____	_____	_____
¼ x ½ v k r e k u s	_____	_____	_____
¼ 2 ½ v k r e u k %	_____	_____	_____
¼ 3 ½ f i = k	_____	_____	_____
¼ 4 ½ f i r h ; k e ~	_____	_____	_____



14-7 m ù k j k f . k

14-2 c k s k i z u k %

- 1- d- l w l e j [k e k = k] x- j f f k u j ? k- v u φ r % 3- H k n z k



f v l i . k h



fVii.kh

2- d&(iii) [k&(iv) x&(i) ?k&(v) ³&(ii)]

i k B x r i t u k %

- 14-1 1- ¼d½ dL; ek=k u fo | rð
¼[k½ fdñLor~ l enl ea l j%
½x½ fdñLor~ i fFKO; S o"khz ku\
- ¼qk½ fdñLor~ l w ð ea T; ksr-%
- 2- ¼d½ cçfon% l w ð fo'o: i ð gjf .kñ tkronl ai jk; .ka T; ksr%, dari Ure~
KkroUr%A
¼[k½ ^vožš 'kçnL; vFK% ^v'ok; * bfr
½x½ l kç% xoš v'ok;] vkskf/kE; % p dY; k. ka djksrA
¼qk½ i fFKO; S o"khz ku~bln% vlLrA
¼³½ u% bfr i nL; vFK% ^vLekdež vlLrA
- 3- ¼d½ çš ku~ ¼[k½ JSB% ½x½ ojñ; ku~ ¼qk½ usñ%B% ¼³½ dfu%B%

- 14-2 1- ¼d½ iii] ¼[k½ iv] ½x½ i] ¼qk½ ii
- 2- d- ršye-][k- vKRefu] x- vfXu% ?k Lks-% ð ³ l fi ž
- 3- ¼d½ 'kjñj: fi .k% jFKL; çxç% eu% vlLrA
¼[k½ vKRefu vKRek l R; su ri l k p xg; rð
½x½ vj f.k"q vfXu% ?k"z ku mRi k | rð
¼qk½ fryšq ršye~HkofrA
¼³½ uj% l R; su vKRekua i 'pfrA

- 14-3 1- ¼d½ l æuk ¼[k½ 'kkfUroke~ ½x½ i ç-% ¼qk½ okpa ¼M-½ i R; s
- 2- ¼1½ Hkçrk Lol kjaek f}"; krA ¼2½ Hkçrk Hkçrjaek f}"; krA
¼3½ Lol k Lol kjaek f}"; krA ¼4½ Lol k Hkçrjaek f}"; krA
¼5½ i ç-% fi rç vuçr% HkorA ¼6½ i ç-% ekrç vuçr% HkorA
¼7½ i ç-% fi =k l æuk% HkorA ¼8½ i ç-% ek=k l æuk% HkorA
¼9½ l E; ç% Hkçrok okpa onrA ¼10½ l ork Hkçrok okpa onrA
- 3- ¼d½ i ç-% fi rç vuçr% HkorA ¼[k½ i ç-% ek=k l æuk% HkorA
½x½ Hkçrk Hkçrjaek f}"; krA ¼qk½ Lol k Lol kjaek f}"; krA

¼³½ I E; p% I ork% HkRok Hknz, k okpa onUrA

¼º½ tk; k i R; s e/kærha okpa onrA

14-6 iKBWrižuk%

1- ¼d½ iv] ¼[k½ v] ¼x½ i] ¼k½ ii] ¼³½ iii

2- (i) I w žk I ee} (ii) I eqsk I ee} (iii) I gl aj'e; % ; L; I % (iv) vuakraora ; L; I % (v) I xraeu% ; L; I %

3- ¼d½ i fFk0; S bln% o"khz, ku~vfLrA

¼[k½ cgefon% I w ž KkrolrA

¼x½ I ke% xkš; % v' oš; % vkskf/KE; % dY; k.ka djksrA

¼k½ i kfjokfj dtuk% I E; p% I ork% HkRok Hknka okpa onUrA

¼³½ ; % I R; u ril k 0; ogjfr I % vkRefu vkRekua tkufrA

4- ; FkšNa I w žo"k; s i pokD; kfu j p; UrA

5- i peeækuq kja okD; prqV; a j p; UrA

6- ¼½ jktu-& rrrh; k folkfä% cgppue-

¼i½ jktu-& I - fo-] c- o-

¼ii½ ifr & p- fo-] , - o-

¼v½ ifr & "k fo-] c- o-

¼w½ eul ~& I - fo-] , - o-

¼vi½ eul ~& p-@ia fo-] c- o-

¼vii½ plnel ~& iz@f}- fo-] f}- o-

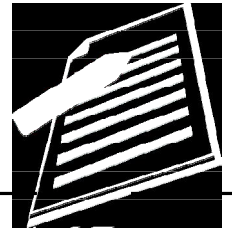
¼viii½ plnel ~& ia@"k fo-] , - o-

¼ix½ vkReu-& iz fo-] f}- o-

¼x½ vkReu-& ia "k fo- f}0 o-

¼xi½ fir & r- fo-] , - o-

¼xii½ fir & r- p- ia fo- cgppue-



fVli . kh



15

fgeky ; ksuke uxkf/kjkt %

HkoUr% tkufUr , o ; r~fgeky; % HkkjrL; egku~ioi~% vflrA , "k% u dōya fgeL; vky; %vfi rqvksk/thuke~vky; % jRukuke~vkdj%vfi A i kÑfrdI kōn; žk i wk%v; eA , "k%l okPp f'k[kj%vr%v; ai ožjkt%df; rA ^i koux~k; k%mnxeLFkye~vfi vflrA vr% ifo=%vL; ins k%A i kBs fLeu~egkdfodkfyinkl Ńrafgeky; L; eukgja i kÑfrda I kōn; b.kza i Bke% o; eA

 **mís ; kfu**

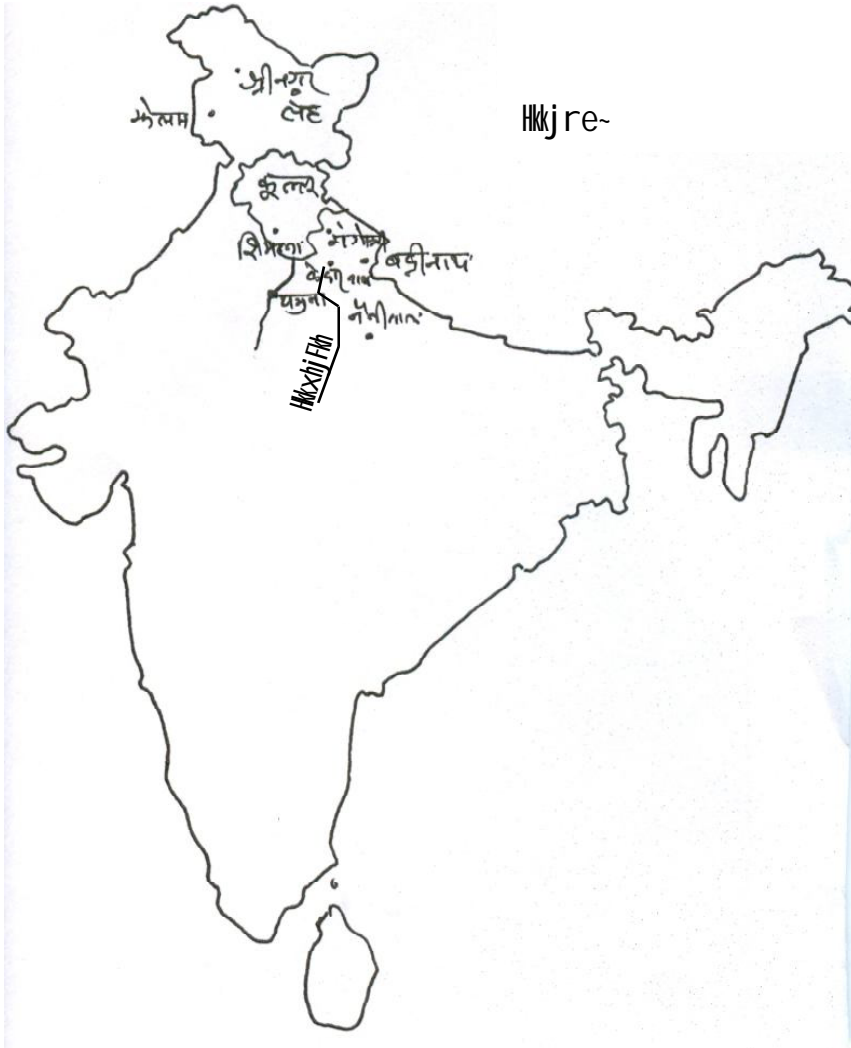
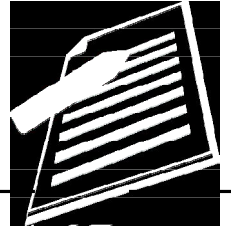
bea i kBa i fBRok Hkoku&

- fgeky; L; o.kza yš[krą 'kDr-%Hkfo"; fr(
- i kBs iz Ńrkuke~mi ekuka p; ua drą 'k{; fr(
- i kBL; 'ykdkuke~vlo; a i nPNna p dfj"; fr(
- i kBr~l Ńrhuka p; ua dfj"; fr(
- i kBs iz ŃrÑnUr i nšq Dr&reą&Y; i~i R; ; kuke~mYyš[ka dfj"; fr(
- cgŃfgl eLri nkuk p foxga yš[k"; fr(
- xPNr} /kuor} bliŃj e/kq 'kCnkuka: i kf.k yš[k"; frA



fØ; kdyki %

I e{ka HkkjrL; ekufp=a n"Vøk v/k% i nÜkrkfydk; ka =; k. kka rhFKLFkkukuka =; k. kka uxjk. kka frLß. kka unhuka p ukekfu fy [kUrA



15.1

=hf.k rhFKLFkkukfu	
=hf.k uxj kf.k	
frl %u %	



15-1 ey i kB%

fgeky; ksuke uxkf/kjkt%

bnkuhe~bea i kB~;/; kuu I Loja i Bke%

vLR; qkjL; ka fnf'k nørkRek
fgeky; ks uke uxkf/kjkt%
i wkd j kS rks fu/kh oxkg;
fLFkr% i fFK0; k bo ekun.M%AA1AA

vullrjRui HkoL; ; L;
fgea u I kkkk; foykfi tkrea
, dks fg nksks xqkl flui krs
fuTtrHnk% fdj . kS"ook AA2AA

vke[kya I pjrka ?kukuka
Nk; ke/k% I kuqrka fu"ko; A
m}ftrk of"VfhkjKJ; Urs
Ük³kf.k ; L; kri ofUr fl) k%AA3AA

di ksyd . M%dfj fhkfoZsq
fo?kfÍrkuka I jynæk . kkeA
; = I r{khjr; k i d w%
I kufu xU/k% I gHhdjkfrAA4AA

Hkkxhj Fkfu>j ' khdj.k . kka
oks-k egg% dfeI rnønk#%
; }k; g flUo"Vex% fdjkr&
jkl 0; rs fhkUuf' k[kf . Mcg%AA5AA

fnokdjkn{kfr ; ks xgkl q
yhua fnokHhrfeokU/kdkjeA
{kps fi uwa 'kj . ka i i Us
eeRoe#p% f'kj I ka I rhoAA6AA

'kCnkFKk%

vke[kya¾ i oZka dse/; Hkkx rd
I pjrka¾ ?kærsqg
v/k%¾ uhp dh
I kuqrka¾ pkfV; ka rd
fu"ko; ¾ I ou dj
mnostrk%¾ rak vkdj
fl) k%¾ riLoh x.k
vkri ofUr ¾ /ki okyh
Ükækf.k ¾ pkfV; ka dk
vkJ; Urs¾ I gkj yrsg@vkJ;
di ksyd . M%¾ duiVh dh [kk t dks
fourq¾ feVkus dsfy,
fo?kfÍrkuka¾ jxM%sgg
I jynæk . kke-¾ nønk: dso{kka ds
I r{khjr; k ¾ nwk cgrsjgus I s
i d w%¾ mRi Uu
I kufu ¾ pkfV; ka dks
I gHhdjkfr ¾ I qfU/kr djrk GS
fnokdjkr-¾ I wZ I s
yhua¾ fNi sgq
fnokHhr-¾ fnu I s Mjsgg ¼mYytk
{kps¾ uhp ds
i i Us¾ i ktr gkus ij
mPp% f'kj I ka¾ Åpsy skæ ds
I rho¾ I Ttuka dh rjg
Hkkxhj Fkh ¾ xæk
' khdj.k . kka¾ cma
oks-k¾ /kkj . k djusokyh
egg%¾ ckj ckj
vflUo"Vex%¾ fgjuka dks <us okys
fdjkr%¾ fdjkrka ds }kj k
fhkUu ¾ fc[kjsgg
f'k[kf . M%¾ ekj ds i d kka I s



15-2 cks'uk%

1- v= eyi kBe- vk/kR; i z ukuke- mÙkj kf.k ; Øre- ¼½ v; Øre- ¼½ bfr fpàu fufnZ klr&

¼d½ fgeky; % ukxkuke@uxkuke- jktk vLrA

¼[k½ fgeu fgeky; L; I kØn; ±u'; fr@o/krA

¼x½ fgeky; L; Ùkàkf.k vkri oflR@reks Ørkfu I flrA

¼k½ i ði k. kka xU/k% I jyo{k. kka nÙ/kL; xU/k% I kufiu I gHkhdj ksrA

¼³½ fgeky; s fnokHkr% mynd% vU/kdkj% xgkl q fuol frA

2- i kBa i fBRok fjDrLFkui fir%fØ; rke-

¼d½ fLFkr%----- bo ekun. M%A

¼[k½----- u I kØkX; foykfi tkreA

¼x½ Ùk³kf.k ; L; ----- fl) k%A

¼k½ I kufiu xU/k%----- A

¼³½ fnokdjkn----- ; ks xgkl A

3- v= LrEHk}; s eyua fØ; rke&

¼r½

¼c½

¼d½ vLR; Økj L; ka fnf' k nørkRek

¼i½ Nk; ke/k% I kuqrka fu"KØ;

¼[k½ , dks fg nkSkks xqkl flui krs

¼ii½ eeRoep% f' kj I ka I rho

¼x½ vke[kya I pj rka ?kukuka

¼iii½ fgeky; ks uke uxkf/kjkt%

¼k½ {kps fi unua 'kj .ka i i Uus

¼v½ fueTtrHnk% fdj .kS"ook %



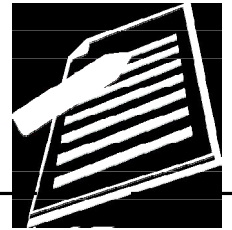
15-3 v/kpk voxPNke%

i fke%vák%

'ykd%1

i nPNn% vLr mÙkjL; ke-fnf'k nørkRek] fgeky; % uke uxkf/kjkt%A
i wkā jkS rks fu/kh oxk°; fLFkr% i fFkØ; k% bo ekun. M%A

vlo; % mÙkjL; ka fnf'k nørkRek fgeky; % uke uxkf/kjkt% vLrA ¼ % i wkā jkS rks fu/kh oxk°; i fFkØ; k% ekun. M% bo fLFkr% ¼vLr½



vLR; Økj L; kafnf'k nørkRek
fgeky; ks uke uxkf/kjkt%A
i wkā jkS rks fu/kh oxkg
fLFkr% i fFkØ; k bo ekun. M%A1AA



Hkofö% fgeky; L; fo"i; s fdefi i 0± i fBre- J r e o A d k f y n k l d o % f o " k ; s v f i f d e f i K k r e o A v f l e u - ' y k d s f g e k y ; % d h n ' k % i o r % v f l r \ d e p o r t s b f r c k s k a d e % A

0; k [; k

fgeky; % Hkkj rL; egku- i o r % v f l r A , " k % H k k j r L ; m ù k j L ; k a f n f ' k f l F k r % v f l r A v ; a f g e k y ; % n o r k R e k v f i d f ; r A ; r % r = n o k u k a r k i l k u k a p f u o k l % v f l r A l % u x k u k e - 1 / 4 i o r k u k e 1 / 2 v f / k j k t % v f l r A H k k j r s v u d s i o r k % f o l / ; l g ; k n z ; % o r U r s i j a f g e k y ; % l o U S B % i f o = % p k f l r A f g e k y ; % i w & i f ' p e l e m z k % e / ; s i f o " v % v f l r A v f k k z ~ i w L ; k a f n f ' k c a k y [k k M h l e m % i f ' p e f n f ' k p v j c l k x j % v f l r A

fgeky; % dL; k% ekun. M% bo\ i fFkO; k% vFkkz~fgeky; % Hkæ% i fjek.kL; Kki d%A ; Fkk tysn. Mafuoš; ru tyL; xkEHkh; ±Kk; rs rFkO fgeky; L; mPprka KkRok i fFkO; k% xkEHkh; ±eh; rs bfrA

HkkokFk%

fgeky; % Hkkj rL; m ù k f n ' k k ; k a f l F k r % A , " k % f g e s u v k o r % l n k j v r % f g e k y ; % A i o r % s k q m l u r r e % v r % l % i o r j k t % A r = n o k u k a r k i l k u k a p f u o k l % v r % l % n o r k R e k A f g e k y ; L ; i w I n f ' k ^ c a k y d h [k k M h l * b f r u k e l e m % i f ' p e f n f ' k p v j c l k x j % b f r A , " k % r ; k % e / ; s , o f l F k r % A , o a f g ^ v # . k k p y i n s k k r ~ d ' e h j i n s k i ; U r a f g e k y ; % i f F k O ; k % i f j . k k e : i % n . M b o f l F k r % v f l r A

fgeky; Hkkj r dh m ù k j f n ' k k e a f l F k r g A b l d h p k s V ; k a l c l s Å p h g s v r % b l s i o r k a d k j k t k d g r s g A v u d n o k a o r i f l o ; k a d h r i k k k i e g k s u d s d k j . k f g e k y ; n o L o : i H k h g A ; g i w I n ' k k e a c a k y d h [k k M h l e m z e a r F k k i f ' p e v j c l k x j e a i o s k f d ; k g n k f l F k r g A v r % ; g i F o h d s i f j e k . k d k s c r k r k g A v f k k z ~ u k i u s d k M M k @ Q v k v k f n d s l e k u g A

0; kdj .kfclno%

I fu/kPNn%

vLR; ùkjL; ke- 3/4 vflr \$ mùkjL; ke- 1/2 → ; ~ & ; .k- l fu/k%
 nokRkkRek 3/4 nok \$ vkRek 1/4k \$ vk 3/4 ^vk* nh?kz l fu/k%
 fgeky; ks uke 3/4 fgeky; % \$ uke 1/4ol x%LFkkus ^m* & vks xqk% fol xj fu/k%

ini fjp; %

oxk°; 3/4 1/4o/ & o \$ xlg- \$ Y; i-
 flFkr% 3/4 LFkk \$ Dr i q i Fkek , dopue-

foxg%

uxkf/kjkt%	¾ uxkuke~vf/kjkt%	¼k"Bh rRi # "k%½
fgeky; %	¾ fgeL; vky; %	¼k"BhRkRi # "k%½
i wkj kS	¾ i w% p i j% p	¼jU } %½
rks fuf/k%	¾ rks L; fuf/k%	¼k"BhRkRi # "k%½
ekun.M%	¾ ekul; n.M%	¼k"BhRkRi # "k%½

'ykd%2

i nPNn% vullrjRu i HkoL; ; L; fgee~u l kkkX; foykfi tkreA , d% fg nksk% xqkl flui krs fueTtfr bUnk% fdj .kSkq bo v

vlo; %; L; vullrjRui HkoL; fgeal kkkX; foykfi u tkreA fg xqkl flui krs , dks nksk% bUnk% fdj .kSkq v % bo fueTtfrA

vfLeu-i | s o; a cksk% ; r~cgqkSkq l Rl q , d% nksk% dFka u x. ; rð

0; k[; k

vullrjRukuka i Hko% ¼mRi fUkdrkz fgeky; % vflrA vFkkz~fgeky; s vudkfu jRukfu vfi i kl; UrA jRukfu rqnhrkfu cgeW; kfu HkofUrA fgeky; L; vnhkqal kOn; ±u"Vq u ikj; fr fde\ fgee! oLr% fgeL; vkf/kD; anksk% , o ; r% r= thoual qkna u HkofrA i ja r= jRukRi fUk&vksk/k&vkn; % uSs xqkk% l flurA vr% , d% nksk% uS x. ; % dy %¼ plns n' ; eku% Ñ" .ko.k% fpà%

fdaplntL; dy % rL; izk' kack/krð uS vFkkz~plns fo | eku% dy % l u~vfi pln% i wkZ kDR; k HkkI rA

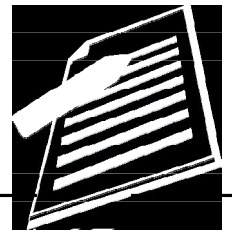
vYi nksk% fueTtfr de\ xqkl emA ; = xqkkuke~vkf/kD; a Hkofr] rnk LoYi % nksk% n' ; rs uS v= fgeky; s , d% nksk% mDr% dOya fgee~bfrA

fgenkskL; miekue~v= fdepre\ plntL; dy %

HkkokFk%

fgeky; s vudkfu jRukfu HkofUrA vr% rL; efgek fgeek=nksk% k u"Vqu 'kD; rA ; Fkk plns fLFkr% dy % nksk% plntL; izk' ka {kh.kadr#u 'kD; rA vL; Hkko% vflr "xqkkuka l emsLoYi % nksk% fu"i Hkkoh HkofrA** vr%fgeky; L; l kOn; ð~rqvnHkqreD

vulr jRuka dh [kku fgeky; dh 'kkkk dks cQZ fdI h izlkj l s Hkh de ugha dj l dh D; kEd xqkka ds l em ea , d nksk , d s fNi tkrk gS tS s plnek dk dy ml dh fdj .kka eA vr%fgeky; dk l kOn; Z vnHkq gA



vullrjRui HkoL; ; L;
fgeau l kkkX; foykfi tkreA
, dksfg nksk% xqkl flui krs
fueTtfr bUnk% fdj .kSkq AA2AA



0; kdj .kfcUho%

I fu/kPNn%

, dks fg ¾ , d% \$ fg ¼ol x] fu/k%½

fueTtrHUnk%¾ fueTtr \$ bUnk% ¼hi?k] fu/k%½

fdj.k"ook %¾ fdj.kSkq \$ bo \$ v % ¼. k] fu/k%½

i ni fjp; %

I flUikr% ¾ I e-\$ fu \$ ir-\$?k } iq iFkek , dopue-

tkre- ¾ tu-\$ Dr] uiq iFkek , dopue-

fueTtr ¾ fu \$ eTt- yV-iz iq , dopue-

foxg%

vulrjRui HkoL; & u vlr%¾ vulr% vulrkfu jRukfu ¼deZkkj ; %½

vulrjRukuka i Hko% rL; ¼k"BhrRi #%"k%½

I kkkk; foyksi & I kkkk; afoyqifr ; r-rr-

¼mi in rRi #%"k%½

xqkl flUikrs & xqkkuka I flUikr% rLeu-

¼k"BhrRi #%"k%½



i kBxrç'uk% 15-1

1- iz ukuke-mUkj kf.k fy [kUrq

¼d½ fgeky; % dL; ka fn'kk; ka fLFkrks fLr\

¼[k½ fgeky; % fdfeo fLFkr%

¼x½ vulrkuka jRukuka i Hko% dks fLr\

¼qk½ fgeky; L; I kOn; ±dsu u u"Va tkre\

¼³½ , d% nksk% d# fuefTtr% Hkofr\

2- fo'kSk.k&fo'kS; esyua fØ; rke-

¼d½ norkRek ¼½ fgeky; L;

¼[k½ i wkd j kS ¼i½ fgee-

¼x½ vulrjRui HkoL; ¼ii½ fgeky; %

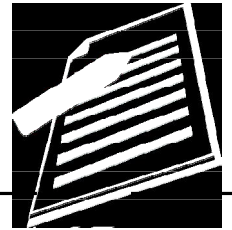
¼qk½ I kkkk; foyksi ¼v½ rks fu/kh

3- mfprinsu okD; i fir% fØ; rke&

¼d½ fgeky; %----- I emkS i fo'; fLFkr%A ¼i wkdKj kS@ i kP; i f' pekS

¼[k½ fgeky; %----- ekun.M%A ¼ emL; @ i fFk0; k%

¼x½----- nkSk% xqkl flUikrsu n'; rA ¼LoYi% @vuYi%



f}rh; %vdk%

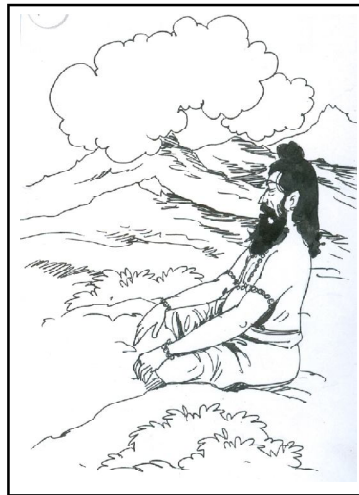
v/kuk o; af}rh; e-vdka i Bke%A

'ykd%3

i nPNn% vke[kye- I pjrke- ?kukuke- Nk; ke- v/k% I kuqrke- fu"ko; A
mr-oftrk] cf"VfHk% vkJ; Ur; Ük³xkf.k ; L; vkri ofUr fl) kAA

vkejosyal pjrka/kukuka
Nk; ke/k% I kuqrka fu"ko; A
m}ftrk of"VfHk% vkJ; Ur
Ük³kf.k ; L; kri ofUr fl) kAA3AA

vlo; % vke[kye- I pjrke- ?kukuke- v/k%
I kuqrke-Nk; ke-fu"ko; of"VfHk% mnoftrk% fl) k%
; L; vkri ofUr Ük³xkf.k fu"koUrA



vfLeu-i | sfgeky; sri fl jrkuke-tukuke-fo"K; s
ckSkke%A

0; k[; k

fgeky; s?kuk%fgeky; L; e/; Hkxs I pjflr r=
o"Kz karq i k; %Hkor; oA of"VfHk% r= mnoftrk% ds
HkofUr\ fl) k% rki I tuk%A rsr= xgLFkthoukr-
nja i Ñfr&I kflu/; sri% dØZUrA

15.2

fl) k% ?kukuka Nk; ka I oUrS dæ\ f'k[kjk.kke-
v/k%A fgeky; L; f'k[kjk.k vfr mlurkfu HkofUrA
vr% eSkkuka fLFkr% mPpf' k[kjSkqu Hkofra

fl) k% @rki I k% 'kR; e- vutkvw fda dØZUr\ fl) k% 'kR; e- vutkvw vkri; Ørkfu
Ük³kf.k I oUrS ; r= r= f'k[kjSkq I wL; izdk' k% Hkofr] r= ?kuk% u xPNfUrA
vf.kekfnfl) k% nØ; kfufo'kSkk' p ^fl) k% bfr dF; UrA rs fgeky; s rikcysu
LoPNkuq kjafopjflUrA

Hkokfk%

fgeky; s ri % I k/kukjrk% ri flou% I flUrA rs dnkfr- rki e- vutkvw f'k[kjk.kke-
v/k% xPNfUr] I pjrka p eSkkuka Nk; ka I oUrA dnkfr- o"kkztU; a 'kR; e- vutkvw



f' k [kj] Skq 1/2 mi fj Hkx 1/2 vkria l dUrA vFkz~fgeky; smifj rki % Hkofr uhp% e/; Hkxs ok o"kkzlkj .kk~ 'kR; e- HkofrA ija rifLou% rj LoPN; k mi fj] e/; e- v/k% ok xPNfUrA rSkka y{; a rj , dari % , oA

tkriloLohx.k fgeky; ioŕ dse/; Hkx ea?kærsqg cknyka dh Nk; k dk pksV; ka dsuhps l ou djrs gŕ , s rki l x.k fujUrj o"kkz l sijs kku gkdj vFkz~BM dk vutko djdsi u%/kii ; ŕr pksV; kaij pys tkrsgŕ vFkz~ri Loh ykx bPNkuq kj ri% l k/kuk dsfy, l gt : i l sfgeky; ds Åijh Hkx eŕ e/; Hkx ea; k uhp spys tkrsgŕ mudh riL; k fuckzk pyrh jgrh gŕ

0; kdj .kfclno%

I fu/kPNŕ%

of"VfhkjU; Urs 3/4 of"Vfhk% \$ vkU; Urs 1/2 ol xZ LFkks j' 1/2 ; L; kri ofUr 3/4 ; L; \$ vkri ofUr 1/2 h?kŕ fu/k% v \$ vk 3/4 vk 1/2 l pjrke~ 3/4 l e~ \$ pjrke~ 1/2 uŕokj % e~ LFkks & i j l o.kz & 1/2

ini fjp; %

l pjrke~ & l e~ \$ pj~ \$ 'kr' 3/4 l pjr~ "k- c- o- fu"ŕ; & fu \$ l o~ \$ Y; i- 1/2 Rok LFkks Y; i; ; r%/kkrŕi mŕ-mil l x% vkri ofUr & vkri \$ erŕ ~ 3/4 vkri or} uiŕ iz c- o- m}ŕtrk% & mr~ \$ fot~ \$ Dr 1/2 o' ks 1/2 iz c- o-

foxg%

vke[kye~ & vke[kykh; % bfrA 1/2 0; ; Hkko% ^vk 3~ v0; ; e 1/2

'ykd%4

inPNŕ% di kyd.Mŕ dfj fhk% fourŕ~ fo?fŕ rkuke~ l jynŕk.kkeA ; = l ŕ{khj r; k iz ŕ% l kufu xU/k% l j Hkhdj kŕAA

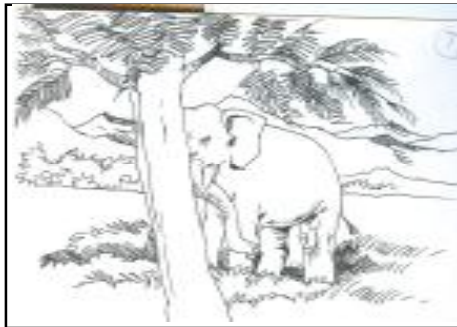
vlo; % ; = dfj fhk% di kyd.Mŕ fourŕ~ fo?fŕ rkuke~ l jynŕk.kke~ l ŕ{khj r; k iz ŕ% xU/k% l kufu l j Hkhdj kŕAA

fgeky; s gflru% Lodi kya nonk: o{kSkq dFka ?k"lz flur bfr v= ckskke%

; nk xtkuke~ di ksy; k% d.Mŕ 1/4 kŕ y h 1/2 Hkofr rnk xtk% di ksy; k% d.Mŕ njh drŕ nonk: o{kSkq ?k"lz ka dŕUrA l jynŕk% fgeky; s HkofUrA l jyo{k% yEcekuk% HkofUrA r= dŕ; % nŕ/ka l ŕa Hkofr\ nonk#o{kŕ; % dLekr~p dkj .kk~\ nonk#o{kSkq xtkuka x.MLFky?k"lz kdj .kk~; ; r% ?k"lz kkr~rŕ; % nŕ/ka fuLI jfrA

di kyd.Mŕ dfj fhk% fourŕ~ fo?fŕ rkuke~ l jynŕk.kkeA ; = l ŕ{khj r; k iz ŕ% l kufu xU/k% l j Hkhdj kŕAA

xU/k% dL; Hkofr\ n0nk#0k{kkl; %
 I r'nq/kL; A rkn' k%xU/k% l okk.k f'k[kj kf.k
 I jHkhdkfrA v= dlfynkl u fgeky; s
 Hkerkaxtkukan0nk#o{k. kkap LokHkkfoda
 fp=.ka Nre~ vflrA vnHkpa ikNfrda
 I k0n; zA



15.3

HkokFk%

fgeky; sn0nk: o{k%xtk%p i; klrk% l flrA xtk% di ksyLFka. M%njhdj.kk; r=
 n0nk#o{k%kq ?k'kz ka d0zUrA rr% o{kkl; % nq/ka l rA HkofrA rL; nq/kL; xdk% l o=
 0; klr% HkofrA vr% r= l qU/ke; a okrkoj .ka HkofrA

fgeky; ea cM% cM% n0nk# ds o{k g0 gkFkh Hkh cgr g0 gkFkh viuh di ksyLFk
 [kqyh dks nj djus ds fy, vi us x.MLFky dks n0nk# ds iMka ij jxMf% s g0
 ftl l s mu o{kka l s n0k fudyrk g0 og n0k l qfU/kr gks l s l kjh pl%V; ka dks
 l qU/k l s Hkj nsk g0

0; kdj .kfclno%

I fu/kPN%

dfjfhkfozrq 3/4 dfjfhk% \$ fourp-1/4ol xl fu/k% & fol xLFkkus & j 1/2

in&ijjp; %

fourp-3/4 fo \$ uh \$ r0p-1/4r0p-3/4 r0 1/2 v0; ; ine~
 iz r% 3/4 iz \$ l w~\$ Dr iq iz fo- ,] fo'k%k.ke~

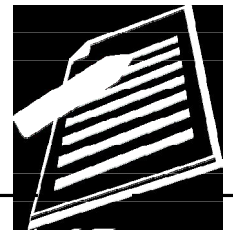
foxg%

di ksyd.M% 3/4 di ksy; k% d.M% 1/4k" BhrRi q#"k%
 I r{kj r; k 3/4 I rA {khe~ I r{khe~rL; Hko% r; k 1/2deZkkj; %



ikBxrq'uk% 15-2

- 1- v/kkyf [kri z ukuke~m0kj kf.k fy [kUrq
 1/2 1/2 fgeky; s ?kuk% d0 I pjflr\
 1/4 k/2 fgeky; s of"Vfhk% m} ftrk% ds HkofUr\
 1/2 1/2 dfj .k% di ksyd.M% fourq fda d0zUr\
 \





1/2 k½ l r {khj r; k i d r% xU/k% dkfu l j Hkh d j k s r \

2- i ; k; i nes yua fØ; rke-

1/d½ ?kukuke-	1/4½ f' k [kj kf . k
1/4 [k½ fu" kØ;	1/4ii½ uhp%
1/x½ Ük³ kf . k	1/4iii½ eškkuke~
1/2k½ of" Vfhk%	1/4v½ mRi Uu%
1/4³½ v/k%	1/4½ x t%
1/p½ dfj fhk%	1/4vi½ l soRok
1/N½ i d r%	1/4vii½ o"kkZHk%

3- inÜki n% okD; i fir-% fØ; rke-

vkri ; Ørkfu l øfU/krj l jyo{kskq ?k" kZ ks. j} ?kuk%

1/d½ fgeky; L; e/; Hkks----- l pjflrA

1/4 [k½ o"kkZtU; ' kR; dkj . kkr~fl) k%----- f' k [kj kf . k vkJ; UrA

1/x½ fgeky; s dfj . k% LoelrdL; d. M%----- vi u; flrA

1/2k½ l jynp; %fu% ranj/ka----- HkofrA

4- mi l xZ Ørkfu inkfU fpollurq

vke{kye} l pjrke} l kuørke} vkJ; Ur} vkri oflur} m}ftrk

r`rh; %vák%

bnkuta r`rh; e~vá ka i Bke%

'ykd% 5

i nPNn% Hkkxhj Fkhfu>j ' kh d j k . kke~ oks<k eg% d f E i r n ð n k # %
; r~ok; % vu\$ b"Vex% fdjkr% vki Ø; rs fhkUuf' k [kf . Mcg%AA

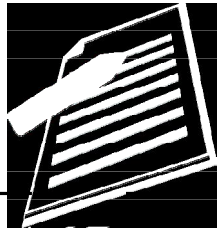
vlo; % vflU"Vex% fdjkr% Hkkxhj Fkhfu>j ' kh d j k . kke~ oks<k eg% d f E i r n ð n k # %
fhkUuf' k [kf . Mcg% ; n~ok; % vki Ø; rA

'fgeky; L; vkUrfj dan' ; afd; r~je.kh; e* bfr vflEu~ 'ykd s ckskke%

0; k [; k

HkkUur-% tkufUr , o ; r~fgeky; sdk i æ [k unh ogfr\ vke~l R; e} Hkkxhj Fkh 1/x ³ k½
; L; k% tye~ vere~ 'khrya fueya p HkofrA fgeky; s ukuk o{kk% l flur fdUrq

Hkkxhj Fkh fu>j ' kh d j k . kka
oks<k eg% d f E i r n ð n k # %
; }k; j flU"Vex% fdjkr%
jkl Ø; rs fhkUuf' k [kf . Mcg%AA5AA



fgeky; si zq[kk%o{kk%l flur nōnk#o{kk%
, rsfo' kkyk%l jyk%p HkoflurA

r= dhn' k%ok; %ogfr\ 'khry% oLr%
r= eln% 'khry%l qU/k%p ok; %ogfrA

ok; % 'khry% dFka Hkofr\ ; r% ok; %
x³k/kjk; k% tyfcUnqHk%; Dp% HkofrA

r= rhot%ok; o% pyflurA r= ok; qik
i dfei r k% nōnk#o{kk% n' ; UrA



15.4

i dfei r% o{k% ok; % dhn' k% Hkofr\ l qfU/kr%
; r% ok; % rne{k. kka xU/k% ; Dp%
HkofrA r= fdjkrk%exku~vUoSk. k; rRi jk% n' ; UrA rsvk[k/kFk%exku~vUoSk; flurA
r= e; jL; i {kku~ok; % fofdjkrA dhn' k% ok; % eln%

fo' ksk&% fgeky; s x³k; k% mnxeLFkya xaks=h xkeq[ke- p vflrA

HkokFk%

fgeky; s exkUoSk. ks rRi jk% fdjkrk% f=fo/ka ok; q l dUrs & 'khrya l qfU/krA elna pA
x³k/kjk; k% tyfcUnqHk%; Dp% ok; % 'khry% ogfrA i dfei r nōnk#; Dp% l qfU/kr%
ok; % ogfrA e; jL. kka i {kku~fodh. k; U~ok; % eln% ogfrA

fgeky; eafgjuka dh [kkt eafudysfdjkr %khry% ogk; rhu i dki dh ok; qdk l du
djrs gA ogk; x³k dsifo= ty dh cmla l s; Dp' khry ok; qcgrh g\$ nōnk#o{kka
dksfgykusokyh ok; q l qfU/kr gkrh gSrFkk ekj ds i q kka dksfc [kj usokyh ok; q eln
gkrh gA

0; kdj .kfclno%

I fu/kPNn%

; }k; jfluo"Vex% ¾ ; r-\$ ok; % \$ vfluo"Vex% ¼ r* o. kLFkkus rrrh; k{kja 'n~ Hkofr
t'Ro&l fu/k% fol xLFkkus ½ j~
Hkofr] i jsLoj% ^v* vflr½

fdjkr\$kl 0; rs ¾ fdjkr% \$ vkl 0; rs ½ fol xLFkkus j~ i jsLoj% ^v* vflr½
fol x l fu/k%

i ni fjp; %

eg% ¾ v0; ; i ne~



dfEi r% ¾ √dEi-\$ Dr]
 vflö"V%¾ vuq\$ b"K-\$ Dr
 oksk ¾ √og-\$ rp-oks' kCn%

i q i z fo- , - ¼o' kSk.ke½
 i q i z fo- , - ¼o' kSk.ke½
 i q i z fo- , - ¼drZ' kCnor-vL; : i kf.k
 HkofUr&drkZ drkj kS drkj %½

foxg%

Hkkxhj Fkrfu>j ' khdj k.kke-& Hkkxhj F; k%fu>j k%¾ Hkkxhj Fkrfu>j k% r'Skka ' khdj k% r'Sske-
 ¼k- r-½

dfEi rñnk#%& dfEi r%ñnk#% deZkkj; % ¼o' kSk.kfo' kS; ½

vflö"Vex% & vflö"Vik% exk% deZkkj; % ¼o' kSk.kfo' kS; ½

fHkUuf' k[kf.Mcg% & ¼' k[kf.Muka cgk½.k½ "k-r-] fHkUufu f' k[kf.Mcgk½.k ; s I %
 vU; i nkFkZ zku%cgpbfg%

'ykd%6

i nPN% fnokdjkr-j{kfr ; %xgkl qyhue-fnokHkhr-e-bo vU/kdkjeA
 {kps vfi uuwa-'kj.ke-i i Us eeRoe-mPp%f'kj I ke-I fr boAA

vlo; %; %fnokHkhr-e-bo xgkl qyhue-vU/kdkje-fnokdjkr-j{kfr mPp%f'kj I ka
 'kj.kai i Us {kps vfi I fr bo eeRoe-uuwa-¼vLr½

o; e-vfLeu-i | s^kj.kkxrL; {kqL; kfi egfö% I Eekue* bfr Hkkoa cksk%eA

0; k[; k

HkoUr% tkufUr , o ; r-fnokHkhr%myd%HkofrA ije-vij%vfi , d%fnokHkhr%Hkofr
 tkufUr fde\ vke-vU/kdkj% r= fgeky; % vU/kdkja I w kZ-j{kfrA

vU/kdkj% d# yhu% Hkofr\ fgeky; L; xgkl A

'kj.kkxra ds j{kfr\ egkUr% i # "kk%A

vfi rs'kj.kkxrkuka {kpa # "kk.kke-vfi j{kka dØZUr\& vo'; eoa

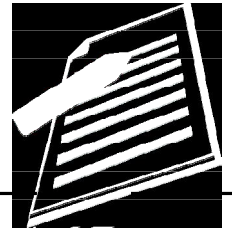
v= {kq% d% egku-p d% tkufUr fde&vke} I R; e}fnokHkhr%myd%bo vU/kdkj%
 vfi {kq% vLr fgeky; %p egku-dffkr%A ; r% I %vU/kdkj.ke-vU/kdkje-vfi Lo
 xgkl q'kj.kannkfrA vr% egki # "kk% uhptus'kj.kkxrs I fr re-i fr vfi I Eekua
 dØZUr , oA rno mDre&{kps fi uuwa'kj.kai i Us eeRoePp%f'kj I ka I rhoA

HkokFk%

fgeky; % 'kj.kkxroRI y% egki # "k bo vLrA ; Fkk myd% fnokHkhr% Hkofr rFkð
 vU/kdkj% I % Lo xgkl qyhue-vU/kdkja I w kZ-j{kfr ; Fkk egki # "k% 'kj.kkxra
 uhptue-vfi j{kfr , oA

fnokdjkr{kfr ; ksxgkl q
 yhuafnokHkhrfeokU/kdkjeA
 {kps fi uuwa'kj.kai i Us
 eeRoePp%f'kj I ka I rhoAA6AA

fgeky; 'kj.k ea vk; sgg dh ijh rjg j{kk djrk gA og fnu l sMjsgg mYyw
ds l eku vi uh xQkvka eafNi svU/kdkj dh l j t l sml h izkj j{kk djrk gSt\$ s
egki # "k 'kj.k ea vk; sgg uhp 0; fDr dh j{kk djrk gA



0; kdj .kfcUho%

I fu/kfoPNn%

fnokdjkn{kfr ¾ fnodjkr-\$ j{kfr ¼t 'RoI fu/k%& i Fkek{kjL; rrrh; o.k% ¼r-& n½
fnokHkhrfeokU/kdkje-¾ fnokHkhr-\$ bo \$ vU/kdkje- ¼ a ksx% nh?kI fu/k%½
{kqns fi ¾ {kqns \$ vfi ¼i wZ i l fu/k%½
l rho ¾ l fr \$ bo ¼nh?kI fu/k%½

inifjp; %

yhue-¾ yh \$ Dr fo- ¼}- fo- , -½ ¼fo' ksk.ke½
Hkhr-¾ Hkh \$ Dr fo- ¼}- fo- , -½ ¼fo' ksk.ke½
i ilus¾ iz \$ in-\$ Dr ¼ lreh , - o-½
eeRoe-¾ ee \$ Ro ¼rf) r iR; ; %→ Hkkookpd% uiq iD fo0 , 0½

foxg%

mPp% f'kj l ke-& mPp% f'kj % ; Skke-rSkke- ¼cgpbf%½
fnokHkhr-& fnok Hkhr% re- ¼rRi # "k%½

Hk"kki z; ksx%

¼d½ Dr&iR; ; %/kkrk% HkofrA DrkUr i nafØ; ki nafo' ksk.ki nap HkofrA ; Fkk Ñ \$
Dr ¾ 1- ru Je Ñr% ¼Ø-½ 2- Ñr% Je% cky% ¼fo-½

¼½ I deD/kkrqHk% l g 'Dr* iR; ; % deF.k Hkofr rnk okD; s drZj rrrh; k deF.k
p i Fkek foHkfDr% HkofrA deñ ns; r-fy³ opuap Hkofr rno DrkUr 'kCns fi A
; Fkk&

cky u yf k% fyf [kr%A

Ro; k ckyk n"V kA

e; k i q rde- i fBreA

¼½ vdeD/kkrqHk% ; ksx r q 'Dr* drZj Hkkosp HkofrA drZj iz ksx r q drñ nkuq kja
i Fkek foHkfDr% HkofrA ; Fkk&

elgu% xr% ¼i q½



ckfydk xrk ¼=h½

Hkkos rŕ drZj rŕrh; kJ DrkUr' kCn% rŕ q ui Œ dfy^{3s} i Fkek , dopus p HkofrA ; Fkk& xki kyŕ xreA

½½ fo'kSk.k: i sfi iz kx%

; Fkk & fLFkr% fgeky; %A

i Fki fn"Vke~/kfj=heA

i Œ r% xU/k%A

dfEi r% nonk#%A

xŕkl q yhue~ vU/kdkjeA

¼k½ rŕp i R; ; %& fufeŒkkFkZda fØ; k: ia fu"i knuk; /kkrk% i js rŕp~ ¼r½ i R; ; % HkofrA rŕp i R; ; ; Øra ine~ ^0; ; e* HkofrA ; Fkk&

I % ukVdanZVq xPNfrA

dfj.k% d.M% fouse~ eLrda?k"ŕz flrA

½x½ Y; i* i R; ; %& , rŕ i ŒdkfydfØ; k fu"i lluk HkofrA ; fn /kkrk% i Œ± d' pu mi l x% Hkofr rnk 'DRok' LFkkus Y; i* ¼ ½ HkofrA ; Fkk&

fdjkrk% Nk; ka ¼fu \$ l Œ~ \$ Y; i ½ ¾ fu"ŕŒ; xPNflrA

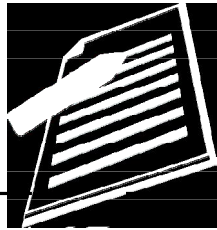
fgeky; % i Œk j kS l epŕs ¼ vo \$ xkg-\$ Y; i ½ ¾ voxk°; fLFkr%A

'kCn: i kf.k

bŕnŕ ¼ndkjklri Œy^{3%}

e/kŕ ¼ndkjklrui Œ dfy^{3%}

	, dopue- f}opue- cgŕpue-			, dopue- f}opue- cgŕpue-		
i Œ fo0	bŕnŕ	bŕnw	bŕno%	e/kŕ	e/kŕh	e/kŕu
f}Œ fo0	bŕnŕ~	bŕnw	bŕnu~	e/kŕ	e/kŕh	e/kŕu
rŒ fo0	bŕnŕk	bŕnŕ; ke-	bŕnŕk%	e/kŕk	e/kŕ; ke-	e/kŕk%
pŒ fo0	bŕnos	bŕnŕ; ke-	bŕnŕ; %	e/kŕs	e/kŕ; ke-	e/kŕ; %
i Œ fo0	bŕnk%	bŕnŕ; ke-	bŕnŕ; %	e/kŕ%	e/kŕ; ke-	e/kŕ; %
"Œ fo0	bŕnk%	bŕnŕk%	bŕnuke-	e/kŕ%	e/kŕk%	e/kŕuke-
l Œ fo0	bŕnkS	bŕnŕk%	bŕnŕkŕ	e/kŕu	e/kŕk%	e/kŕkŕ
l Ecksŕue-	gsbŕnkŕ	gsbŕnŕ	gsbŕno%	gse/kŕ	gse/kŕh!	gse/kŕu!



	xPNr- ¼kr'iR; ; kUr% ¼ qVy ³ %			/kuor- 'kŃ ¼erj- iR; ; kUr%		
	tkrk gƣk			/kuokyk		
	, dopue-	f}opue-	cgppue-	, dopue-	f}opue-	cgppue-
i 0 fo0	xPNu-	xPNUrKs	xPNUr%	/kuoku-	/kuolrKs	/kuolr%
f}0 fo0	xPNUre-	xPNUrKs	xPNr%	/kuolre-	/kuolrKs	/kuor%
r0 fo0	xPNrk	xPNnH; ke-	xPNnHk%	/kuork	/kuonH; ke-	/kuofõ%
p0 fo0	xPNrs	xPNnH; ke-	xPNnH; %	/kuors	/kuonH; ke-	/kuonH; %
i 0 fo0	xPNr%	xPNnH; ke-	xPNnH; %	/kuor%	/kuonH; ke-	/kuonH; %
"k0 fo0	xPNr%	xPNrK%	xPNrke-	/kuor%	/kuorK%	/kuorke-
l 0 fo0	xPNfr	xPNrK%	xPNRI q	/kuofr	/kuorK%	/kuoRI q
l Eckkue-	gsxPNu-	gsxPNUrKs	gsxPNUr%	gs/kuou-	gs/kuolrKs	gs/kuolr%

/kkrq i k.f.k u'k-¾ u'; fr] vu'; r} u'; rj u³{; fr] u'; sA
 =l -¾ =L; fr] v=L; r} =L; rj =fl "; fr] =L; sA
 ¼yV} y³ ykV} yV} fof/kfy³-ydkjSkj i zi q , dopu%



i kBxrç'uk%15-3

1- i z ukuke-mUkj kf.k nnrq

¼d½ Hkkxhj Fkhfu>j ' khdj.k. kka oks<k d% vflr\
 ¼k½ fdjkrk% fgeky; s dku- vUosk. kk; Hkeflur\
 ¼x½ fgeky; % vU/kdkja dLekr- j {kfr\
 ¼k½ 'kj. kxxra {kpa i fr vfi dSkka eeRoa Hkofr\
 \

2- i ; kž i nesya dØlR&

^d* LrEHk%	^[k* LrEHk%
¼d½ l Ttu%	¼½ fnokdj%
¼k½ e; j% %	¼ii½ fnok
¼x½ x ³ k	¼iii½ l r~
¼k½ l w %	¼v½ f' k[k. Mh
¼ ³ ½ fnue~	¼½ ok; Ø
¼p½ i ou%	¼vi½ Hkkxhj Fkh

3- , rSkqfda i na Dri R; ; kUra ukfLr\
 Hkhre} yhue} dfei r% fdjkr% fHku%A



4- {kqnsfi uua 'kj .ka i i l u s eeRoep% f'kj l ka l rho* bfr l Dr% i nÜka HkkoFk±
e tWk; k% i n% i j; Ur&

HkkoFk± egki # "kk% uhptus vfi 'kj .kkxrs l fr ----- bo ra i fr -----
døZUrA ; Fkk fgeky; %Loxgkl q----- vU/kdkja----- j {kfr , oA

Lugj l Ttuš l wkr} yhue~



15-4 fde~vf/kxre~

- fgeky; % i ožjkt% vflrA , "k% HkkjrL; mÜkjfn'kk; ka fLFkr%A vL; mUurkfu f'k[kj kf.k fgei fjr kfu l flurA , "k i fFKO; k% i fjek.k: i %A
- fgeky; knø x³k fuxPNfrA
- fgeky; L; i kNfrda l kØn; ž~vnHkqreøA
- LoYi % nksk% xqkl ems foyh; rA
- egki # "kk% 'kj .kkxra {kqnefi j {kflurA
- 'Dr* driR; ; %A 'Dr* iR; ; ; Øra i na HkardkfydfØ; k : i a fo'kšk.k: i a p Hkofra ^repi~ i R; ; kUra i ne~vO; ; i na Hkofra
- Y; i ž i R; ; % i wdkfydfØ; kFkš mi l xž Ørsu /kkrapk l g iz q; rA
- vU; i ni zku% cgøhfg% Hkofra
- xPNr} /kuor} blnŋ e/kq; ŋe' kCn: i Škq Hksr% Hkofra



15-5 ; kš; rkfoLrkj%

dfoi fjp; %

dkfynkl % ^dfodyx#% bfr i fl)%A vusu jfprk% l Ir xBfk% l flurA ; Fkk ^j?kpa ke* ^døkjl Hkoe~ bfr egkdkO; } ; e} ^_rd ŋkj% ^ešknire~ bfr [k.MdkO; } ; e} ^ekyfodkfXufe=e* ^foØekoZ kh; e* ^vfhkKku' kkdŋrye~ bfr =hf.k ukVdkfu pA

nšk%

dkfynkl L; nšk&dky; k% fo" k; s fontŋka uša era fo | rA i ja egkdfouk ešknirs ^mTtf; uh* Jh fo'kkyk ok bfr fo'kšk: isk of.krka vr% ^dkfynkl % mTtf; uh fuokl h* vkl hr~bfr fontŋka eraorA

dky%

i k; %eU; rs; r-dkfynkl %mTtf; uhuj s kL; 'kdkj%foØekfnR; L; uojRuSkq JSB%
vkl hrA foØel or&i orðL; foØekfnR; L; jkT; kfhk"kd dky% bñ kr% i ðð- 57
o"kkf.k eU; rA vr%dkfynkl L; dky%bDi i Fke'krkCh bfr fuf'pr%HkofrA

Ñfri fjp; %

^døkjl EHkoe*& i Lr r% i kB% vLeknØ egkdK; kn~mn/Akr%A vfLeu~egkdK; s 17
l xk% l flurA r= i koðhfookg% døkjt le] rkj dkl j o/k% p e[; dFkk% vU; kLrq
i kl f³ddFkk% l flurA dfouk mnkÜki E.k% mnkgj .ka rq ^enungu* bfr ek/; esu
i Lr r e~vflrA

j?kðke~

vfLeu~egkdK; s 19 l xk% l flurA fnyhi r% vfxuo.kñ ; Þraj kKka o.kñafo | rA b; e-
mRÑ"Vk dk; jpuk dkfynkl L; A

__rd gkje~

b; a dkfynkl L; i Fkek Ñfr%A v= "k. .kke~ __ruka l jya l j l a eukjea p o.kña
fo | rA "kv~l xk% l flurA

eðknre~

i kÑfrdl kðn; ðk ekuf l dHkkokn xkj k.kal ðnjh vfhk; fDr%A 'kki o' kkr~fojgkdyL;
; {kL; Lofiz ka ifr i s"kr% Hkoi w k% l Unð k% vflrA

ekyfodkfxufe=e~

ukVds flEu~fofn'kk; k% ui L; vfxufe=L; fonHkL; p jkt døk; k% ekyfodk; k%
i z k; dFkk vflrA ukVds i p vðk% l flurA

foØekoz kh; e~

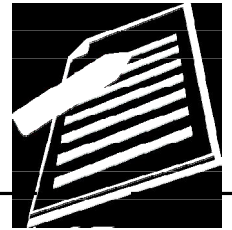
vfLeu~ukVds jkk% i #jol % moZ kh* vll jk; k% p i ædFkkude~vflrA ukVds i p
vðk% l flurA

vfHkKku' kdtþrye~

vfLeu~ukVds jkk%nþ; UrL; 'kdtþryk; k% p iz k; dFkk; k% eukgkj fp=.ke~vflrA
ukVds l IRk vðk% l flurA ^dk; Skq ukVda jE; a r= jE; k 'kdtþryk* bfr ifl)eA

fgeky; %

cÞek.Mi gj k.k& dSykl ks fgeoká pð nf{k.k. s o"ka oðk&
i ðñ f' pexkor ko.kður: i flFkrk&A





f'koij.k.& vLR; ŋkjL; ka fnf'k oS fxjh' kks fgeoklegkuA
 i oŕks fg eŋuJ'SB egkrst kLI ef) HkkdAA
 i ŋkĭ j kS rks fu/kh I ŋoxk°; fLFkrks fg ; %
 ukukj Rudjks jE; ks ekun. M bo f{krSA

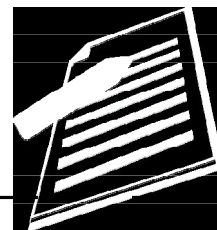
okeuijk.k& /kU; ks; a i oŕ J'SB% 'yk/; % i ŋ; 'p nŋrSA
 vFkoŋ& ^fxj; I ks i oŕk fgeokrk; ; ars i fFo L; kseLrŋ 121-1-11½
 ¼k½ Hkk'kd; k; rk foLrkj%

^Dr*				
/krŋ	'Dr* ; kxsu fu"iUu% ey'kŋ%	iŋy³s	L=ŋy³s	uiŋ dfy³s
xe~	xr	xr%	xrk	xre~
fy[k-	fyf[kr	fyf[kr%	fyf[krk	fyf[kre~
n'k-	n"V	n"V%	n"Vk	n"Ve~
Ñ	Ñr	Ñr%	Ñrk	Ñre~
iPN~	i"V	i"V%	i"Vk	i"Ve~
Jq	Jŋ	Jŋ%	Jŋrk	Jŋre~
uh	uhr	uhr%	uhrk	uhre~

mi l x%\$ /krŋ\$ Y; i~

- vk \$ xe~ \$ Y; i~ ¾ vkxE; ¼vkdj½
- fo \$ fy[k- \$ Y; i~ ¾ fofy[; ¼fy[kdj½
- mi \$ fo'k- \$ Y; i~ ¾ mi fo'; ¼cBdj½
- fo \$ ft \$ Y; i~ ¾ foftr; ¼thrdj½
- iz \$ nk \$ Y; i~ ¾ ink; ¼ndj½
- fu \$ lŋ- \$ Y; i~ ¾ fu"ŋ; ¼ŋ ok dj d½
- iz \$ ue~ \$ Y; i~ ¾ izkE; ¼izkE dj d½
- fo \$ fpŋr- \$ Y; i~ ¾ fofpŋr; ¼kpdj½
- fo \$ ykd- \$ Y; i~ ¾ foykd; ¼ŋŋkdj½

cgŋfŋgI ekl % l eLrin% fHkUuL; vFkL; cksk% HkofrA l eLrine- vU; inL;
 fo'kSk. ka HkofrA , oEHkŋr% cgŋfŋg% l ekl % ; Fkk&
 i hrkfu vEcj kf.k ; L; I % bfr foxgs l fr ^i hrkEcj% HkofrA
 bna ine- vU; inL; fo". k% fo'kSk. ke- vFLrA



Hknk% i e[kk% =; ks Hknk% I furkA

1/2 ekukf/kdj .k% cgøhfg% I eL; ekua i R; da ina I ekufohkfDrda
1/4 FkekfoHkfDr; Ør½ HkofrA ; r~' kCnsrqf}rh; kr% I IrehfoHkfDri ; Ør k%foHkfDr; %
HkofUrA

; Fkk& i klre~mnda ; u I % 3/4 i klrknd% 1/2kte%
i hrkfu vEcj kf.k ; L; I % 3/4 i hrkEcj %
fuxra /kua ; Lekr~I % 3/4 fu/kU%
dfeir% nønkh # % ; u I % 3/4 dfeir nønkh # %

1/4 k%Ø; kf/kdj .k cgøhfg% ; fLeu~ I ekl s i R; da ina fHkUkfoHkfDrda Hkofr] I
0; f/kdj .k% cgøhfg% HkofrA ; Fkk

pØa i k.kS ; L; I % 3/4 pØi kf.k%
pUn% 'k[kj s ; L; I % 3/4 pUnz k[kj %
pUnz bo e[ka ; L; k% I k% 3/4 pUnæ[kh

1/2 r[; ; k% cgøhfg% ^ I g* inL; rrrh; kUrinu I ekl % HkofrA ; Fkk&

i qsk I g fo | eku% 3/4 I i q% vkxr% fi rka
i fjokj sk I g 3/4 I i fjokj % vkxr% , "k%
i RU; k I g 3/4 I i Ruhd% xPNfr I %



15-6 i kBUrç' uk%

1- i z ukuke~mUkj kf.k nnrq

1/2 uxkf/kjkt% d% dF; rð
1/4 k% fgeky; % dL; k% ekun.M% bo fLFkr%
1/2 fgeky; % d; k% I eqnz k% e/; s i fo"V% vflr\
1/2 xqkl ems dhn' k% nsk% fuEkt tfr\
1/3 of"Vfhk% mnøstrk% fl) k% d q vkU; Urð
1/2 dfj .k% fdeFkè~nønkh: o{k%kq ?k"lz ka d[ur\
1/4 fgeky; s exkUosk. ks rRi j k% fdjkrk% dhn' ka ok; q I ðUrð
1/4 vU/kdkjL; ryuk d u I g Ñrk\

2- e t[kk; ka i nUki n% okD; i fir% fØ; rke-

I g Hkhdj k[er] e/; Hkxj j Rukfu] i fFKO; k% x³k



¼d½ fgeky; %----- i fjek. kaKkrqekun. M%boA

¼[k½ fgeky; svudkfu ----- mi yH; UrA

¼x½ I jynpð; %fu% ranð/kaf' k[kj kf. k -----A

¼k½ fgeky; s----- unh i ðgrA

¼³½ eðk% fgeky; L; ----- I pjflrA

3- v/k% i nÜkLkñDr}; L; HkkokFk±prj@i p okD; Skq fy [kUrq

¼d½ , dks fg nkSkks xqkl flui krs

fueTtrhUnk% fdj. kS"ook %A

¼[k½ {kps fi unua 'kj. ka i ñ Uus

eeRoep% f' kj I ka I rhoA

4- fo' kSk. k&fo' kS'; esyua fØ; rke~

^d*

¼d½ nokRek

¼[k½ i ðkñ j kS

¼x½ vkri ofUr

¼k½ fo?kfÍ rkuka

¼³½ vflo"Vex%

^[k*

¼½ Ük³kf. k

¼i½ fgeky; %

¼iii½ rks fu/kh

¼v½ fdjkr%

¼w½ I jynpð. kke~

5- I fu/k% fØ; rke~

¼d½ ux \$ vf/kjkt% ¾ -----

¼[k½ vfLr \$ mÜjL; ke~ ¾ -----

¼x½ nok \$ vkRek ¾ -----

¼k½ of"VfHk% \$ vkJ; Urs ¾ -----

¼³½ {kps \$ vfi ¾ -----

6- v/k% i Ñfr&i R; ; ; kxw : ia in'kz Urq

¼d½ Lfk \$ Dr ¼i ½ -----

¼[k½ tu-\$ Dr ¼ui ½ -----

¼x½ iz \$ I w\$ Dr ¼i ½ -----

¼k½ yh \$ Dr ¼ui ½ -----

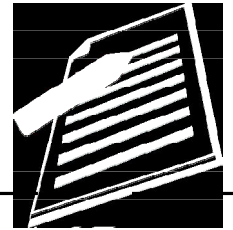
¼³½ vo \$ xkg-\$ Y; i~ -----

¼p½ fu \$ I ð-\$ Y; i~ -----

¼N½ fo \$ uh \$ røp~ -----

7- foxgal eLrinap n'kz Urq

¼d½ uxkf/kjkt%-----



¼[k½ xqkl fUui krs-----
 ¼x½ di ky; k% d.M%-----
 ¼k½ dfei r%nønk#%; su l %-----
 ¼³½ vflø"Vl% exk%; % r%-----

8- v/kkfyf [krSkq i nSkq foHkfDra ¼i Fkek@f} rh; k½ fufnZ kUrq

¼d½ nørkRek -----
 ¼[k½ vU/kdkje-----
 ¼x½ Nk; ke-----
 ¼k½ xU/k%-----
 ¼³½ Ük³ xkf . k -----
 ¼p½ fgee-----

9- vFkësyua dØUrq

d

¼d½ l kufiu
 ¼[k½ l kØkkX; e~
 ¼x½ bUnk%
 ¼k½ f' k[k. Mh
 ¼³½ ux%
 ¼p½ rks fu/kh

[k

¼½ plnL;
 ¼i½ e; j%
 ¼ii½ l emtS
 ¼v½ i oT-%
 ¼v½ f' k[kj kf . k
 ¼vi½ l kØn; ð~

10- mfpr/kkrq i %fjDrLFkkukfu ij; Urq

¼d½ 'kØ i; kØj.kafouk thoua-----	¼u³{; fr@u³{; fLk½
¼[k½ nØVl%-----	¼u'; r@u'; s %
¼x½ Økskr~cf) %-----	¼u'; kfe@u'; fr½
¼k½ vge~l i kT-----	¼=L; kfe@=L; fr½
¼³½ Roai ki kr-----	¼=L; r@=L; ½



15-7 mØkj kf . k

15-3 ckki z uk%

- | | | |
|--------------------------------|-------------|---------------|
| 1- ¼d½ uxkuke~ | ¼[k½ o/krs | ¼x½ vkri ofUr |
| ¼k½ l jyo{kk. kka nØ/kL; xU/k% | | ¼³½ vU/kdkj % |
| 2- ¼d½ i fFkØ; k | ¼[k½ fgea | ¼x½ vkri ofUr |
| ¼k½ l jHkhdjksr | ¼³½ j {kfr | |



3- (d)→(iii), ([k]→(iv), (X)→(i), (?k)→(ii)

iKBxrižuk%

15-1 1- ¼d½ mÜkjL; k½ ¼[k½ ekun. M% ½x½ fgeky; % ¼k½ fgeu] ¼³½ xqkl flui krs

2- ¼d½ fgeky; % ¼[k½ rks fu/kh] ½x½ fgeky; L;] ¼k½ fgee-

3- ¼d½ i kP; & i f' pekš ¼[k½ i fFK0; k% ½x½ LoYi %

15-2 1- ¼d½ vke[ky@e/; Hkkxš ¼[k½ fl) k%@rki l tuk%

½x½ nönk: o{kšq ?k"lz k½ ¼k½ f' k[kj kf . k

2- (d)→(iii), ([k]→(vi), (X)→(i), (?k)→(vii), (³)→(ii), (p)→(v),
(N)→(iv)

3- ¼½ ?kuk% ¼i½ vkri ; Þrkfu ¼ii½ l jyo{kšq ?k"lz ku ¼v½ l qfU/kra

4- vke[kye] l Þrk½ vkJ; Urš m}fyrk%

15-3 1- ¼d½ ok; % ¼[k½ exku-½x½ fnokdjkr-¼k½ egki # "kk. kke-

2- (d)→(iii), ([k]→(iv), (X)→(vi), (?k)→(i), (³)→(ii), (p)→(v)

3- fdjkr%

3- Øe' k%→ l Ttuš Luš½ yhue] l w kř-

15-6 iKBWrižuk%

1- ¼d½ fgeky; % ¼[k½ i fFK0; k% ½x½ i m&i f' pel eqz kše/; } ¼k½ LoYi % nkš%
¼³½ vkri ; Þrkfu f' k[kj kf . k] ½p½ di kyd. M%fourš ¼N½ 'khy] l qfU/kra] elna
p] ¼t½ mydu l g@ uhptu l g

2- ¼d½ i fFK0; k% ¼[k½ j Rukfu ½x½ l g Hkhdjkr ¼k½ x³k ¼³½ e/; Hkkxs

3- ¼d½ LoYi % nkš% xqkkuka l eqs u n' ; rA ; Fkk plnL; dy % nkš% vfLr] i ja
l % rL; fdj . kšq , o yhu% HkofrA rL; izk' kau ck/kra vr% xqkf/kD; s , d%
nkš% u x. ; %

¼[k½ egki # "kk% 'kj . kxrorl yk% HkofUrA rs 'kj . kxraj {kfUrA uha tua vfi
j {kfUrA rs l Tue-bo uha ifr LušadpžUrA

4- (d)→(ii), ([k]→(iii), (X)→(i), (?k)→(v), (³)→(iv)

5- ¼d½ uxkf/kjt% ¼[k½ vLR; ÞkjL; ke} ½x½ nörkRek]

¼k½ of"Vfhkj kJ; Urš ¼³½ {kps fi

6- ½d½ fLFkr% ¼[k½ tkre~ ½x½ i d r% ¼k½ yhue~

¾³½ oxk°; ½p½ fu"l@; ¼N½ fourp~

7- ½d½ uxkuke~vf/kjkt% ¼[k½ xqkkuka l flui krs ½x½ di ksyd.M%

¼k½ dfeirnonk: % ¾³½ vflb"Vex%

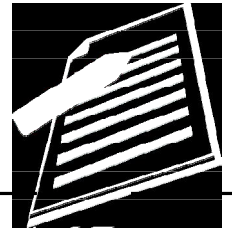
8- ½d½ i Fkek ¼[k½ f}rh; k ½x½ f}rh; k ¼k½ i Fkek

¾³½ i Fkek@f}rh; k ½p½ i Fkek@f}rh; k

9- (d)→(v), ([k)→(vi), (x)→(i), (?k)→(ii), (³)→(iv), (p)→(iii)

10- ½d½ u³{; fr ¼[k½ u' ; s % ½x½ u' ; fr

¼k½ =L; kfe ¾³½ =L;





16

ekusfg egrka/kue~

fd Hkofö%egkHkkjrL; uke Jre\ rfleu-xBfks u doya djs o&i k. Mokuke-
 , o ; q) a of. k're~vfi r q vl q; k% dFkk% r= nÜkk% ; kh; % veW; k% f' k{kk%
 çkl; UrA ykk% l eLrkuka0; k/khukaemyeA vL; ka i | e,; ka dFkk; ke-dFke~, d%Ükxky%
 nqVkuka dFkus foew jkKk fl gsu i wē~vi ekfur% i 'pkr~p ; | fi l Eekfur% rFkfi
 l fpoi naR; DRok oua çfo' kfrA uua ekusfg egrka/kueA vfleu~i kBs o; a , rL;
 fo" k; s i fB"; ke%



mís ; kfu

bea i kBa i fBRok Hkoku~

- 0; k?kxkek; qdFkka Lo' kCn% o. kř; r q l eFk% Hkfo"; fr(
- egkHkkjrL; l keW; a i fjp; a i pokD; škq yš [krq ' kDr% Hkfo"; frk(
- ÜkxkyL; 0; k?kL; pkfjf=dos' k"V; a fo' knhdfj"; fr(
- ÜkxkyL; i nR; kxcdkj .kkfu foopf; r q {ke% Hkfo"; frk(
- debkP; okD; kfu držkP; s i fjorI; "; fr(
- }U}cgpbfgl eLrin kuka foxga i n' kř; r q l {ke% Hkfo"; fr(
- ^l ož l ožuke' kCnL; f="kqfy³"q; i kf.k yš [k"; fr(
- i kBs ç; qkuka l wāhuka p; uad f j"; frA

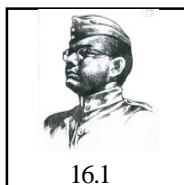


fØ; kdyki %

v/k% pðB LrEHks dSkkf pr~Lokfhkeku; äkuka tukuka fp=kf. k nÜkkfuA p[kB LrEHks p r%—rkuka cfynkukuka deZ kka o. kZueA mi ; äukefhk% I g I Ec) o. kZua ; kst ; Urq

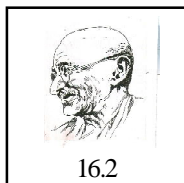
pðB LrEHk%

p[kB LrEHk%



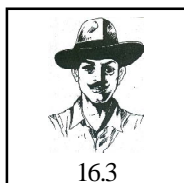
16.1

¼1½ LorU=rkçklr% vullrja i nxg. kkr~foj fä%
%A



16.2

¼2½ cefoLQk/dkj . kkr~çk. kn. M%
%A



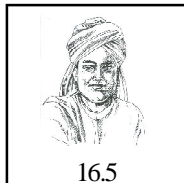
16.3

¼3½ LorU=rk—rs vkÿy% I g ; ø eA



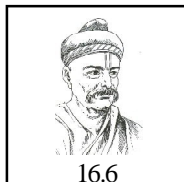
16.4

¼4½ ^dI jh' i =ek/; usu vkÿyfoj kskkr~dkj kokl %
%A



16.5

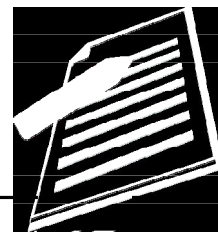
¼5½ vkbZ I h , I mi k/l% çR; korZueA



16.6

¼6½ fo"knkrkja çfr {kekA

Lokfhkekuu% tuk% I [kfu R; tflur] i naR; tflur i jUrqviekua u I glurA ekusfg egrka /kueA





16-1 eyikB%

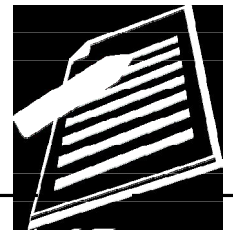
ekuksfg egrka/kue-

I Eifr eyikBa/; kusu i Bke%
 i fj d k; ka i fj i g k JheR; ka i k s j d k s u i % A
 i j f g d k j f r % Ø j k s c h k w i # " k k / k e % A A 1 A A
 I Rok; q'k i f j { k h . k s t x k e u h f l l r k a x f r e A
 x k e k ; q o a p I E ç k r k s n i ' k r % i w d e z k k A A 2 A A
 I ð e R ; i w d k r a p f u o h a i j e a x r % A
 u H k { k ; f r e k d k f u i j # i â r k u ; f i A A 3 A A
 v f g d % I o b k u r s k q I R ; o k d - I q i < o r % A
 I p d k j ; F k k d k y e k g j a i f r r % Q y % A A 4 A A
 r a ' k i p a i f . M r a e R o k ' k n i y % [; k r f o Ø e % A
 - R o k . R e l n ' k h a i w t k a I k f p o ; s o j ; r - L o ; e A A 5 A A
 r a r F k k I q - r a n " V ø k i w ; e k u a L o d e z I A
 ç k f } " k u ~ - r I a k k r k % i w d k R ; k % e g e j o A A 6 A A
 v U ; F k k ° ; q'k r k % i w d i j n d ; k f H k g k f j . k % A
 v ' k ä k f d i p n k n r q n d ; a x k e k ; q f u = r k % A A 7 A A
 b z l l r a r q e x b n L ; e k d a ; r ~ ; = I ð - r e A
 v i u h ; L o ; a r f) r d ; L r a r L ; o s e f u A A 8 A A
 e x j k t u p k K l r a n " ; r l a p k j b R ; q A
 - r d s p k f i r l e k d a e x b n k ; k i o f . k r e A A 9 A A
 I f p o u k i u h r a r s f o n d k k ç k K e k f u u k A
 I j k s k L R o F k ' k n i y % J q o k x k e k ; p k i y e A A 1 0 A A
 v k K k i ; k e k l r n k x k e k ; o z ; r k f e f r A
 ' k n i y L ; o p % J q o k ' k n i y t u u h r r % A A 1 1 A A
 e x j k t a f g r d k d ; % I E c k k f ; r e k x e r A
 i e j u s r - R o ; k x t g ; a d i V k j E H k l a q r e A A 1 2 A A

'kCnKFkK%
 JheR; ka ¼ obko' kkyuh ye%
 i fj d k; ka i fj ¼ 'i fj d k' uked uxjh ea
 i k s j d % ¼ j k t k d k u k e j c h k w ¼ g y / k A
 v k ; q'k i f j { k h . k s ¼ v k ; q l e k r g k u s i j j
 v u h f l l r k a ¼ u p k g h x b j
 t x k e ¼ ç k l r g y / k A
 x k e k ; q o a ¼ Ü k i x y d h ; k f u d k s
 i w d k r a ¼ i w d t U e d s o b k o d k s
 i j e a f u o h a ¼ i j e o s j k ; d k s
 i j % ¼ n i j k a d s } k j k
 m i g r k f u ¼ e j s f d ; s x ; s
 I o b k u r s k q ¼ I H k h ç k f . k ; k a i j
 v f g d % ¼ f g d k u d j u s o k y k j
 ; F k k d k y e - ¼ I e ; k u d k j j
 p d k j ¼ d j r k F k k [; k r f o Ø e % ¼
 ç f l) i j k Ø e o k y k j ' k n i y % ¼ ç k ? k
 v k R e l n ' k h a ¼ v i u s i n d s v u q i
 I k f p o ; s ¼ e l - h i n i j
 I q - r a ¼ J S B d e z d j u s o k y s d k s
 - r I a k k r k % ¼ f e y s g q
 i j n d ; k f H k g k f j . k % ¼ n i j k a d s / k u d k s p j k u s
 o k y } v U ; F k k m f r v k s < a I s j g u s o k y s
 b z l l r a ¼ e u i l U n j v i u h ; ¼ y s t k d j
 o s e f u ¼ ? k j e j U ; L r e ¼ j [k f n ; k x ; k
 - r d % ¼ n i ' k r d k ; L d j u s o k y k a d s } k j k
 m i o f . k r % ¼ d g k x ; k
 v i u h r a ¼ p j k ; k x ; k g S
 ç k K e k f u u k ¼ ç f l) e k u d s } k j k
 I j k s k % ¼ Ø k / k I s H i j s g q ¼ ç k ? k u s
 o / ; r k e - ¼ e k j f n ; k t k ;
 I E c k k f ; r e - ¼ I e > k u s d s f y ; s
 v k x e r - ¼ v k b z
 d i V k j E H k l a q r e - ¼ d i V & i w k z " k M ; U = I s
 ; e j x k ° ; a ¼ L o h d k j d j u k p k f g ; A

nŋ'kra i jnkŋsgZ x'g:-khrs ; ksU; Fkk 'kŋpeA
 Lo; a l Unŋ'krkekR; %f{kçeo fou'; frAA13AA
 rLeknl; fjl ŋkrkn-xkek; k% df'pnkxr%A
 /kekBek rsu pk[]; kra; Fkŋr-di Va—reAA14A
 rrrksfoKkrpfjr% l R—R; l foekŋ(kr%A
 ifj"oä"p l Luga exŋnsk i p% i q%AA15AA
 ra l xkek; gjkykD; Lugknkxrl EHkeeA
 mokp ç.krks okD; a ck"i xnæn; k fxjkAA16AA
 nŋ[ku f'y"; rs fhkuaf'y"Vanŋ[ku fhk | rA
 fhk"kk f'y"Vk rq; k eŋh u l k Lugu orŋAA17AA
 df'pno fgrs HkrŋZ; rsu i jkReukA
 dk; kã \$kk% fg orŋrs HkofLuX/kk% l pnyBkkAA18AA
 , oŋo/ka l kURoedRok /keBkekFkŋrçrA
 çl knf; Rok jktkua xkek; pZueh; xkrAA19A

i jnkŋsk% ¼ nŋ jka ds nkska l s
 nŋ'kr] i jUrq vU; Fkk 'kŋpe-¼ okLro ea
 i fo= dks l Unŋ'krkekR; k% nŋV veKR; ka
 okyk ¼ktkŋ f{kçeo-¼ 'kŋ?kz
 xkek; k% ¼ ūkxy dŋ vfjl ŋkrkr-¼
 nŋeuka ds fxjkg l ŋ vk[]; kre¼ crk
 fn; k x; k] foKkrpfjr% ¼ l Ppfj=rk
 dks tku ysus okyŋ foekŋ(kr% ¼ NkM+
 fn; k x; k] ifj"oä" ¼ vkfyŋxr fd; k
 x; k] Lugxrl EHkee-¼ Lug l s 0; kdy
 fpŋk okys ¼ck?k dksŋ ç.kr% ¼ >çds gq
 ck"i ¼vkd q/ka l s xnæn ok. kh l s
 mokp ¼ dgk] fhkuA ¼ Vvk gvk fny
 f'y"; rs ¼ tŋrk gŋ f'y"Va ¼ tŋk
 gvk] fhk | rs ¼ Vvrk gŋ
 fhkuA f'y"Vk ¼ ix ix ij tŋus vŋŋ
 VVusokyh fe=rk] Lugu ¼ Lug l s
 ifjiwŋ Hkr% ¼ Lokeh dŋ fgrs ¼ fgr
 eŋ n"; rs ¼ fn[kkz nrk gŋ
 u i jkReuk% ¼ vius vŋŋ ijk; s fgr ea
 ughŋ dk; kã \$kk% ¼ LokFkŋ erylh
 HkofLuX/kk% ¼ 'kŋ Hko okys Lugh
 l kURoa ¼ l kURouk; çr
 /keBkekFkŋrçr-¼ /kel vFZ dke vŋŋ
 ; çä; ka l s ; çä] fgrdj
 çl knf; Rok ¼ id lu djds
 oue-¼ ou dks
 vH; xkr-¼ pyk x; kA



16-2 çkçk' uk

1- fo' kŋk. k% l g fo' kŋ; i nkfu ; kst; Urq

pdB LrEHk

¼d½ i frr%

¼[k½ fgr%

¼x½ Jher; ka

¼k½ vkrEl n" khe-

¼z½ —rl ŋkrk%

¼p½ çkKekfuuk

p[kB LrEHk

¼l½ okD; %

¼2½ i vtke~

¼3½ l fposu

¼4½ Qy%

¼5½ i ŋj

¼6½ i wBKR; k%

2- 'ykdka kku~; kst; Urq

pdB

¼d½ i jfga kjfr % Øj%

¼[k½ —RokRel n" kha i vtke~

p[kB

¼l½ n"; rka pkj bR; çA

¼2½ f'y"Vanŋ[ku fhk | rA



1/2 exjktu pkKlre- 1/3 1 kfp0; soj ; r~Lo; eA
 1/2 vkKki ; kekl rnk 1/4 1/2 cHk0 i # "kk/ke%
 1/3 1/2 nq[ksu f'y"; rs fHKUua 1/5 1/2 xkæk; øZueH; xkrA
 1/4 1/2 çl knf; Rok jktkue~ 1/6 1/2 xkæk; øZ; rke~ bfrA
 3- fuEufyf[krSkqfodYi Škq'kø] afodYi e~1/4 1/2 bfr fpàsu fpàhdøDrq
 1/d 1/2 i kšjd% ui % 1/4 i fj dk; ke@eFkj k; ke 1/2 vol rA
 1/4 1/2 Ükxky% dōya 1/ekd e@i frrkfu QyKfu 1/2 Hk{k; fr LeA
 1/2 1/2 'kknly% Ükxkyk; 1/4 fpoi ne@l ødine 1/2 v; PNrA
 1/2 1/2 nqV% dePkfj fHK% exbnL; 1/4 kue@btl re~vluēA
 1/3 1/2 Ükxky% l fpoi naR; DRok 1/4 uxj@outē i fr vpyrA

i fj dk; ka i fj i gk JheR; ka i kšj dks ui %
 i jfgd kjfr% Øj kš ch0 i # "kk/ke% AA1AA



16-3 v/kqk voxPNke%

i Fke%vdk%

'ykd%1

l Eifr o; a v= i Fkea 'ykda i Bke% cskke% pA

i nPNn% i fj dk; ke~ i fj i gk JheR; ke~ i kšj d% ui %
 i jfgd kjfr% Øj % ch0 i # "kk/ke% AA

vlo; % i gk JheR; ke~ i fj dk; ke~ i fj i jfgd kjfr% Øj % i # "kk/ke% i kšj d% ui % ch0 A

0; k[; k

ui % d% vHkor\ , d% i kšj d% uke ui % vHkorA

l % de vHkor~\ ^i fj dk; ka i fj *i fj dk bfr ux; kēA

JheR; ka 3/4 'kkkk; çk; ke~ vFkkz~ l k uxjh 'kkkk; çk vkl hrA

i jfgd kjfr% 3/4 i jŠka fgd k; ka jfr% ; L; l % vFkkz~ fgd d%A

Øj % 3/4 vR; kpjh] funž %

i # "kk/ke% 3/4 i # "kšq v/ke% vR; Uruhp%

HkkokFk%

çkphudkys , dk 'kkkk; çk *i fj dk* uke uxjh vkl hrA rL; ka ux; kē , d% jk tk
 vkl hrA rL; uke i kšj d% vkl hrA l % jk tk vrho Øj % 3/4 funž % i jŠka fgd k; ke~
 jr% i # "kšq v/ke% bo vkl hrA

i fjd k uked uxjh ea çkphu dky ea , d i ksj d uke dk vR; Ur Øij funz h fgd d ç—fr okyk jktk gpykA

0; kdj .kfcUho%

I IrE; Uri nkfu	Jher; ka	eny' kCnk%
	i fjd k; ka	¼Jherh½
	i fj	¼i fjd k½
çFkekUri nkfu	ui %	¼i j½
	i jfgd kjfr%	¼ui ½
	Øij%	¼i jfgd kjfr½
	i #''kk/ke%	¼Øij½
		¼i #''kk/ke½

I IrE; Uri nkfu *i fjd k* bfr ux; k%fo' kSk. kkfuA çFkekUri nkfu ui L; fo' kSk. kkfuA fo' kSk. kL; fy³ opuafoHkfä' p fo' kS; or-HkofUrA½

'ykd%2

i nPNn% I % r q v k; f'k i f j {k h. k s t x k e v u h f l l r k e - x f r e A x k e k; ð o e - p I E i k l r % n f ' k r % i w z e z k k A A

I Rok; f'k i f j {k h. k s t x k e v u h f l l r k e - x f r e A x k e k; ð o e - p I E ç k l r k s n f ' k r % i w z e z k k A A 2 A A

vlo; % I % r q i f j {k h. k s v k; f'k v u h f l l r k e - x f r e - t x k e A i w z e z k k n f ' k r % x k e k; ð o e - p I a k l r % A

0; k[; k

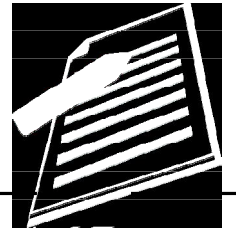
vk; f'k i f j {k h. k s ¾ e R; ç r s I f r

i ksj d% vfxæs tlefu d% vHkor\ I % jktk vuhfll rka vokdNrka xfraçklrokuA

I % jktk vfxæs tlefu dka; kSuaçklroku\ xkek; ðoe-¾ ÜkxkyL; ; kSueA ; r% I % jktk i wztleu% dez k% n f ' k r % v k l h r A v f k k r - i k s j d % ; n k j k t k v k l h r - r n k I % f g d k d e f . k j r % v k l h r A

HkkokFk%

jktk i wztlefu fgd ka—roku} çkf.kukao/ke-vdjkrA uhpdk; k f . k v d j k r - v r % I % jktk i w z e z k k o s u v U ; f l e u - t l e f u Ü l x k y % v H k o r A





i wZtUe dsdekā dk Qy I Hkh dks Hkksxuk i M-rk gA i kSjd jktk Hkh viuscjs deka
ds dkj.k nI js tle ea Ūkxky cu x; k tks i 'kqfgā k djds viuk i V ikyrk gA

0; kdj .kfclno%

vk; q'k i fj {kh. ks Hkkos I Irehj ; nk vk; q' I ekIrka
vuhfll rka u bZll rka& vokāNrkā ¼u k-rRi q' "k½
nfr'kr nqk-\$ f.kp-\$ ä \$ & nqV% & nfr'kr% ¼qj .kkFkZlfØ; k½
xkek; Roa xkek; q'Ro& xkek; k% Hkko% ¼tUe½

'ykd%3

i nPNn% I LeR; i wBkfrap~p fuoñe~ijee~xr%A
u Hk{k; fr eka kfu ij%miârku; fi AA

vUo; % i wBkfrap~p I LeR; ijee~fuoñe~xr%¼¼ % ij%miârku vfi eka kfu u
Hk{k; frA

0; k[; k

I % xkek; q' bg tUefu ijeafuoña oS kX; a çklroka
I % i wBkfrap I LeR; i wZtUe dekā.k LeRok oS kX; a xr%A
I % xkek; q' i wZtUe LeRok vfLeu~tUefu eka kfu u Hk{k; frA ij%mi grkfu] vU; %
vkuhrkfu vfi pA

HkkokFl%

I % Ūkxky% i wZtUe LeRok oS kX; a çklroka I % vU; % vkuhrkfu eka kfu vfi u
Hk{k; frA

og jktk vxys tle ea xhnM+cu x; k i jUrqmI s i wZtUe ds vi us vR; kpkj vkSj
fgā k dsdk; Z; kn jgs vkSj i fj.kkeLo: i ml usLo; afgā k djuk rks nIj] vkSj ka }kj k
HkV fd; s x; s eka dks Hkh [kkuk Lohdkj ughā fd; kA

0; kdj .kfclno%

i wBkfrap ¾¼ ¼ i wZtUe dkSf }rh; k , dopue~
I LeR; ¾¼ I e~Le`Y; i ~¾¼ LeRok

I LeR; i wBkfrap
fuoña ijeaxr%A
u Hk{k; fr eka kfu]
ij%igrku; fi AA3AA

i jeafuoñ&i jeaofjkk; e~

ij% ¼ vll; % ¼r}rh; k cgppue½
 mi grkfu ¼ mi \$ g \$ ä ui q f}rh; k cgppue~
 i jeafuoñe- ¼ i jeafo' ksk.ke}fuoñe-¼ ofjkk; e~
 mi grkfu eka kfu ¼ mi grkfu fo' ksk.ke} eka kfu&fo' kš; e~

'ykd%4

i nPNn% vfgl % l oßkuršsq R; okd- l ñ<or%
 l % pdkj ; Fkkdkye~ vkgkje- i fr% Qy%AA

vlo; % l oßkuršsq vfgd % l R; okd- l ñ<or% l % ; Fkkdkye~ i fr% Qy% vkgkje-
 pdkjA

xkek; kš thoup; kz dhñ' kh tkrk\ bfr v= ckskk%A

0; k[; k

vfgd % ; % fgd ka u djkr l % l R; okd-¼ l R; k okd- ; L; l % l R; okñhA
 l % xkek; % i fr% Qy% vkgkje- pdkj ¼ vdjkrA vFkk~; kfu Qykfu mfprdkys
 , o i rñrA

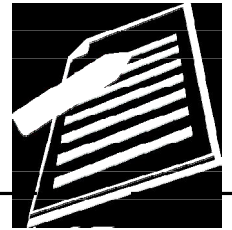
HkkokFk%

l % xkek; % defi u vekj; rA l oñk l R; e- vonr} rL; ora l ñ<ekl hrA ; %
 l e; kuđ kjaLo; a i fr% Qy% , o Hkkstue- vdjkrA

og ðixky i ñz tle ds i ki ka dks ; kn djds vc çkf.k; ka ij fgd k ugha djrk Fkkj
 l R; ckyrk Fkkj i Dds bjks okyk Fkkj vks l e; kuđ kj Lo; a fxjs gg Qyka l s gh
 vi uk Hkkstu djrk FkkA

0; kdj .kfclno%

vfgd % ¼ u fgd % u¥-rRi # "k%
 l R; okd- ¼ l R; k okd- ; L; l % ¼ l R; okd-¼ ¼cgphfg%
 l ñ<or% ¼ l ñ<aora ; L; l % ¼ l ñ<or% ¼ ¼cgphfg%
 ; Fkkdkye~ ¼ dkye- vufRØE; l e; kuđ kje~¼ ¼v0; ; hHkko%
 i fr% Qy% ¼ i fr% ¼o' ksk.ke½ Qy%¼o' kš; e½ ¼deZkkj ; %



vfgd % l oßkuršsq
 l R; okd- l ñ<or%
 l pdkj ; Fkkdkyekgkja
 i fr% Qy%AA4AA



ra'křpa i f. Mra eRok
 'kknřy% j 0; krfoØe%
 —RokRel n' kha i vt ka
 I křp0; soj; r-Lo; eAA5AA

'ykd%5

i nPNn% re~'křpe~ i f. Mre~ eRok 'kknřy% [; krfoØe%
 ŃRok vkRel n' kha~ i vt ke~ I křp0; s voj; r-Lo; eAA

vlo; % [; krfoØe% 'kknřy% re~'křpe~ i f. Mre~ eRok vkRel n' kha~ i vt ke~ ŃRok
 Lo; e~ I křp0; s voj; rA

'kknřy% xkek; % dFka I Eekfur% bfr o; e~v= i Bke%

0; k [; k

'kknřy% [; krfoØe% 3/4 ; L; foØe% i jkØe% ċfl) % I % , oEHkr% vkl hrA

'kknřy% xkek; q fda eRok voj; r\ 1/4 1/2 'křp3/4 i fo=e- 1/2 1/2 i f. Mra 3/4 fo}kd e~ pA
 'kknřy% Ńkřkya I fpoL; i ns voj; rA I % rL; oj . ks vkRel n' kha i vt ka —rokuA

HkokFk%

ohj% 0; k?k% Ńkřkya i fo=a fo}kd a eRok rL; ui rř; i vt kfnda —Rok 3/4 I Eekulfnda
 —Rok ra I fpoi nk; voj; rA

cgř gh ohj 0; k?k% us Ńkřky dks i fo= vkř fo}ku I e>dj ml dk vius i n ds
 ; kř; i vt k I Eeku djds I fpo i n dsfy; sLo; agh pų fy; kA

0; kdj . křclno%

[; krfoØe% [; kr% foØe% ; L; I % 1/2 cgřřfg%

eRok eu~\$ DRok 3/4 fopkjf; Rok

—Rok — \$ DRok 3/4 I Ei knf; Rok

vkRel n' kha fo' křk. kř i vt ka 3/4 fo' kř; e~

I křp0; s \$ voj; r~ i wZ i l fu/k% v & . 1/2 voxg%

voj; r~ o \$ f. kp~y³~ċFkei # "ks , dopue~

'ykd%6

i nPNn% re~rFkk I Ńre~ eRok i vt; ekue~LodeI A
 i kř} "ku~ Ńri akřk% i wBkr; k% egř egřAA

vlo; % re~rFkk I Ńre~LodeI q egř egř i vt; ekue~ eRok Ńri akřk% i wBkr; k%
 i kř} "kuA

vfLeu~ i | s0; k?kL; i wZ o dk% Ńkřkya i fr dFka }ska d rOKUr% bfr v= ċskke%

rarFkk I q~ra eRok
 i vt; ekuaLodeI A
 ċkř} "ku~ rI akřk%
 i wBkr; k% egř egřAA6AA

0; k[; k

Ükxkyaifr i wBR; k%; s0; k?kL; i w l s d k % v k l u - r } - r l a k r k % - r % l a k r % % e s - h 1 / 2 ; % r } i w l s d k % e g e g e } c k f } " k u - 3 / 4 i w l s d k % i u % i u % } s k e - v d p z A i w l s d k % x k e k ; q l q - r a e R o k } c k f } " k u A r s i w l s d k % x k e k ; q l o d e l q i w ; e k u a e R o k } c k f } " k u A

HkkokFk%

fe=rke~ mi xrk% 0; k?kL; i w l s d k % Ükxkya ' k k k d e z ; e a L o d k ; h { k r k F k a o k j E o k j a o l | e k u a n " V e k } s k e - v d p z A

0; k?kz us Ükxky dks el=h cuk fy; kA og vi us de k l s i w t k t k u s y x k A 0; k?kz ds i j k u s e f l = x . k f e y d j c k j c k j m l x h n M + d h i w t k g k r s g q n s [k d j m l l s } s k d j u s y x A

0; kdj .kfclno%

-r l a k r k %	-r % l a k r % ; % r s % c g p h f g %
e g e g e	i u % i u % 1 / 4 0 ; ; e 1 / 2
l q - r a	l q B - r a d e l ; L ; r a l q - r e - % c g p h f g %
i w ; e k u e -	i w t - \$ d e b k P ; \$ ' k k u p \$ f } r h ; k , d o p u e -
c k f } " k u -	c \$ f } " k - \$ y 3 - \$ c f k e i q c g p p u e -



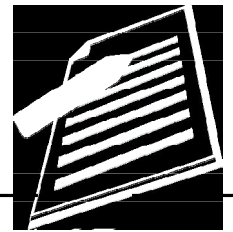
i k B x r c ' u k % 16-1

1- , d i n s u m l k j r

- 1/4 1/2 Ükxkya fda LeRok o j k X ; a c k l r o k u \
- 1/4 [k 1/2 i t j d k u x j h d h n ' k h v k l h r \
- 1/4 x 1/2 i k s j d % d h n ' k % d e z H k % Ükxky ; k f u e - i k l r o k u \
- 1/4 k 1/2 d % x k e k ; q l f p o i n s f u ; e a e - v d j k r \
- 1/4 3 1/2 f d a o r a Ükxky % i k y ; u - Q y k f u , o H k { k ; f r L e \
- 1/4 p 1/2 d h n ' k k % i w B R ; k % r L e s } s k e - v d p z A

2- m f p r a f o d Y i a f p R o k f j D r L F k k u k f u i j ; U r q

1/4 d 1/2 J h e R ; k a i t j d k ; k a ----- u i % v k l h r A





¼½ v' kkd%

¼i½ foØekfnR; %

¼ii½ i ksj d%

¼v½ Hkkt %

¼[k½ i wðeð Hkkos vU; fLeu~tUefu l %----- vHkor~

¼½ l i %

¼i½ Ükxky%

¼ii½ ddV/%

¼v½ pVd%

¼x½ i wztUeu% dekf. k LeRok l % dØya----- Hkkt ue~vdjkr~

¼½ vU; % vkuhrkfu eka kfu

¼i½ Lo; a i frf% Qy%

¼ii½ vU; Ska i 'kuka o/ka dRok

¼v½ o{kH; % Qykfu =kV/f; RokA

¼k½ 'kHkdeð; a Ükxkyan"Vok ----- }Ske~vdØU~

¼½ i wð l Ødk%

¼i½ i ztktuk%

¼ii½ 0; k?kL; ckaok%

¼v½ l Suddk%

3 ¼d½ i ksj dL; nqk}; a fy[krA

¼[k½ ÜkxkyL; xqk}; a fy[krA

¼x½ 'kknjyL; fo' kSk. ka fy[krA

4 'ykd%; i x p v0; ; i nkfu fpRok fy[krA

f}rh; %vdk%

l Eifr] f}rh; e~ vaka i Bke% tkuhe% p ; r~ dFka i wðeðkfj. kka dFkuu jktk
vuqkkl ufi z; a efU=. ka gUrØ~ vkfn' kfr fdUr q rL; ekrk bh' ke~ vkns ka u nkrØ~
mi fn' kfrka

'ykd%7

i nPNn%

vU; Fkk fg mf"krk% i wðe~ i jn0; kfHkgkfj. kA

v' kDrk% fdipr~ vknkrØ~ n0; e~ xkøk; q fu=rk%A

vUo; % i wðe~ vU; Fkk fg mf"krk% i jn0; kfHkgkfj. k% xkøk; q fu=rk% fdipr~ n0; e~
vknkrØ~ v' kDrk%A

Hk0ur% tkufUr , o ; r~ Hk'Vefu=. k% ' kkl us deðkfj. k% jkT; /kugrkj % HkofUrA

0; k[; k

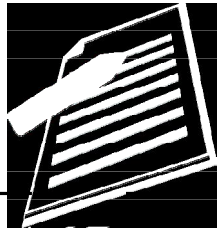
i wðR; k% i jn0; kfHkgkfj. k% & i j Ska n0; kf. k gjfUr LeA i wðR; k% xkøk; qk ; fu=rk%
vkl uA

vU; Fkk °; f"krk%

i w± i j n0; kfHkgkfj. kA

v' kAk% fdipnknkrq

n0; axkøk; q fu=rk%A7AA



i ɔ̃kR; k% fda dr̃e-v' kāk% i ɔ̃kR; k% fdiɔ̃nfi ñ; e-vknkr̃q & xghr̃e-v' kāk%
 vl eFk% tkr̃k% vFk̃r-xk̃ek; % fu" Bkoku-fo}ku-ea=h vkl hrA vr% debjk% rL;
 vuq̃kkl usfdefi yk̃k̃k̃jap̃k\$ ɔ̃eZ dr̃e u 'kDuɔ̃f̃l̃r LeA

HkokFk%

0; k?kL; i ɔ̃deɔ̃pk̃fj .k% i ɔ̃Hk̃Vr; k thou&; ki uadɔ̃f̃l̃r Le] vU; Ska ñ; kf.k gjf̃l̃r
 Le ije-bnkuaÜk̃xkyL; vuq̃kkl ukr-rsrFk̃ dr̃e-vl eFk% vHkouA rsfd̃iɔ̃nfi
 p̃k̃j; r̃e-v' kāk% tkr̃k% vr% rs Ük̃xkyk; vf} "kuA rs l oš fefyRok ranjhr̃e-
 mik; ku-fp̃f̃l̃rroũr%

ck?k ds i ɔ̃deɔ̃pk̃jh igysHk̃V <x l seuekuh p̃k̃j; kadjrsij Ük̃xky ds vuq̃kkl u
 ds dkj .k mudh cb̃ekuh cl̃n gksxbzvk̃j vc os d̃N Hkh ñ; p̃k̃jusea vl eFk% gks
 x; A

0; kdj .kfcUho%

fg	fu' p; i ɔ̃deɔ̃f̃ ful l Unge-
m f"kr̃k%	ol ~\$ ä] i ɔ̃ çFkek cgppue-
ij ñ; e-	ij sk̃añ; e} "k" Bhr̃i ɔ̃" k%
ij ñ; kfHkgk̃fj .k%	ij sk̃añ; L; vfHkgk̃fj .k% "k" Bhr̃i ɔ̃
xk̃ek; q fu=rk%	xk̃ek; ɔ̃k ; fu=rk% r̃rh; kr̃Ri ɔ̃
vknkr̃e-	vk \$ nk \$ r̃eɔ̃-
v' kāk%	u 'kāk% u ~r̃Ri ɔ̃
' kāk%	'kd-\$ ä i ɔ̃ çFkekcgppue-

'ykd%8

i nPNn% b̃Zll re-r̃qex̃ñL; ek̃d e-; r-; = l ðÑreA
 viuh; Lo; e-rr-fg r%U; Lre-rL; ošefuAA

vlo; %; r-ex̃ñL; r̃qb̃Zll re-l ðÑre-; r-ek̃l e-rr-fg r%Lo; e-viuh; rL;
 ošefu U; LreA

0; k[; k

r% bfr l ožkei naç; ɔ̃eA

i ɔ̃deɔ̃pk̃fj fhk% l ð-re} i kdeɔ̃f̃ ek̃d e} Hk̃st ukFk̃e-viuhre-; r-p fl ɔ̃L; ok̃ñre-
 vkl hrA

b̃Zll r̃arqex̃ñL;
 ek̃d a; r-; = l ð-reA
 viuh; Lo; arf)
 r̃; LrarL; ošefuAA8AA



fda tkukfr Hkoku~rr~ekd a r% dē U; Lre\ vke} r% rr~ekd e~viuh; rL; ÜkxkyL; ošefu ¾ xgs LFKfi reA ; u Øð % 0; k?k% Ükxkya plšja eRok glu; krA

HkokFk%

rs i ɔðleþkfj .k% nđV% vki uA fl gL; -rs rL; vfhkçrafl) aekl a ; = LFKfi re~vkl hr~rr% uRok r% nđV% ÜkxkyL; xgsU; LreA rške~vfhkçk; %vkl hr~; r~fl g% Øð % HkRok Ükxkya plšja eRok raekjf; "; frA

os i ɔðleþkj h nđV FkA mlgkaus 'kj dsfç; vkgkj fl) ekd dksþjk dj xhnM+ds ?kj ea j [k fn; k ftl l s xhnM+plšj l e>k tk, A vkt Hkh çk; %bl rjg ds nđV dk; Z çfrfnu fd; s tkrs gA

0; kdj .kfclno%

bzil re- vki~\$ l u~\$ ä ui q ç- , dopue-
exðnl; exkuka i 'kuke~bln% jktk rL; ¼k" Bh rRi ½
rr\$fg rf)] r~& n} g& /k-
r% \$ U; Lre- rð; Lre} ¼½ → j~
U; Lre- fu \$ vl ~\$ ä ui q çFkek , dopue-
vi uh; vi \$ uh \$ Y; i~¾ uRok
ošefu ošeu~l lreh , dopue-

'ykd%9

i nPNn% exjktu p vkKlre~n'; rke~plšj % bfr mrA
Ñrd% p vfi rr~ekd e~exðnk; mi of. kzeAA

exjktu pkKlra
n' ; rkapšj bR; rA
-rdšpkfi rUekd a
exðnk; ki of. kzeAA9AA

vlo; %n'; rke~mr plšj % bfr exjktu vkKlreA Ñrd% p vfi exðnk; rr~ekd e~mi of. kzeA

0; k[; k

exjktu vkKlre~plšj %n' ; rke~bfrA -rd%¾ /kur% exðnk; rL; ekd L; fo" k; s fuošnreA Hkofö% v= fda Kkre\ vke} jkKk /kurkzuka pVplšjrk u KkrkA

držlp; s
exjkt% vkKlfi roku-
¼ w ž plšja i' ; r
-rdk% mi of. kzeAA

dežlp; s
exjktu vkKlreA
plšj %n' ; rkeA
-rd% mi of. kzeA

HkokFl%

fl g%vkfn'kr& plšai'; rA rs/kirk%fl gk; eka fo"k; sl; on; uA fde-fuofnrollr%
bfr vfxas i | snÜkeA

'kj usvkKk nh fd plš dk i rk yxkvkA mu /kirkäus'kj dlseka fo"k; d l kjh ckra
crkbA D; k crk; k bl dsfo"k; ea vxys i | ea i <kaA

0; kdj .kfclno%

exjktu exk.kkajktk exjkt% rš] "k" BhrRi # "k%A
vkKlre- vk \$Kk \$ ä iq çFkek , dopue-
n"; rke- n'k-debkP; s; d-ykV~çFkek , dopue-
mi of.kre- mi \$ o.kz \$ ä iq çFkek , dopue-

'ykd%10

i nPNn% l fposu vi uhre-rsfončk i kKekfuukA
l jkSk% rq vFk 'kknüy% Jqok xkek; pki yeAA

vlo; %vFk] rsfončk i kKekfuuk l fposu vi uhre-xkek; pki ye-rq Jqok 'kknüy%
l jkSk% ¼/hkor½

0; k[; k

rsnÜvk%fl gge-vonu& rleka a rsfončk çkKekfuuk vi greA , rr~Jqok l jkSk%
'kknüy% dñi r% vHkorA fl g% r q ÜixkyL; eul % pi yrkafoKk; Øq % vHkorA

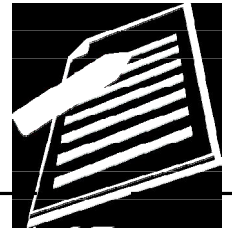
fdaolr% Üixky% nkSkh vkl hr\ uš! nÜV% vüre-mDRok feF; kjki %—r%A

olr% Üixky% 0; k?kL; fo}ku-cñ) eku~p l fpo% vHkorA i ja nÜV% HkR; % }SkHkkosu
jktk , oe~dffkr%; šu exth% rapš a KkRok f[kWu% tkr%A

HkokFl%

rsnÜvk%0; k?ke-vonu& rleka aro fončk cñ) erk l fposu Üixkyš vi greA l %
Üixky% olr% pš% ; a Roa fo}ku-cñ) eku~bo el; l A 0; k?k% , rPNqok dñi r%
vHkorA

nÜVka us 0; k?kz dks dgk fd rñgjk Hkstu rñgjs fo}ku vks cñ) eku el=h }kj
pjk; k x; k gA Üixky dh bl /k"Vrk dks l gu u djrs gq 0; k?kz dñi r gks x; kA



l fposu ki uhrars
fončk çkKekfuukA
l jkSkLroFk 'kknüy%
Jqok xkek; pki yeA10AA



vkKki ; kekl rnk
 xkek; øZ; rlfefrAa
 'kknjyL; op% Jðok
 'kknjytuuh rr%AA11AA
 exjktafgrðkD; %
 I Eckðkf; røpxerA
 iø! uſr-Ro; k xtg; a
 di VkjEHkl a øeAA12AA

0; kdj .kfclno%

I fposu \$ vi uhre-
 vi uhre-
 fonðkk
 çkKekfuuk
 I jksk% \$ rq\$ vFk

I fposuki uhre-nh?k fl/k%
 vi \$uh\$ ä ui qçFkek , dopue-
 fo}l ~rrh; k , dopue-
 çkKekfuu~rrh; k , dopue-
 I jkskLRoFkj % & I } m- → o~¼ .k~I fl/k%½

'ykd% 11&12

i nPNn% vkKki ; kekl rnk xkek; ø o/; rke-bfrA
 'kknjyL; op% Jðok 'kknjytuuh rr%AA
 exjkte-fgr% okD; % I Eckðkf; rø- vlxerA
 iø! u , rr~Ro; k xt°; e-di VkjEHkl a øeAA

vlo; % rnk ¼ jksk% 'kknjy% ^xkek; ø o/; rke* bfr vkKki ; kekl A rr% 'kknjyL;
 op% Jðok 'kknjytuuh exjkte-fgr% okD; % I Eckðkf; rø- vlxerA iø! di VkjEHkl a øe-
 , rr~Ro; k u xt°; eA

0; k[; k

'kknjytuuh ¾ 'kknjyL; tuuhA Øð % 0; k?k% 'kknjy% ðkxkyL; piyrka Jðok Øð %
 vðkor-vkKklroku-p ðkxky% o/; rke*A 'kknjyL; op% ðkxky% o/; rke* bfr Jðok
 'kknjyL; ekrk 'kh?kæð r= çkðkf; rø- vlxerA I k fgrdj% okD; % ra
 I Eckðk; fr& iø! Ro; k , rr~ di VkjEHkl a øa u xtg; eA ; r% rRI o± "kM; U=s k
 ; øreA

HkokFk%

0; k?kz; ekrk ðkxkyL; eR; ø. Mfo" k; s Jðok 0; k?ka I Eckðkf; rø- vlxPNrA I k
 vonr&iø Roe~, rflEu-di Vi wðzsk "kM; U=s k ; øæ~, rr~rF; a ek fo' ofl fgA
 v= rpfdefi di Ve~vLrA

0; k?kz dh ekrk us ðkxky dk eR; ø. M I ødj ml dksfgrdj opuka l s l e>k; k fd
 iø bl eafdl h us dks di V i w k "kM; U= fd; k gsvr% bl çkr dks ; Fkkor-er
 Lohdkj djka

0; kdj .kfclno%

op% opl -f}rh; k , dopue-
 fgr\$ okD; % fgrðkD; % ¼½ → j
 I Eckðkf; rø- I e~çk-f.kp-røø~

u \$, rr~ ušr} of) l fu/k%
 xkg; e- xg-\$.; r~ui@ çFkek , dopue~
 di VkjEHK% di VL; vkjEHK% "k"BhrRi #%"k%
 di VkjEHksu l a qe~ di VL; vkjEHK% rsu l a qe~

f}rh; kdkl kj%

rsdeþkfj .k%HKzVK%vkl uA bnkuhaÜkxkyL; vuqkkI usrspkš beždræ' käk%, de-
 mik; afpflrroul% 0; k?kL; Ñrsfl) aekd agRok ÜkxkyL; fuokl LFkkusvLFkki ; uA
 rs 0; k?ka l fiproUr% ; r~rUekd aÜkxky su greA rr~KkRok 0; k?k% vkfn'kr~Ükxky%
 glu; rke~bfrA , rr~KkRok 0; k?kL; ekrk vonr~iæ! Ro; k l qBqu Ñrea , rr~
 di Vi wke~vKpj .ka irh; rA

osdeþkjh nqV FkA Ükxky dsfu; U=.k dsdkj .k vc ospkj h vkfn u dj i krsFkA
 vr%mlgkaus , d fnu 0; k?kz dsfy, rš kj ekd dksþjk dj Ükxky ds?kj ea Nij k
 fn; k vks 0; k?kz dksdg fn; k fd rfgkjs l fop Ükxky us; g ekd þjk; k gA 0; k?kz
 us xq l sea vkdj Ükxky dks ekj Mkyusdh vkKk nsnhA rHkh ml dh ekrk us ml
 0; k?kz dks l e>k; k fd bl ea dkbz pky gA vr% , š k vknsk er nka



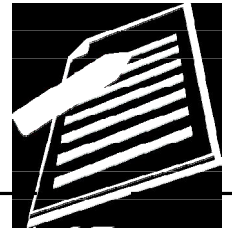
i kBxrç'uk% 16-2

1- , di nsu mÜkjannrq

- ¼d½ i wdeþkfj .k% dsu ; fu=rk% vkl uA
- ¼[k½ i wdeþkfj fHK% fdei uhreA
- ¼x½ 'kknjy% nqÑrka okrk±Jok dh n'k% vHkorA
- ¼k½ 'kknjy% dL; o/kL; vkKka nÜkoku~\
- ¼³½ 'kknjyekrk 'kknjya dh n'k% okD; % l eckk; rA

2- v/kkfyf[krin kuka ; kst usu l elrin kfu jp; Urq

- ¼d½ xkek; qk ; fu=rk%
- ¼[k½ exkuka jk tk rsu
- ¼x½ jkšks l g fo |eku%
- ¼k½ xkek; k% pki ye~
- ¼³½ 'kknjyL; tuuh
- ¼p½ di VkjEHksu l a qe~





nř'kra i j n k s k s g z x g : k h r s
 ; k s U ; F k k ' k ų p e A
 L o ; a l U n ř ' k r k e k R ; %
 f { k ų e o f o u ' ; f r A A 1 3 A A

3- d r ų k P ; k ų r k f u d e ų k P ; s i f j o R ; Z f y [k ų r q
 1/2 d 1/2 e x j k t % v k k l r o k u A
 1/4 [k 1/2 p k ų a i ' ; r A
 1/2 x 1/2 - r d k % e x ų n t ; m i o f . k ų r o u r %

r r h ; % v a k %

' y k d % 1 3

i n P N n % n ř ' k r e ~ i j n k s k s g x g : k h r s ; % v U ; F k k ' k ų p e A
 L o ; e ~ l U n ř ' k r k e k R ; % f { k i e ~ , o f o u ' ; f r A A

v l o ; % ; % i j n k s k s g n ř ' k r e ~ v U ; F k k ' k ų p e ~ 1/4 n . M ; f r 1/2 1/4 1/2 l U n ř ' k r k e k R ; % L o ; a
 f { k i e ~ , o f o u ' ; f r A

v f l e u ~ v a k s o ; a i B k e % ; r ~ j k k % n ř ' k r % l f p o % f d a t k ; r ų ų ų ų k y % p d f k a e p r %
 H k o f r A l ų < k e ų h p f o j y k n ' ; r s b f r A

' k k n ų y L ; e k r k ' k k n ų y a l E c k s k ; f r A i e ! t k u k f l f d e \ d % j k t k f o u ' ; f r \ ^ ; L ;
 v e k R ; k % l U n ř ' k r k % l % j k t k f o u ' ; f r A ; r % b h ' k k % e f U = . k % j k t f g r i j k ; . k k % u
 H k o f U r A ** l U n ř ' k r k e k R ; % j k t k r q i j n k s k s g n ř ' k r a i f o = a t u a x g : k k f r A v = i ' ; r q
 l % t u % ų ų k y % i f o = % v f L r A l % i j s k k a n k s k s n ř ' k r % H k o f r A v r % , o E H k a r % j k t k
 ' k h / k e o 1/4 { k ų e ~ , o 1/2 f o u ' ; f r A ; r % f u n k k k ; n . M i n k u e ~ j k k % e g u ~ v i j k / k A

H k o k f k %

; L ; L o ; a j k k % v e k R ; k % n ř ' k r k % l f U r] ; % o L r q % i f o = a t u a d o y a i j s k k a n k s k s f e F ; k
 d y f r a n . M ; f r] r L ; j k k % ' k h ? k e ~ , o f o u k ' k % H k o f r A v r % f u n k k k % d n k f i u
 n . M u h ; % A

f t l j k t k d s e l = h n ř ' k r g k s r s g ų v k ų j k t k d k s c g d k d j i f o = f u n k k k 0 ; f ä i j
 n k s k k j k i . k d j n r s g ų v k ų t k s j k t k m l f u n k k k 0 ; f D r d k s n . M n r s k g ų o g ' k h ? k z g h
 u " V g k s t k r k g A b l f y , j k t k f u n k k k d k s d H k h H k h n . M u n A

0 ; k d j . k f c l u n o %

i j n k s k s \$ f g	i j s k k a n k s k s	" k " B h r R i e q
; % \$ v U ; F k k	; k s U ; F k k	% & m] v 3/4 m 3/4 v k ų v 3/4 .
l U n ř ' k r k e k R ; %	l U n ř ' k r k % v e k R ; k % ; L ; l %	c g p h f g %

f{kçe- 'kh?ke~ v0; ; ine-
 ,0 ,0 v0; ; ine-
 fou'; fr fo \$ u'k-\$ yV-ç-iq , dopue-

'ykd% 14

i nPNn% rLekr~vfi vfjl a'krkr~xkek; k% d% fpr~vkxr%A
 /kekBek rsu p vk[; kre~; Fkk , rr~diVe~ÑreAA

vlo; %xkek; k% rLekr~vfi vfjl a'krkr~df'pr~/kekBek vkxr%rsu p vk[; kre~
 ; Fkk , rr~diVe~ÑreA

0; k[; k

rnö rLekr~xkek; k% vfjl a'krkr~} rL; ÜixkyL; 'k=d egkr~df'pn~/kekBek i'k%
 vkxr%A fda Hkoku~ tkulfr rnk /kekBek i'k% jktkua fda onfr\ vke~ rsu
 /kekBeki 'kup vk[; kre~; Fkk , rr~diVa~re~bfrA l %/kekBek ; r~fdefi di Va
 ~re~vkl hr~rr~l o±dfFkrokuA

, rsu fda Kk; rñ ; r~jkt; s nqV% Hkollrq uke ija jkt l Hkk; ka , dsukfi /kekBeuk
 vuFkk~j{kk Hkor; oA

HkokFk%

rLekr~ÜixkyL; 'k=d egkr~df'pr~/kekBek fl gk; rRI o±diVafuofnroku~; Fkk
 r% nqV%Lo; a plj f; Rok funkÜixkyL; xgs eka aLFkfi reA

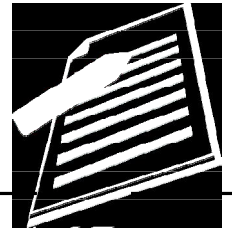
ml l fpo Üixky ds 'k=d eg ea l sfdl h /kekBek fl ; kj usvkdj 'kj dks l c dñ
 diV i wL "KM; U= ds fo" k; ea crk fn; k fd fdl çdkj mu nqVka us Lo; a eka
 pljkdj ml funkÜixky ds ?kj ea j [kok fn; k FkA

0; kdj .kfclno%

I fu/kfopNn%

rLekr~\$ vfi \$ vfjl a'krkr~
 d% \$ fpr~
 df'pr~\$ vkxr%

rLeknfi \$ vfjl a'krkr~
 rLeknl; fj l a'krkr~(r → n] b → ;
 df'pr~(1/2 → 'k~
 df'pnkxr(r~→ n~1/4t 'Ro l fu/k%



rLeknl; fj l a'krkr~
 xkek; k%df'pnkxr%A
 /kekBek rsu pk[; kra
 ; Fl~r~diVa~reAA14AA



rrksfoKkrpfjr%
 I R-R; I foekf{kr%
 ifj"oä'p I Luga
 exðnsk i p% i p% AA15AA

p \$ vk[; kre-
 ; Fkk \$, rr~

pk[; kre{ v \$ vk ¾ vk nih?k fU/k%
 ; Fk{r} vk \$, ¾ , sof) %

okP; i fjoræ~

deðkP; e~

ru vk[; kre-
 ; Fkk , rr~di Va—re~

drðkP; e~

I % vk[; kroku-
 ; Fkk ¼-½ , rr~di Va—roDr%

'ykd%15

i nPNn%

rr%foKkrpfjr% I RÑR; I %foekf{kr%
 ifj"oDr%p I Luga~exðnsk i p% i p% AA

vlo; %rr%exðnsk foKkrpfjr% I % I RÑR; foekf{kr% i p% i p% I Luga~ifj"oDr%pA

0; k[; k

foKkrpfjr%foKkrpfjra; L; I %vFkkz~; nk jtk ÜkxkyL; 'k) apfj=aKkroku-
 rnk ru Ükxky%eDr%Ñr%A

du I %i p% i p% ifj"oä% rr%exðnsk I %i p% i p% I Luga ifj"oä%¾ vkfyfxr%A
 , ru Kk; rs ; r~jtk food'khy%U; k; fi z %Lo; eD L; kr~rL; deþkfj.k% vfi
 fu"Bkollr%L; A

HkokFk%

; Fkk 0; k?k% ÜkxkyL; funi Va pfj=e~vtkukr~rnk ru I % vij k/kr~eð%—r%
 Lugi ððai p% i p% okjEokjare~vkfyfxrokuA jkK%, "k%0; ogkj%U; k; fi z %food'khy%pA

rc foKkrpfjr okyk og fl ; kj I Rdkj djdsvij k/k I seð dj fn; k x; k vls
 0; k?lz usckj ckj Lugi ðð ml dk vkfyxu fd; kA jtk dk ; g 0; ogkj U; k; fi z
 vls foodl Eer FkA

0; kdj .kfclno%

I fu/kPNn%

rr%\$ foKkrpfjr%
 ifj"oäk%\$ p

rrksfoKkrpfjr% ¼½ → m] v \$ m ¾ vks
 ifj"oäk'p(¼½ → 'k-

foKrapfjra ; L ; I %

Lugsu I fgre-

exk.kke-blun% ru

i q% i q%

-nUrçR ; ; k%

I r--R;

foek{kr%

ifj"oä%

'ykd% 16

i nPNn% re-I % xkek; % vkykD; I Lugkr-vkxrl EHkeA
mokp izkr% okD; e-ok"i xnxn; k fxjAA

vlo ; % I % xkek; % I Lugkr-vkxrl EHke-re-vkykD; izkr% ok"i xnxn; k fxjk
okD; e- mokpA

0; k[; k

xkek; % ra%0; k?k%½ vkykD; Lugkr-vkxrl EHke-vFkr~Lugsu vR; f/kda0; kdye-
vkxra0; k?ka n"Vok] ç.kr%Üixky% ç—"Vsu ur%¾ vFkr~iz kkea ÑRok] ck"i x n; k
fxjk mokpA vFkr~jkK%U; k; fiz 0; ogkjsk Üixky%ePr%I u-ÑrKr; k Hkkofo y%
tkr%A rL; d.B%vo#) %Hkofra us=kl; ke-vJiq kr%Hkofra rr%dkfBU; su iz kE;
jktkua'ku%onfra

HkokFK%

I %Üixky%vi' ; r-; r-0; k?k% vfrLugkr-0; kdy%vflr] vr%I %vfi ç.kkea—Rok
vJiq wkök. ; k re-vonra

Üixky usnçkk fd 0; k?kz Lug I s vR; f/kd 0; kdy gA vr%igys0; k?kz dks ml us
ç.kke fd; k vkç vka qka I s Hkxh ok.kh ea ml dks dgus yxkA

0; kdj .kfclno%

I nPNn%

xkek; % \$ vkykD;

Lugkr-\$ vkxrl EHke-

ç.kr% \$ okD; e-

foKrapfjra% ¼cgphfg%½

I Luge ~ ¼v0 ; hHkko%½

exblns k ¼k r-½

v0 ; e-

I R-R; ¾ I Rdkja—Rok] I r-Ñ \$ Y; i-

fo \$ ek-\$ ä i qçFkek , dopue-

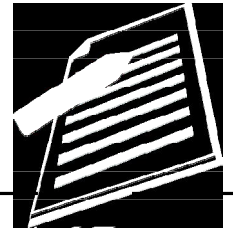
ifj \$ "ot-\$ ä i qçFkek , dopue-

xkek; jkykD; Lugknkxrl EHkeA
mokp ç.krks okD; a
ck"i x n; k fxjAA16AA

xkek; jkykD; (¼½ → j-

Lugknkxrl EHke(r- & n-

ç.krks okD; j ¼½ → m] v \$ m ¾ vkç e-¼-½



raI xkek; jkykD;
Lugknkxrl EHkeA
mokp ç.krks okD; a
ck"i x n; k fxjAA16AA



n[ks f'y"; rs fHKUj
 f'y"Van[ks fHK | rA
 fHK{k f'y"Vk rq; k e-h
 u l k Lugsu or-AA17AA

foxgk%

vkxr% | EHke% ; fLeu-re- vkxrl EHke- ¼cgøhfg%
 ck"isk xnæn; k ck"i x n; k ¼r rh; k rRi ø½

'kCn: i kf.k

fxjk fxj-r rh; k , dopue-

'ykd% 17

i nPNn% n[ks f'y"; rs fHK"ke-f'y"Ve-n[ks fHK | rA
 fHKUk f'y"Vk rq; k e-h] u l k Lugsu or-AA

vlo; %fHK"ke-n[ks f'y"; r] f'y"Ve-n[ks fHK | rs ¼o% ; k e-h fHK"kk f'y"Vk l k
 rqLugsu u or-AA

vfLeu-i | s dh n' kh e-h n<k Hkofr\ bfr i Bke%

0; k[; k

f'y"; rs ¾ l a øk HkofrA

dhn' kh e-h n[ks f'y"; rð fHKUal [; eA ¼ nk fe=sfHKUus i Fkd-Hkor% rnk r; k%
 e/; s i p% e-h d"Vu , o HkofrA½

i p% n[ks fda fHK | rð f'y"Val [; e-¾ ?kfu"Bk e-hA vFKr~; ; k% fe=; k% ?kfu"Bk
 n<k e-h Hkofr l k dkfBU; u , o fHK | r] i Fkx-HkofrA

dhn' kh e-h Lugsu u or-AA ; k {k.ks f'y"Vk {k.ks p fHKUkA ; k e-h , d fLeu-{k.ks
 fHKUk Hkofr] vU; fLeu-{k.ks f'y"Vk HkofrA r fLeu-l [; Hkos Lugsu u or-AA

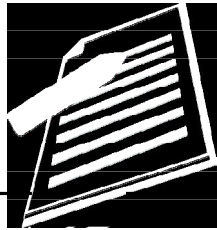
HkokFK%

n<k e-h fpjLFkf; uh Hkofr] {k.ks {k.ks fHKUk@l a øk p u HkofrA r= ijLi ja
 fo'okl %HkofrA; k p e-h {k.ks {k.ks l a øk vl a øk p tk; r] rL; ke-e; kaLugL;
 vHko% or-AA

fe=rk dh vk/kkjf'kyk gSijLij fo'okl v[LugA og , d ckj LFkfir gks tk;
 rks VW rh ugha v[VW tk; rks tM rh ugha tk e-h {k.k ea VW rh v[tM rh jg
 ml ea Lug ugha gk r kA

0; kdj .kfclno%

fHKUe- fHkn-\$ ä ui ø i Fkek , dopue-
 f'y"Ve- f'y"K-\$ ä ui ø çFkek , dopue-



fHkUk@f'y"Vk L=hfya} i Fkek , dopue-
 f'y"; rs f'y"k-debKP;] yV~çFkei # "ks , dopue-
 fHk | rs fHkn-debKP;] yV~çFkei # "ks , dopue-

'ykd%18

i nPNn% d% fpr~, o fgrs Hkr% n' ; rs u ij kReuk%
 dk; kã §kk% fg or Drs HkofLuX/kk% I ngyBkk%AA

vlo; %df' pr~, o Hkr% ¼ o½ fgrsn' ; rs ij kReuk% uA dk; kã §kk% fg ½cgo% or Drs
HkofLuX/kk% ¼ r½ I ngyBkk%AA

vfLeu-i | s Kkfi ra; r~^ kq ân; k% tuk% Lokfefgrdk% ngyBkk% , o HkofUrA

0; k[; k

d% Hkr% fgrs n' ; rã df' pn~, o Hkr% fgrs n' ; rã df' pn~ ¼ d% dL; fgrs u
 n' ; rã u ijL; fgrsu p vkReu% fgrã vFkãr~, "k%uj%fojy% , o ; %Lodh; fgra
 u i' ; fr] u p ijL; fgrai' ; fr vfi r q Hkr% ¼ Lokfeu% , o fgrai' ; frA

fda Hkour% tkukfUr txfr& 1- çk; % tuk% dhn' kk% or Drs dk; kã §kk% 2- dhn' kk%
 tuk% I ngyBkk% HkofLuX/kk% vFkãr~ 'kq Hkko% Lokfefgrdk% tuk% ngyBkk% , o
 feyfUrA

HkokFKZ%

çk; 'k% tuk% vkReu% fgrai' ; fUr] vFkok vU; L; fgrai' ; fUr ijUr q l o±foLeR;
 Lokfeu% fgre~, o ; si' ; fUr rkn' kk% tuk% fojy% , o I fUrA vf/kdkã kr% tuk%
 LokFã j dk% HkofUrA 'kq Hkko% Lokfefgrdk% r q ngyBkk , oA

çk; % eut; vi uk ; k vU; dk LokFKZ gh n[krs gã v[ç erylh gkrs gã 'kq
 gn; oky} I Pph i fo= fe=rk okysef' dy I sgh feyrs gã

0; kdj .kfcUho%

Hkrã% HkrZ "k"Bh , dopue-
 ij kReuk% ijL; p vkReu% p ¼U} l ekl %
 dk; kã §kk% dk; ã~vi f{kra ; % rs dk; kã §kk%
 HkofLuX/kk% Hkko% fLuX/kk% Hkko% Lug; çãk% ¼ IrehRkri # "k%
 I ngyBkk% n[ku yH; rs bfr ngyBkk% ¼ mi in rRi ç½
 I E; d~ngyBkk% bfr I ngyBkk% ¼ mi in ½

df' pno fgrsHkr% nZ ; rs
 u ij kReuk%
 dk; kã §kk% fg or Drs
 HkofLuX/kk% I ngyBkk%AA18AA



, ofio/ka I kURoeDROk
 /keDkeKFKZgrerA
 çI knf; Rok jktkue-
 xkek; pZueH; xkr-AA19AA

'ykd% 19

i nPNn% , oe-fo/ke- I kURoe-mDRok /keDkeKFKZgrerA
 i d knf; Rok jktkue-xkek; pZue-vE; xkrAA

vlo; % /keDkeKFKZgrer- , oe-fo/ke- I kURoe-mDRok jktkue- i d knf; Rok xkek; pZue-vH; xkrA

vflEu i |so; a xkek; pZue dFka oua xr% bfr cksk%e

0; k[; k

jktkua çI knf; Rok] çI Uua—Rok oua xRkokuA

jktkua fde-mDRok oua xr% xkek; pZue jktkua I kURoe-/keDkeKFKZgrer-mDrokuA
 vFKZr-/ke&dke& vFKZ wZ 'kkfUropukfu mDRokk ½mi fn'; ½ I fpoi nap R; DRok oua
 ifr xrokuA egkUr% i pZue ykHka R; DRok oua xPNfUrA

HkkokFKZ%

Ülxky% 0; k?ka /ke&dke&vFKZ wZ'ku 'kkfUr; çI kfu opukfu mDRok] çI Uua p —Rok(
 I fpoi naR; DRok ofk; i klr% oue-vxPNrA

xhnM+0; k?kz dksbl i d kj vud 'kkfUri wZ/ke&vFK&dke ; çI opu dgdj] çI Uu
 djds I fpo in dksR; kx dj ou ea pyk x; k D; kZid eku gh egki pZue kZid /ku
 gA

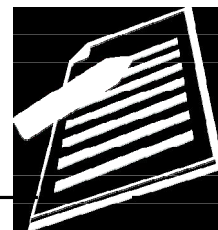
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mDRok cW & Dp-\$ DRok] dFkf; Rok
 çI knf; Rok ç \$ I n-\$ f.kp-\$ DRok] çI "ka dRok

jktkue- jktu-'kcn%f}rh; k , dopue-

/keDkeKFKZgrer- /ke% p dke% p vFKZ% p /keDkeKFKZ% ¼U} %
 /keDkeKFKZ; gr% ¾ ¼k- r-½ /keDkeKFKZgr% vflr vL;
 /keDkeKFKZgrer- ¼eri- çR; ; %

, ofio/ka v0; ; e-



^l ož& l ožke 'kčnL; f="kq fy³"kq : i kf.k
l ož ¼ qy³e½

foHkfDr%	, dopue~	f}opue~	cgppue~
i Fkek	l ož	l okš	l ož
f}rh; k	l ož~	l okš	l okž~
r}rh; k	l ož k	l okš; ke~	l ož
prqkž	l oLeš	l okš; ke~	l ož; %
i peh	l oLekr~	l okš; ke~	l ož; %
"k"Bh	l oL;	l ož k%	l okške%
l Ireh	l ožLeu~	l ož k%	l ožkq

l ož ¼ =fy³e½

foHkfDr%	, dopue~	f}opue~	cgppue~
i Fkek	l ož	l ož	l okž
f}rh; k	l okž~	l ož	l okž
r}rh; k	l ož k	l okš; ke~	l okžHk%
prqkž	l oL; S	l okš; ke~	l okš; %
i peh	l oL; k%	l okš; ke~	l okš; %
"k"Bh	l oL; k%	l ož k%	l okš ke~
l Ireh	l oL; ke~	l ož k%	l okš q

l ož ¼ i q dfy³e½

i Fkek	l ož~	l ož	l okž.k
f}rh; k	l ož~	l ož	l okž.k



i kBrç'uk% 16-3

- 1- ¼d½ 0; k?ka dk l Eckšk; fr\
- ¼[k½ d% di VL; jgL; a foore~vdjkr\
- ¼x½ l R; a KkRok 0; k?k% fdē~vdjkr\
- ¼k½ dhn' kh eš-h Lug; qrk u Hkofr\
- ¼³½ dhn' k% tuk% l qyHk%



2- fuEufyf [kr'skq fØ; ki nkfu ; kst ; Urq

¼d½ df' pn~/kekRek 0; k?ka l oē-----A

¼[k½ 0; k?k%vrho l EHkUr%HKrok Ükxkya-----A

¼x½ Ükxky%0; k?kaok"i xnxn; k ok. ; k -----A

¼k½ fojy%, o Lokfeu%fgrsdk; ã j%-----A

¼³½ ik; 'k% tuk%dk; kã §kk%-----A

3- fo'kš; % l g fo'kš. kkfu ; kst ; Urq

^d* LrEHk%

^[k* LrEHk%

¼d½ /kekRek

1- eš-h

¼[k½ , ofo/ke-

2- fxjk

¼x½ fHK"kk

3- xkek; Ø

¼k½ foKkrpfjr%

4- ui%

¼³½ ck"i xnxn; k

5- l kUroe-

¼p½ l Unfi"krkekR; %

6- opue-

¼N½ l kUroe-

7- exšn%

I kjk k%

rnk , d%/kekRek deþkj h 'k=nykr-vkxR; 0; k?k; oLrfLFkrfafuofsnroka l R; a Kkrok 0; k?k%ÜkxkyL; l Eekue-vdjkr~ijUrqÜkxky%vonr~; k eš-h {k. ks{k. ks fHK"kk f'y"Vk ok Hkofr l k eš-h LFkf; uh ukfLrA vr%jktkua/keã wðdkfu opukfu dFkf; Rok Ükxky% l fpoi naR; DRok ouexPNrA uua egki # "kk. kka Nrs l Eeku% , o /kuaHkofrA

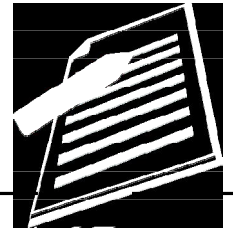
rHkh 'k=ny dsgh , d /kekRek deþkj h usvk dj 0; k?kz dks l c dN l p&l p crk fn; kA ; g tkudj 0; k?kz Ükxky ds ikl x; kA ml dk l Eeku djrs gq ml s xys l syxk; k ijUrqÜkxky usd gk& tksfe=rk , d {k.k ea tM+tk; vls nli jsgh {k.k ea vyx gks tk; og l Pph fe=rk ugha gks l drhA bl i zd kj /keã wðd 0; k?kz dks l e>k cþk dj Ükxky l fpo in dks NkM+dj ou dks pyk x; kA l p gš egki # "kka dsfy, LokfHkeku gh /ku gA



16-4 fde~vf/kxre~

- egkHkj re~Kkul; dksk%A
- tuk% LokFkz' khHkrk% di Va dØUr i jUrqvLekfHK% rška o'ks u Hkofr0; eA
- Hkko' kð k% tuk% l nyk%kk% HkofUrA

- debkP; sokD; kfu ; nk držkP; s i fjoR; Ūrs rnk dež i FkekUre} drkz rrrh; kUrž
d=kz l g fØ; k; k% l Ecu/k% HkofrA
- Lojl fu/k% i dā nL; vfluresu Lojsk i jinL; i FkeLojo. kū fefyRok l HkofrA
- }U}l ekl s } ; k% vuclška p inkuka l ekgjs k ; kst ua HkofrA
- cgofgl ekl s vU; i na i zkkua HkofrA
- 'l ož l ožuke 'kCnL; : i kf.k f="kq fy³šq HkofUrA



16-5 ; kš; rkfoLrkj%

¼d½ xlfki fjp; %

egkHkjrai pe%on%eU; rA vL; jpf; rk vflr egf"KŪ".k}š k; u0; kl egkHkx%A
vflEu-xlfks , rkn' k% dksfi fo"k; % u vflr ; % v= u of.kŪ%A Lo; eD
dFk; fr egf"K% 0; kl %&

/kež vFlš p dkes p eksks p Hkjr"KKA

; fngkflr rnl; =] ; "kqkflr u rr-DofprAA

vr, o-egUokr-HkkjoUokPp egkHkjre-mP; rA vflEu-xlfks'krl gl l ā; kdK%
'ykdk%l flrA v= v"Vkn'k i okŪ.k l flrA i Lr% i kB%egkHkjrL; 'kŪUrioZ k%
, dkn'kŪ/kd'krrekr~v/; k; kr~l fyr%A

¼k½ ¼½ l ekufkzdl vā; %

¼½ vkfe"ka pD uks gh"Vekfe"KL; footŪe-¼egkHkjr~'kk-i- 7-10½

¼i½ R; kxokā p i q% i ki aukya drē-bfr JŪr%¼egk- vuq ia 7-38½

¼ii½ deb fg drD; aukflr fl f)jdeZkA ¼egk- v- i- 10-26½

¼v½ m | eks fe=on-xk°; % i ekna'k=φr~R; trA ¼cD pfjre~26-73½

¼v½ fgā k Hkk; kZ Ro/keL; A ¼vfxu- i q 20-18½

¼i½ äUrfokšk.ki nkfu fo'kš; kf.k p

vi grkfu

ekd kfu

ifrr%

Qy%

fgr%

okD; %

foKkre-

pfjre~

izkr%

Ükxky%

fHK"kk

eš-h



1/2 äklrfø; ki nkfu

l % xkek; Roa l Eitlr%A

fuoha i jeaxr%A

xkek; k% vfjl ækrkr~df'pn~vkr%A

ru vk[; kre-

r%, rr~di VaÑre-

1/2 držkp; s ä iz kx%

iz \$ vki~\$ ä

xe~\$ ä

vk \$ xe~\$ ä

debkp; s ä iz kx%

vk [; k ä

Ñ \$ ä

1/2 v/kr%

vk \$ #g-

mi \$ fn'k-

iz \$ fo'k-

vk \$ uh

fo \$ fy[k-

vk \$ xe-

iz \$ nk

äklrine-

vk: <%

1/2 p<k gqk1/2

mi fn"V%

1/2 mi nsk fn; k x; k1/2

i fo"V%

1/2 i d'k fd; k gqk1/2

vkur%

1/2 yk; k x; k1/2

fofy[kr%

1/2 fy[kk x; k1/2

vkr%

1/2 v/k; k gqk1/2

i nük%

1/2 n; k x; k1/2

Y; clrine-

vk#°;

1/2 p<+dj1/2

mi fn';

1/2 mi nsk ndj1/2

i fo';

1/2 i dsk dj d1/2

vkuh;

1/2 ykdj1/2

fofy[k;

1/2 fy[kdj1/2

vkrE; @vkr;

1/2 v/dj1/2

ink;

1/2 ndj1/2

reqlrine-

vkjksø-

1/2 p<usdsfy, 1/2

mi nsvø-

1/2 mi nsk nusdsfy, 1/2

i dsvø-

1/2 i dsk djusdsfy, 1/2

vkurø-

1/2 ykusd fy, 1/2

foyf[krø-

1/2 fy[kusdsfy; 1/2

vkllrø-

1/2 vkusdsfy, 1/2

inkrø-

1/2 nusdsfy, 1/2



16-6 i kklrç'uk%

1- v/kkyf[krokD; kfu ?kVukØekuđ kja y[kuh; kfu

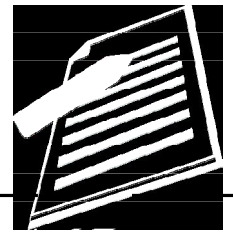
1/2 d1/2, d% exjkt%0; k?k% ra ofruan"Vøk l fpoi nsfu; øoku-

1/2 [k1/2 rflu~tlfu l % i wztledrkafga ka Lejfr LeA

1/2 x1/2, d% i ksjd%uke ui% Øj%p vkl hrA

1/2 k1/2 vr% l fga ka ifjr; T; Lo; a ifrr% Qy% thou; ki uadjkr LeA

1/2 31/2 jkKk 0; k?k%k ra plša eRok rL; o/kk; vkKk nÜkA



1/2 jkkk ekspr% ùixky% l fpoi naR; DRok oue~vxPNrA

1/4 1/2 l % vU; fLeu~ tlefu ùixky% vHkorA

1/4 t 1/2 df' pn~/kekRek ùixky% 0; k?kL; l R; a fuoñrokuA

1/2 > /kur% i wBR; % 0; k?kL; Hkst ukFk±ekd a plgf; Rok ùixkyL; xgs LFkfi reA

2- v/kkfyf[krokD; kákk% dL; pkfjf=da oš' k"V; a i dV; flr\

1/2 d 1/2 i 'pkÜkki sù fgd kofÜke~R; tfrA 0; k?kL; @ ùixkyL;

1/4 [k 1/2 vrho cf) ekuA 0; k?kL; @ ùixkyL;

1/2 x 1/2 vekR; kuka fu; qädrs food' khy%A 0; k?kL; @ ùixkyL;

1/2 k 1/2 l gl k vkošku fu.kz a djkrA 0; k?kL; @ ùixkyL;

1/3 1/2 inL; ykkl% ukLrA ùixkyL; @0; k?kL;

1/2 p 1/2 mükeiz kkl d% vkl hrA ùixky%@ 0; k?kL;

1/4 1/2 i wðez kk nfr%A ùixky%@ 0; k?kL;

3- v/kkfyf[krdrbKP; klrokD; kuka l e{ka debkP; klra : i e~fy[kr&

1/2 d 1/2 exjkt% vkKlrokuA

1/4 [k 1/2 plja i ' ; rA

1/2 x 1/2 Roe~di Vi wkðpukfu u xg~kh; k%A

1/2 k 1/2 ui % 0; k?kL% ùixkya ekš{krrokuA

1/3 1/2 l % /kekRek vk[; k rokuA

4- i wkðkD; sù mükjannrq

1/2 d 1/2 i wBR; k% fdefk± ùixkyk; i kf} "ku\

1/4 [k 1/2 ùixky% fdefk± oš kL; a i klroku\

1/2 x 1/2 i ksj d% ui % fdefk± ùixky; kšua i klroku\

1/2 k 1/2 0; k?kL% ùixkya fdefk± l fpoi ns fu; ðre~vdjkr\

1/3 1/2 nqV% ùixky% fda Ñre\

1/2 p 1/2 l d kjs dhn' kk% tuk% fojyk% Hkoflur\

1/4 1/2 'kknily% vfoodh vkl hr~bfr dFka fl /; fr\

5- l eLr infuekz ka dRok fy[klurq

1/2 d 1/2 j kšks k l g fo | eku% 3/4 -----

1/4 [k 1/2 'kknilyL; tuuh 3/4 -----



- 1/2 x 1/2 i j'skafga k 3/4 -----
- 1/2 k 1/2 l o'skqHkar'skq 3/4 -----
- 1/3 1/2 l R; k okd-; L; l % 3/4 -----
- 1/2 p 1/2 xkek; qk ; fu=rk% 3/4 -----
- 1/4 N 1/2 i # "skq v/ke% 3/4 -----
- 1/4 t 1/2 dkye-vfi vufrØE; 3/4 -----

6- v/kkfyf [krokD; Skq v0; ; i nkfu ; kst ; Urq

- 1/2 d 1/2 i tj dk; ka i tj ----- i ksj d%ui %vHkorA
- 1/4 [k 1/2 i wBkR; k% i jn0; kf.k gjUr% ----- v'käk%vHkouA
- 1/2 x 1/2 0; k?k% xkek; pki ya Jkrok ----- xkek; k% o/kk; vkfn'krA
- 1/2 k 1/2 ; % ----- 'kqpa i jnkSk% nif'kra xg;-kkfr] l % 'kh?ke~, o u'; frA
- 1/3 1/2 l %/kekBek 0; k?ke-mäoku ----- nqV% di Vadrea
- 1/2 p 1/2 nif'krkekR; % jktk ----- , o fou'; frA



16-7 mUkj kf.k

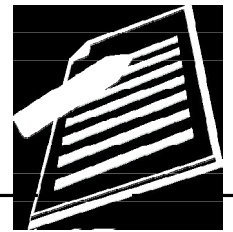
16-3 ckski z uk%

- 1- d \$ 4] [k \$ 1] x \$ 5] ?k \$ 2] ³ \$ 6, p \$ 3
- 2- d \$ 4] [k \$ 3] x \$ 1] ?k \$ 6] ³ \$ 2, p \$ 5
- 3- d- i tj dk; kef [k- i frrkfu] x- l fpoi nef ?k- bZll re-vluet ³ uxja

i kBxri z uk%

- 16-1**
- 1- 1/2 d 1/2 i wBkfrer] 1/4 [k 1/2 Jherh] 1/2 x 1/2 nqdeZHk% 1/2 k 1/2 0; k?k% 1/3 1/2 l q<a ore] 1/2 p 1/2 fdipnknkrø~v'kD; k%A
 - 2- 1/2 d 1/2 iii 1/4 [k 1/2 ii 1/2 x 1/2 ii 1/2 k 1/2 i
 - 3- 1/2 d 1/2 i jfga kjr% Øj% 1/4 [k 1/2 'kqp% i f.Mr% 1/2 x 1/2 [; krfoØe% 1/2 k 1/2 i j k] p] vfi] ; Fkkdkye] eRok

- 16-2**
- 1- 1/2 d 1/2 Üixkysu] 1/4 [k 1/2 eka e] 1/2 x 1/2 l j kSk% 1/2 k 1/2 Üixkyl;] 1/3 1/2 fgr%
 - 2- 1/2 d 1/2 xkek; q fu=rk% 1/4 [k 1/2 exjktu 1/2 x 1/2 l j kSk% 1/2 k 1/2 xkek; pki ye- 1/3 1/2 'kknly tuuh 1/2 p 1/2 di VkjEHkl a qre-
 - 3- 1/2 d 1/2 exjktu vkKlre-1/4 [k 1/2 plg %n'; rke-1/2 x 1/2 Nrd% exBnk; mi of.kre-



- 16-3 1- ½d½ 0; k?kL; ekrk ¼[k½ 'k=q engkr~dksfi /kekRek Ükxky%
 ½x½ 0; k?k% Ükxky I RÑR; foek{kroku-¼k½ fhk™kk ¼³½ HkofLuX/kk
- 2- ½d½ vk[; krou-¼[k½ i fj"oäoku-½x½ vonr-¼k½ Hkofr ¼³½ HkofUr
- 3- ½d½ \$ 3] ¼[k½ \$ 6 ½x½ \$ 1] ¼k½ \$ 7] ¼³½ \$ 2] ¼p½ \$ 4] ¼N½ \$ 5

16-6 iKBWrižuk%

- 1- ½x¼ ¼N¼ ¼[k¼ ¼k¼ ½d¼ ½p¼ ¼³¼ ¼t¼ ¼p½
- 2- ½d½ ÜkxkyL; ¼[k½ ÜkxkyL; ½x½ 0; k?kL; ¼k½ 0; k?kL;
 ¼³½ ÜkxkyL; ¼p½ Ükxky% ¼N½ Ükxky%
- 3- ½d½ exjktu vkKlre- ¼[k½ pkj% n'; rke- ½x½ Ro; k diViwköbukfu u
 xghr0; kfu ¼k½ ui sk 0; k?k% Ükxky% ek{kkr-% ¼³½ rñ /kekReuk vk[; krea
- 4- ½d½ i wBR; k% ÜkxkyA Lodež q i w; ekuan"Vok i kf}"kuA
 ¼[k½ i wztUeu% dek.k LeRok Ükxky% oš kX; a i klrokuA
 ½x½ i kšjd% ui % i jfgd kjfr% Øij% p vHkora
 ¼k½ 'křpa if.Mra eRok 'kknjy% re~I fpoi ns voj; rA
 ¼³½ nqV% Ükxky% fl gL; fl) a eka a pkj f; Rok ÜkxkyL; xgs U; LreA
 ¼p½ fgr% tuk% fojyk% HkofUrA
 ¼N½ 'kknjy% vfopk; Z, o ÜkxkyL; o/ke~vkfn"VokuA
- 5- ½d½ I jksk% ¼[k½ 'kknjy tuuh ½x½ i jfgd k ¼k½ I oBkarŠkq
 ¼³½ I R; okd- ¼p½ xkek; q fl=rk% ¼N½ i #''kk/ke% ¼t½ ; Fkkdkye~
- 6- ½d½ i jk ¼[k½ fg ½x½ rq ¼k½ vU; Fkk
 ¼³½ ; Fkk ¼p½ f{ki eo



17

dYi ukdlfr%fo t ; rs

/kU; k fg vLekda Hkj rHkne% ; k egnfHk% foHkfrfHk% vy³Ñrka vL; ka /kj . ; ke-
vuds fo}ka % oSkfudk%fpUrdk% dykeeKk% T; ksrfoñ% tUe yC/kolr% nš ka
p xlsokflora—rolr%A çphudkys, o vk; BkÍ %ojkgfefgjkñ; %oSkfudk%vUrfj {kfo" k; s
veW; ku-fl) klrku~vkfo"—rolr%A v | Ros rq mi xg; kuknhuka l kgk; ; sU fofo/kkfu
'kkskdk; kZ.k çpyflrA vLekdadYi ukpkoyk vfi vUrfj {k' kkskdk; BkqI ayXuk Lothoua
0; rhrorhA vUrs p vUrfj {k; kus nqkV/uk; ka Loçk. kku-R; DrorhA o; e~v= rL; k%
l kgl i wkek; kZ kka fo" k; s i Bke%A



míš ; kfu

bea i kBa i fBRok Hkoku~

- dYi ukpkoykegkHkxk; k% i fjp; a yš [krq 'k{; fr(
- vUrfj {k; k=k; k% rL; k% mi yC/kf% Kkrq l eFk% Hkfo"; fr(
- Dr&DrorçR; ; klr inkuka : i kf.k KkrOk okD; ç; ksxa drq 'kDr% Hkfo"; fr(
- drñ n% l g fØ; ki nkfu ; kstf; rq l {ke% Hkfo"; fr(
- l g&vf/k&çfr&ue% bR; knhuka ; ksxs mi i nfoHkDrhuka ç; ksxa dfj"; fr(
- 'bne* vnl } fo} l ~'kCnkuka : i kf.k yš [k"; frA
- i kBs ç; çakuka l wñhuka p; ua dfj"; frA



fø; kdyki %

fp=xrkuka ukjh. kka ukekf. rkl ka fof' k"Vrk; k% {k=kf.k p fy[krA



17.1



17.2



17.3



17.4



17-1 eyi kB%

dYi ukdfr% fot; rs

v/kqk eyi kB% /; kusu i Bk%

oBko% & Hkxfu! i'; plnrkj d% l q kskhre- vdk' k& e. Myafd; r-jktrA

foHkk & Hkr%A u dpyfeneA vdk' ke. Mysrqfofo/kkfu xgu{k=kf.k l flrA vLekda i Foh vfi rSkq, o vU; rek orzA; fn vU; Lekr-xgkr-voykD; rs rfgz, "kk vfi vU; kfu rkj dcf.k bo nshl; ekuk çrh; rA

'kCnkFkk%

fd; r-¾ fdruk

jktrs¾ l q kskhr gkrk gA

vU; rek ¾ fof' k"V

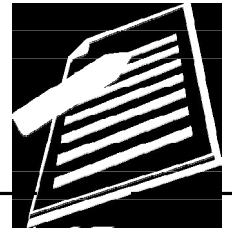
voykD; rs¾ nqkk tkrk

gS

rfgz¾ rks

nshl; ekuk ¾ pedrh gþz

çrh; rs¾ çhr gkrh gS





17.5

of.kirouR%¼ o.ku fd; k gS
vf/k-R; ¼ fo"K; ea
o/kir's ¼ c<+jgh gS
es ¼ ejh
rnulrja ¼ ml dsckn
vfhk; kU=dh ¼ butifu; fjax
I atkr%¼ I Ei lu gq/kj
yC/korh ¼çktr fd; k

oBko% & v; d Ro; k dFka Kk; rð

foHkk & Hkkr% fda u tkukfi ; r- vuods oKkfudk%
vUrfj {kkr~ i fFKO; k% I kSn; ±of.kirouR%
¼

oBko% & fde-vLekdan's kkr-dksfi vUrfj {ka u xrokuA

foHkk & vjð ek , oanonA 1984 res o"ki jkd's k' kelZ bfr
uked%vUrfj {k; k=h I kfo; rI ækL; '1 ks qt I kY; r'
ukfEu vUrfj {k; kus plnz k=knyL; I nL; %
vkl hrA

oBko% & fde-dkpr~efgyk r= u xrorh\

foHkk & fdadF; rð dYi ukpkoyk ukEuh efgyk rrf}okje-
vUrfj {k; k=ka -rorhA

oBko% & I R; e} I k vUrfj {k; k=ka -rorhA vxzt d
vUrfj {k; kf=.kha dYi uke- vf/k-R; r q o/kir's es
ftKkl kA

¼r-r% çfo' kfr vkpk; ¼

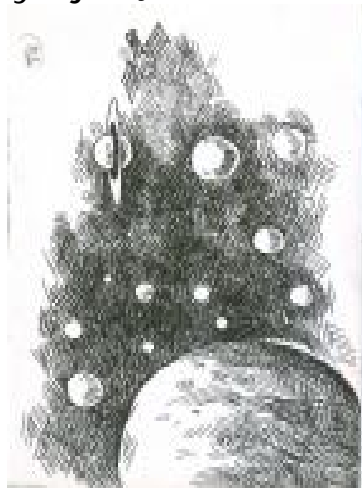
mHkks & ¼mRFkk; ½ vkpk; ¼ vkxr%A x#o; ki ue%A

vkpk; ¼& fpja thoreA oBko! dL; fo"K; so/kir'sftKkl k\

mHkks & vkpk; ¼ vkoke- vUrfj {k; kf=.kha dYi uke-
vf/k-R; Kkræ~bPNko%A

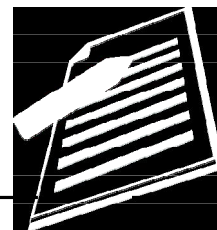
vkpk; ¼& I k/kqI k/kq vR; ðkek Hkoris% ftKkl kA v | r q
rL; k%tUefnol %, oA 1961 reso"ki ty/kbèkl L;
çFkesfnol s, "kk tUe yC/korhA gfj; k.kkj kT; L;
djukyuxjL; dYi ukpkoyk Hkkrh; ukjh.kka
xkj oHkrk vLrA rL; k% ekr% uke I a kSxrk

vkl hrA fi rk cukj l hnl %Hkj rfoHkt ukr~vullrja
 l i fjokj %djukyuxja l Eçklr%A



17.6

"kkM' kfrFkS¾ 16ohafrrFk dks
 vkjC/kk ¾ çkjEHk dh
 l E; d-i"Ve-¾ Bhd i nk
 vloSk.kdk; kEk¾¾ [kkst ds
 dk; Zdsfy,
 l ukfFkre¾¾ l kFk
 ; FkkfufnZVe¾¾ funz kkuq kj



foHkk & /kU; kS , o rL; k%ekrkfi rjka vkpk; Z r; k f'k{kk
 d# çklrk\

vkpk; %& djukys , o VSkj ckyfudrufo | ky; sb; açkj fEHkdhf' k{kaçklrorhA vL; k%
 oEkfuD; kafof' k"Vk #fp%vkl hrA vr%l k i atkc&vfHk; kFU=dhegfo | ky; kr-
 oEkfudhfo"K; sLukrdki kf/ke~vf/kxrora rnulrje~, "kk fontkh dkykj k/ks
 bfr fo' ofo | ky; s , jk. i d &vfHk; kFU=D; ka ' kskdk; L; mi kf/kaçklrorhA

oBko% & Jheu! l k ^ukl k* bfr dñs dnk çoşka yC/korh\

vkpk; %& oLr#% ^deB fg drD; a ukfLr fl f) jdez k%A** vr% 1988 res o"K l k
 ^ukl k* kus kuy , jkukMVDI , .M Li d , MfeLV¾ ku½ dñs noxfrdh
 bfr {s=s dk; ±çkjHkrA 1994 res o"K r=ß ^ukl k* dñs fo' kSkK: isk
 rL; k%fu; qDr%tkrkA 1995 res o"K dfBurjai jh{kukurja^ukl k* vUrfj{k dñs
 vUrfj{k; k=k; S vL; k% p; ua tkrea

oBko% & x#oj! r; k dnk vUrfj{k; k=k; k% xkS oa yC/ke\

vkpk; %& 1997 reso"KuoEcjekl L; foakfrfrFkS, "kk vUrfj{k; k=kafo/kk; Hkj rL;
 f}rh; &vUrfj{k; k=h bfr xkS oe~ vf/kxrora dF; rs fg nyBkkU; fi
 dk; kF.k fl /; flr çks| eu fgA

foHkk & fda l k i q% vUrfj{kaxrk\

vkpk; %& vke} dkyfEc; k' kVy; kusu 2003 reso"K tuojh ekl L; "kkM' kfrFkS r; k
 ; k=k i q% vkjC/kkA

oBko% & vkpk; Z fde~, rr~; kua fdefi fof' k"Ve~vkl hr\

vkpk; %& oRl ! l E; d-i"VeA , rr~; kuarqvloSk.kdk; kEk±
 fofO/kS ; U=§ l q fTtrj l Ir; kf=fHk% l ukfFkre~



vkl hrA ; FkdfufnZVa; kufena/koysLoPNsvkdK'ks
/ofuosknfi v"Vkn'kxqf.krosxuu i Fohrykr-
vfrnjje-mMMh; ekue-vkl hr-rr%---

v"Vkn'kxqf.krosxuu ¾
vBkjg xqkk ox l s
mMMh; ekue-¾ mM+ jgk
FKj

foHkk & egkn; ! rr%fde-vHkor\

nkBkX; uu ¾ nBkX; l s
l ekl; ¾ l ektr djds
vorkj.kkr-¾ mrjus l s
n'kfueski wE-¾ nl {k.k
i wZ
HkLeHkura-¾ ty x; k
vkdK'kh; k ¾ vkdk'k eajgus
okyh
l atkrk ¾ gksxbZ

vkpk; %& fdadFk; kfe\ , rr~; kua"kkM' kfnukfu d8 jjsxe-
vf/k-R; vfi p vU; Skqfo"K; SkqegUoi wkd kexh&
l p; ua-rorA nkBkX; sk Qjojhekl L; çFkes
fnol s l eLrdk; ± l ekl; ; kufena i fFkoha çfr
vorj.kkr- d8ya n'kfueski wE- , o HkLeHkura
tkreA dYiuk pkoyk vfi rsu ; kusu l g
vkdK'kh; k l atkrkA uuua dkyk/khufena txrA

oBko% & vgd vrho nk#.kk b; a nqkV/ukA

nk# .kk ¾ eu dksngykus
okyh

foHkk & fda rL; S l Eekua nkrç- vLekda n'sku fdf pr-
-re\

J) kçl ukfu ¾ J) k ds Qay
çn'kç; rç-¾ çn'kç djus
dsfy,

vkpk; %& vkeç rka çfr J) kçl ukfu l eiž rk vLekda
ç/kkuefU=.kk Hkkj rh; vUrfj {k& vuq dkkudBnL;
½l jkç vfxeki xgL; uke ^dYiuk çFke% bfr
mn?kkç"kreA

'kçysu deZkk ¾ 'kçk deZ
}kjk
dYiefi ¾ cgr vf/kd
l e; rd

foHkk oBko% p& /kU; k b; a Hkkj rh; k ukjhA

egiržefi thos-uj%'kçysu deZ.kkA
u dYiefr-".ku ykd}; fojks/kukAA



17-2 çkç'ukç

1- i kBa i fBrok fjDrLFkkukfu ij; r

¼d½ ----- bfr uked%Hkkj rh; % l kfo; r l žkl; plnz k=knyL; l nL; %
vkl hrA

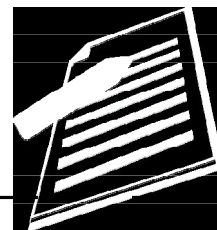
¼[k½ ; fn vU; Lekr-xgkr-voykD; rs rfgz i Foh vfi vU; kfu rkj dlf.k bo --
----- i rh; rA

¼x½ dYi uk pkoyk rq----- vUrfj {k; k=ka ÑrorhA

¼k½ dYi ukpkoyk ----- tykbèkl L; i Fkfnol s tle yC/korhA

¼³½ vL; k%----- fof' k"Vk #fp%vkl hrA

¼p½ ----- jkT; L; dYi uk pkoyk Hkkj rh; ukjh.kka xkç oHkurKA



2- i kBr~fpRok v/kkfyf [krkuka fo' k'; i nkuka fo' ksk. ki nkfu fy [kr

¼d½ ----- xgu{k=kf. kA

¼k½ ----- vldk' kA

¼x½ ----- fo'k; SkA

¼k½ ----- deZ kA

¼³½ ----- nqk/ukA

¼p½ ----- fnol A

3- v* LrEHL; okD; kA k% ^c* LrEHL; okD; kA kuka esyua d#r

v*

^c*

¼d½ plnrkj d% l q kshkre-

¼½ fl /; fr i ts| eu fgA

¼k½ , "k fonqk ^dkykj ksk* bfr fo' ofo | ky; s ¼i½ l lr; kf=fhk% l ukfkre-vkl hrA

¼x½ nyzk; fi dk; kf. kA

¼iii½ vldk' ke. Mya fd; r-jktrA

¼k½ , rr~; kua rq fofo/k%; U=% l q fttra

¼v½ uj% 'kpyu deZ k

¼³½ egirēfi thor~

¼½ , jkl i k&vfhk; kfU=D; ka

'kshkdk; L; mi kf/ka i klrorhA



17-3 v/kpk voxPNke%

i Fke%vAk%

oSk%& Hkxfu ----- ftKkl kA

bnkua i Fke~vAk i u% i Bke% dkfufpr~oKkfudjgL; kfu p tkue%

Hkof~%o'; eo n"Vahkor~; r-jk=kSpInrkj d% l q kshkre-vldk' ke. Mya dFkajkt rA fda tkufUr Hkollr% ; r~ xgu{k=Skq vU; rek vLekda i Foh vfi ; fn vUrfj {kkv~ voykD; rs rfgZ l k vfi rkj d% bo nshl; ekuk n' ; rA oKkfudk% xgu{k=k. kka jgL; kfu Kkrq i k; % vUrfj {k; k=ka dφU rA vLekda nš kkr~ l oZ Fkea jkdš k' kez r= vxPNrA rnullrja dYi ukpkoyk f}okja r= xrorhA

I kj%

vuds vUrfj {kxkfeu% oKkfudk% vUrfj {kL; ; k=ka~rollr% vLekdanš kkr~ l oZ Fkea jkdš k' kez vUrfj {kaxr% rr' p dYi ukpkoyk ukEuh efgyk f}okje~vUrfj {k; k=ka~rorhA



vud vUrfj {kxkeh oKkfudkausvUrfj {k dh ; k=k dhA gekjsnš k l s l oçFke jkdš k
 'kekZusvUrfj {k dh mMku Hkj hA rRi 'pkr~dYi uk pkoyk uke dh efgyk usnksckj
 vUrfj {k dh ; k=k dhA

0; kdj .kfclno%

I Kki nkfu

vUrfj {kxkfeu% ¾ vUrfj {kxkfeu~çFkek cgppue~

pUnrkj d% ¾ pUn% p rkj dkf.k p pUnrkj dkf.k r%

i fFk0; k% ¾ i fFkohj "k"Bh , dopue~

fØ; ki nkfu

voyk0; rs ¾ vo √y0-debKP; s çFkei # "k% , dopue~

jkt rs ¾ √jkt~vkReusi nh yVydkj% çFkei # "k% , dopue~

orš rs ¾ √or~vkReusi nh yVydkj% çFkei # "k% , dopue~

çrh; rs ¾ çfr √b debKP; s ; 3~çFkei # "k% , dopue~

o/k rs ¾ √o/k~¼vkReusi nh½ yV~çFkei # "k% , dopue~

I flur ¾ √vl ~yV~çFkei # "k% , dopue~

vkI hr~ ¾ √vl ~y3~çFkei # "k% , dopue~

tkukfl ¾ √tu~yV~e/; ei # "k% , dopue~

~nUrcR; ; k%

Kkre~ ¾ Kk Dr ui q çFkek , dopue~

çklupUr% ¾ ç vki~\$ äorq i q çFkek cgppue~

of.kz0Ur% ¾ o.kz äorq i q çFkek cgppue~

xroku~ ¾ xe~äorq i [Yyxe]~çFkek , dopue~

xrorh ¾ xe~äorq L=hfyxe~çFkek , dopue~

~rorh ¾ Ñ äorq L=hfyxe~çFkek , dopue~

nnhl; ekuk ¾ nhi~deZ 'kkup~L=hfyxe~ , dopue~



ի կՅրչ'ուկ%17-1

1- , dinsu mÜkj r

¼d½ fofo/kkfu u{k=kf.k d# I flur\

¼[k½ xgu{k=šq dk vU; rek orʔA

¼x½ d% I q kšHkre- vdkd' ke. Mya jk trA

¼k½ oKkfudk% vUrfj {kk~dL; k% I kšn; ±of. kʔoUr%

¼³½ dYi uk pkoyk dLekr- egkfo | ky; kr- oškfudhfo" k; s Lukrdki kf/ke-
vf/kxrora

¼p½ dk Hkj rh; efgyk vUrfj {ka xrk\

2- drʔ nafpu

¼d½ plnrkj d% vdkd' ke. Mya jk trA

¼[k½ Roe-dFka tkukf I \

¼x½ vUrfj {kk~oKkfudk% i fFkO; k% I kšn; ±of. kʔoUr%

¼k½ jkds k' kek 1984 res o" kš plnz, k=knyL; I nL; % vkl hrA

¼³½ vdkd' ke. Mys xgu{k=kf.k I flurA

¼p½ vLekda i fFkoh ršq vU; rek orʔA

3- fufnZV/kkrqHk% I g ä çR; ; ç; kxu okD; i fir±d#r

¼d½ vLekda nš kkr~ I oçFkea jkds k 'kek vUrfj {ka &&& ¼ke- \$ ä½

¼[k½ r% i fFkO; k% I kšn; ±&&&& ¼o. kʔ \$ ä½

¼x½ dYi ukpkoykegkHkx; k f}okje- vUrfj {k; k=k &&& ¼- \$ ä½

¼k½ rL; k% p; ue- vUrfj {k; k=k; S && ¼tu- \$ ä½

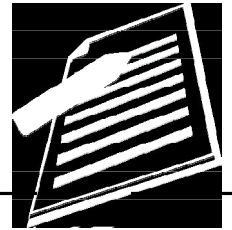
¼³½ vuds oKkfudk% vUrfj {ka &&& ¼ç \$vki \$ ä½

f}rh; %vák%

bnkuha dYi uk; k% v/; ; ufo" k; s cš/ke%

rr% çfo' kfr ----- p; ua tkreA

gfj; k. kkj kT; L; Hkj rh; ukjh. kka xkš oHkrk dYi ukpkoyk 1961 reso" kš tykbZekl L; çFkes fnol s tle yC/kora djukyuxjs VŠkš ckyfudrufo | ky; s r; k i kj fEHkdh f' kš k i klrA oškfudhfo" k; s Lukrdki kf/ke- vf/kxrora ^, jkš i š &vfHk; kFU=dH' bfr fo" k; s r; k 'kš kdk; ±NreA rnuUra l k ^ukl k' bfr dšns i dš kayC/kora r=





ˆnoxfrdh* bfr {ks= fo' kSkK: i sk dk; ± NrorhA 1995 res o"lã vlrfrj {k; k=k; S rL; k% p; ua tkreA

I kj%

Hkj rh; ukjh. kka xkj oHkrk dYi ukpkoyk gfj; k. kkj kT; L; djukyuxjs 1961 res o"lã tÿkbžkl L; çFkes fnol s ekrø I a kfxrk; k% firø p cukj l hnl L; xgs tle yC/korhA I k VSkj ckyfudrus çkj fEHkdf' k{Wa çkl; i atkfo' ofo | ky; kr~ Lukrdki kf/ka i kl; ^dkyj kM/ks fo' ofo | ky; s' kskdk; ±rorhA rnulrja ^ukl k* bfr dñns rL; k% p; ue- vlrfrj {k; k=k; S tkreA

Hkj rh; ukfj; ka dh xkj oHkrk dYi ukpkoyk dk tle gfj; k. kk ds djuky uxj ea igyh tÿkbž 1961 dks ekrk I a kfxrk vlg fir k cukj l hnl ds ?kj gq/ka VSkj ckyfudru ea f' k{kk çklr djds i atkfo' ofo | ky; I s Lukrd gklj dkyj kM/ks fo' ofo | ky; ea' kskdk; Zfd; kA bl ds ckn ^ukl k* dñnz ea vlrfrj {k ; k=k dsfy, budk p; u gks x; kA

0; kdj . kfclno%

I fu/kPNsk%

ukfLr ¾ u \$ vLr ¾ v \$ v ¾ vk nh?kz I fu/k%

ijh{kkuUrje- ¾ ijh{k \$ vUlurje-¾ vk \$ v ¾ vk nh?ka fu/k%

Lukrdki kf/kde-¾ Lukrd \$ mi kf/ke-¾ v \$ m ¾ vks xqk I fu/k%

r=ḁ ¾ r= \$, o ¾ v \$, ¾ , s of) I fu/k%

deḁ ¾ deZ \$, o ¾ v \$, ¾ , s of) I fu/k%

vR; ųkek ¾ vfr \$ mÙkek ¾ b \$ Loj% ¼m½ ¾ ^b* bR; L; ^; * HkofrA ; .k fu/k%

fl f) jdeZ k% ¾ fl f) % \$ vdeZ k% ¾ % \$ v ¾ j fol xZ I fu/k%

i ni fjp; %

ukjh. kke- ¾ ukjh "k" Bh cgøpue-

Hkor% ¾ Hkor-¼ ø½ "k" Bh , dopue-

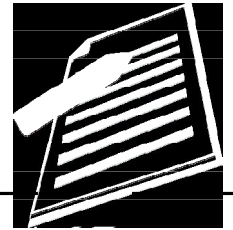
vL; k% ¾ bne-L=hfyaæe} "k" Bh , dopue-

fØ; ki nkfu

bPNfI ¾ b"kt- yV} e/; ei # "k% , dopue-

çkj Hkr ¾ ç j Hkt- ¼/kReusi ne½ y³} çFkei # "k% , dopue-

vdjkr- ¾ – y³-çFkei # "k% , dopue-



-nürçR; ; kŭr' kCnk%

I Eçlr% ¼ I e-ç vki-ä iŋŷyæŋ çFkek , dopue-
 çklrk ¼ ç vki-ä L=hfyaæŋ çFkek , dopue-
 tkre- ¼ tu-ä iŋŷyæŋ çFkek , dopue-
 yC/korh ¼ yHk-äorqL=hfyaæŋ çFkek , dopue-
 çklrorh ¼ ç vki-äorqL=hfyaæŋ çFkek , dopue-
 vf/kxorh ¼ vf/k xe-äorqL=hfyaæŋ çFkek , dopue-

mi infoHDr; %

^vf/k* ; kxs f}rh; k ; Fkk **dYi uke**-vf/k-R; o/kŋs es ftKkl kA
foKkue-vf/k-R; vge-Kkrø-bPNkfeA

^çfr* ; kxs f}rh; k I %**uxja**çfr xPNfr
ekrjaçfr vga J) kdl ekfu viž kfeA

^I g* ; kxs r}rh; k i q-h **ek=k** I g xrkA
 I hrk **jkesk** I g oue-vxPNrA

^ue% ; kxs prŋkŋz **xjos@x#o; kž** ue%
ekr&fi rH; ka ue%

çFkekŭri nkfu

x#oj%
 vkpk; %
 Jheku-
 egkn; %
 Hkfxuh
 Hkkr-k

I Eckskui nkfu

x#oj!
 vkpk; ž
 Jheu!
 egkn; !
 Hkfxfu!
 Hkkr-%



i kBxrç'uk%17-2

1- jŋkkŋ re-vk/kR; ç'ufuek.ka d#r
 ½d½dYi ukpkoyk gjj; k.kjKT; L; djukyuxjs tle yC/korh
 ¼k½ rL; k% o&kfud; ka fof' k"Vk #fp% vki hrA
 ¼x½ I k ^dkykjkkŋs fo' ofo | ky; kr- 'kkskdk; L; mi kf/ka yC/korh\



1/2 k 1/2 l k Hkkj rh; ukjh. kka dhfr% tkrkA

1/4 3/4 ^uki k* dlns rL; k% fu; qDr% tkrkA

2- mnkgj .ke- vuq R; i qYy³: i LFkkus L= hfy³: i afy [kr

i qYy³e-

L= hfy³e-

; Fkk l % vUrfj {ka xroku-

l k vUrfj {ka xrorhA

1/4 d 1/2 l % fnYyhuxjs tle yC/kokuA-

&&&&&&&&&&&&&&A

1/4 [k 1/2 l % fonš ks f' k {kka çklrokuA

&&&&&&&&&&&&&&A

1/4 x 1/2 l % uxjs Lukrdki kf/ke- vf/kxrokuA

&&&&&&&&&&&&&&A

1/2 k 1/2 l % ' kšk dk; ž- vfi —rokuA

&&&&&&&&&&&&&&A

1/4 3/4 l % r= vxrokuA

&&&&&&&&&&&&&&A

1/4 p 1/2 l % Qya ; kfprokuA

&&&&&&&&&&&&&&A

3- l Ecks kui naçFkekUri naok fy [kr

çFkekUri ne-

l Ecks kui ne-

1/4 d 1/2 &&&&

gs Hkk r%

1/4 [k 1/2 x#oj%

&&&&

1/4 x 1/2 &&&&

&&&&

1/2 k 1/2 vxzt k

&&&&

1/4 3/4 &&&&

Jheu-

1/4 p 1/2 egkn; %

&&&&

r`rh; %v`k%

bnkuta r`rh; e- v`ke- cks`ke%A

o`ko& x#oj% ----- fojks/kukAA

o; e- voxPNke%; r- l o`l FkeadYi ukpkoyk 1997 reso"lž vUrfj {ka xrkA 2003 reso"lž l k i u%r= xrorhA tuojuh ekl L; "kkM" kfrFKS/ofuoxknfi v"Vkn' kxfj. kroxsu mMMh; ekusu dkYfEc; k' kVy; kusu l k l lrl nL; % l g "kkM' kf nukfu ; k=ke- vdkj krA ; kus dš j jksxe- vf/k`R; l 3dfyrk l kexh vki hrA Qjojhekl L; f}rh; snol s i fFkoha i fr vorj .kk- dčoyan' kfueški m±; kuanqk/ukXLra tkreA l o`kka oSkfudkuka eR; q vHkorA oLr`% bna txr- dkyL; v/khueA rL; S l Eekua nkrq- vLekda i zkkuefU= .kk Hkkj rh; vUrfj {k&vuq U/kkudlnL; 1/4 l jkž vfxeki xgL; uke ^dYi uk i Fke`* bfr mn?kš`kreA

i kBL; vLrs i nÜka 'ykda i u% i Bke% I E; d-voXPNke% p&

egirëfi thor-uj% 'kpyu deZkkA
u dYiefr—.ku ykd}; fojk/kukAA

i nPNn% egirë-vfi thor-uj% 'kpyu deZkkA
u dYie-vfrÑ".ku ykd}; fojk/kukAA

vlo; % u j% 'kpyu deZkk egirë-vfi thorA ykd}; fojk/kuk vfrÑ".ku
%deZkk½ dYie-vfi u ¼thor¼A

0; k[; k& 'kdkdeZkk&'kdkdeZkk thforaegirëfi ¾ {k.kefi ¾ LoYie-vfi thoua
I kFkde} ije-bgykds i jykds p fojk/kuk v'kdkdeZkk dYi i ; ðranh?kzt houefi
fujFkde-HkofrA vr%ekuosu I nk egredeZjk; .ku Hkfor0; eA eR; %dnk vlxfe"; fr
bfr u dksfi tkufra vr , o mP; r&

^xghr bo dšKskq eR; qk /kežkpj rA**

dYi uk; k% LoYiefi thouarL; k% egRdeZHK%/ku; a tkreA I k i xPRoaxrkfi ; 'k%
'kjhjsk v | kfi thofra mDrefi &

^dhfrž L; I thofra**

I kj%

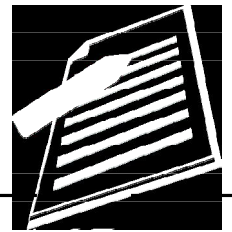
dYi uk; k% vfHkyk"kk m | esu n<fu'p; su p i wkZ tkrkA I k f}okje-vLrfj {ka xrk
fdUrqf} rh; k; ka; k=k; karL; k%; kuanqk/ukxLra tkreA ; kuL; I nL; k% dš j jksL;
fo" k; s vL; škp fo" k; šq I kexhI p; ua—roUr¼A I ož I nL; k% i pRoaxrk¼A vLekda
ç/kkuell=h 'bl jkš dšnz; vfxeki xgL; uke ^dYi ukpkyk çFke% bfr mn?kš" krokuA
'kpyu deZkk thor% u jL; bgykd% i jykdp /ku; kA nqdeZkk nh?kž žk fde\

ifjJe vLš n<fu'p; I s dYi uk pkyk dh vfHkyk"kk i wkZ gP¼A ml us nks ckj
vLrfj {k dh mMku Hkj h fdUrqnI jh mMku ds I e; foeku nqk/uk xLr gksx; kA
; ku ds I nL; ka us dš j jks vLš vL; fo" k; ka i j egRo i wkZ I kexh , df=r dh FkA
nqk/uk eal Hk I nL; ka dh eR; qgksxbA gekj sç/kkuell=h usmlgæ I Eeku nšsdsfy,
'bl jkš dšnz ds vfxe mi xg dk uke ^dYi ukpkyk çFke* j [kus dh ?kšk.kk dhA
'kdkdeZdjusokyka dsbg ykd vLš i jykdp nšuka/ku; gšHkysgh muds thou dh
vof/k Nks/h gkA

0; kdj . kfcUho%

I fu/kPNsnk%

vlošk.kdk; kFkž~¾ vlošk.kdk; Z \$ vFkž~¾ v \$ v ¾ vk ¼nh?kž fu/k%½





dkyk/khue- ¼ dky \$ v/khue~¼ v \$ v ¼ vk ¼nh?k] fu/k%
 vfxeki xgL; ¼ vfxe \$ mi xgL; ¼ v \$ m ¼ vks ¼xqkl fu/k%
 nyBkkU; fi ¼ nyBkkfu \$ vfi ¼ 'b* bR; L; LFkkus ^; } Lojs ¼vdkj½ i j Å
 ¼ . k† fu/k%½

I eLrinkfu

foxg%

I ekl L; uke

vUrfj {k; k=k; k%

vUrfj {kL; ; k=k; k%

"k" Bhr Ri q "k%

nyBkdk; k†.k

nyBkkfu dk; k†.k

deZkkj ; %

; FkkfufnZVe~

fufnZVe~vufRØE;

v0; ; hHkko%

i Fkesfnol s

i Fkesfnol s

deZkkj ; %

vfxeki xgL;

vfxeL; mi xgL;

deZkkj ; %

I Kkinifu

foðkfrfrFkS ¼ foðkfrfrfFk] I Ireh , dopue~

i ks|eu ¼ iz \$ m | e| rrrh; k , dopue~

I Ir; kf=fHk% ¼ ¼ Ir½ ; kf=u| rrrh; k cgppue~

—nUri R; ; k%

yC/ke~ √yHk-Dr ui q i Fkek , dopue~

i kjC/kk iz √jHk-ä L=hfya~çFkek , dopue~

mn?kkf"kre~ mr~√?kk-ä ui q çFkek , dopue~

tkre~ √tu-ä ui q çFkek , dopue~

—re~ √— ä ui q çFkek , dopue~

I q fTtre~ I q \$ √I Tt-ä ui q çFkek , dopue~

fufnZVe~ fu% √fn'k-ä ui q çFkek , dopue~

I ekl; I e~√vki-Y; i~

fo/kk; fo √/kk Y; i~

çn'k†; rø~ ç √n'k-f.kp-rø~

I ei†; rk I e~√viZf.kp} 'kr] rrrh; k , dopue~

'kCn: i kf.k

^bne~ I oLke'kCn%

	¼ qY³%			L=lfy³%		
	, dopue-	f}opue-	cgøpue-	, dopue-	f}opue-	cgøpue-
i z fo-	v; e-	bekS	bes	b; e-	bes	bek%
f}- fo-	bee-	bekS	beku-	beke-	bes	bek%
r- fo-	vuu	vkh; ke-	, fhk%	vu; k	vkh; ke-	, fhk%
p- fo-	vLeS	vkh; ke-	, H; %	vL; S	vkh; ke-	vkh; %
i a fo-	vLekr-	vkh; ke-	, H; %	vL; k%	vkh; ke-	vkh; %
"k- fo-	vL;	vu; k%	, "ke-	vL; k%	vu; k%	vl ke-
l - fo-	vfLeu-	vu; k%	, "kq	vL; ke-	vu; k%	vkl q

bne- ¼ui q dfy³%

	, dopue-	f}opue-	cgøpue-
i FkekfolkfDr%	bne-	bes	bekfu
f}rh; kfolfkDr%	bne-	bes	bekfu

'ksk% rqi qYakor~

bne} vnl } , rn} rn- l oLkEuka 'kq) iz kskfKz~ v/kkfyf[krk dkfjdk Lej.kh; k&

bneLrq l fluuN"Val ehi rjofrzpfnks: i eA
vnl Lrqfoi N"Varfnr i jksksfotkuh; krA

vfkz~ & l fluuN"vfkfz ¼ ehi kfkz & ^bne~ iz q; rA

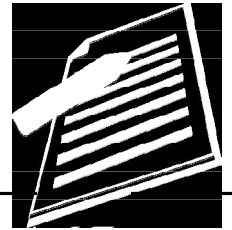
& l ehi rjkfkz & ^, rn~ iz q; rs

& foi N"vfkfz ¼ rjfkfz & ^vnl ~ iz q; rA

& i jksk& ^rn~ iz q; rA

^vnl ~ I oLke'kCn%

	¼ qY³%			L=lfy³%		
	, dopue-	f}opue-	cgøpue-	, dopue-	f}opue-	cgøpue-
i z fo-	vl kS	vew	veh	vl kS	vew	veh%
f}-fo-	vep-	vew	vew-	vep-	vew	veh%
r- fo-	veqk	veh; ke	vehfhk%	veq k	veh; ke-	vehfhk%
p- fo-	vedeS	veh; ke-	veh; %	vetj; S	veh; ke-	veh; %
i a fo-	vetekr-	veh; ke-	veh; %	vetj; k%	veh; ke-	veh; %
"k- fo-	vetj;	veq k%	veh"ke-	vetj; k%	veq k%	vehk-
l - fo-	vetLeu-	veq k%	veh"q	vetj; ke-	veq k%	vehkq





uiđ dfy^{3%}

iz fo-] f}- fo- & vn%veivvefu

'kSk% i qYyora

fo}I ~ 'kOn% ¼ qYy³ ½

	, dopue~	f}opue~	cgppue~
i FkekfoHkDr%	fo}ku-	fo}ka kS	fo}ka %
f}rh; kfoHkDr%	fo}ka e-	fo}ka kS	fon}k%
r}rh; kfoHkDr%	fon}k	fo}nE; ke-	fo}n}k%
pr}rh; kfoHkDr%	fon}ks	fo}nE; ke-	fo}n}k; %
i pelfoHkDr%	fon}k%	fo}nE; ke-	fo}n}k; %
"k" BhfHkDr%	fon}k%	fon}k}k%	fon}k}k-
I lreHkDr%	fon}k	fon}k}k%	fo}RI q
I Ecks}kue-	gsfo}u!	gsfo}ka kS	gsfo}ka %



i kBxrç' uk% 17-3

1- i wk}kD; su m}kjr&

¼d½ dYi ukpkoyk çFkeokja dnk vUrfj {ka xrk\

¼k½ d}u ; k}u r; k f}rh; k ; k=k -rk\

¼x½ ; kua dfr fnukfu vUrfj {ks mMMh; ekue-vkl hr\

¼k½ dL; j}kL; fo"k; s l kexhl p; ua -re\

¼³½ dL; v/khue-bna txr\

2- v/k}yf [kra x | ka ka i fBRok rnk/kfj rç'uku-m}kjr&

rke- çfr J) kçl ukfu l eiž rk vLekda ç/kkuefl=.kk Hkkj rh; &vUrfj {k& vuđ akkud}hL; ¼b l j}k½ vfxeki xgL; uke ^dYi ukpkoyk çFke% bfr mn?k}k"kreA

¼d½ v= ^rke* bfr i na dL; Sç; }pre\

¼k½ i }i kf.k bR; L; fda i ; kž okfpi na x | ka ks ç; }pre\

¼x½ ^çfr* ; k}xs v= dk mi i nfoHkDr% ç; }prk\

3- v/k}yf [krdr}kP; kUrokD; kuka l e{ka debkP; kUra : i a fy [kr

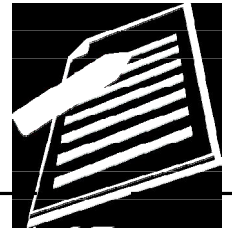
¼d½ dYi uk rq Hkkj rL; ^f}rh; &vUrfj {k; k=l* bfr xk}oe-vf/kxrora

¼k½ Roe- l E; d- i "VokuA

¼x½ ; kue~vuod'skq fo"k; Skq l kexhl p; a—rorA

¼k½ l k ; k=ka çkjC/korhA

¼³½ ç/kkuell=h vUrfj{k&vuq akkudbñL; uke ^dYiuk pkoyk çFke% bfr mn?kks"krokuA



17-4 fde~vf/kxre~

- i fjJesk ngyBkkfu dk; kē.k vfi fl /; flUrA
- egnfokurhuka y{k.kkfu ckY; s , o n' ; UrA
- ukjh vfi i# "k% bo l cyk l Qyk pA
- xqkk% i vt kLFkkua xfi. k"ku u p fy³e~u p o; %A
- ^çfr*&^vf/k* ; kxs sf}rh; kj ^l g* ; kxs rrrh; kj ^ue% ; kxs prfkhz foHkfDr% HkofrA
- HkardkyL; vFk ä&äorq çR; ; ; k% ç; kx% HkofrA
- bnef~vnl ~l oZuke 'kCn; k% : i kf . k f="kq fyaxSkq HkofUrA



17-5 ; kX; rkfoLrkj%

¼d½ y{kdi fjp; %

l ãÑrHkk"kk; k% ipkj&iã kjkF± l rra fujrkuka Jh 'k jyky 'kkfL=.kka tUe jktLFkkuiãUrL; l hdje.MYkL; fd'kkjigkxkes Jherka ia Jh y{ehukjk; .k'kez kka xgs l etk; rA vehfHk% iz khrk% xbfkk% l flUr& 1- l ãÑr dfo e tjh ¼pEiwdk0; e½ 2- l ãÑr&dFkk&elnkfduh 3- dfork&fu>jhj 4- jktLFkku ds l ãÑr Ñfrdkj 5- l ãÑr l kfgR; dk l f{klr bfrgkl 6- l ãÑr ok³e; ea i; kbj.kA

v; e~jktLFkku l ãÑrkuq U/kku l ãFkkukr izdkf'krk; k% ^l kō.khZ* bR; k[; k; k% 'kkski f=dk; k% l ãknd% orZrA Jh 'kkL=h l ãfr jktLFkku l ãÑrkuq U/kku l ãFkkus ¼ kkgijku xj½ funs kdi ns dk; j r% vlrA

¼k½ HkfoLrkj%

^dYiuk* r q oēkfud{ks=sñHkq l kgl L; i rhdkA l k HkkjrL; ukjhtkr% p xkq oHkarkA rL; k% dhfr% vejka l R; eð dYiukdhfrfoZt; rA

vLekfHk% fofokitrdñ; % ^bUVjuS^ ek/; esu ok vUrfj{kfoKkufo"k; da Kkue~ vtZuh; eA dYiukpkoyk l n"kh efgyk l qhrkfofy; e vfi vlLeu- {ks=s



ifl f) a i klrorhA l k vlr fj {k; k=ka ĆRok l dġkya i R; kxPNRkA jk'V'xġ o&
pko/kġ; rA

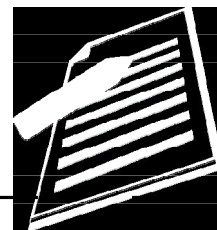
1/2 Hk'kkfoLrkj%

dk0; 'kkL=n"V; k Hk'kk Hkko i wkkZ id knxqkks r k oġHkġ hfr; qk L; krA
Hkko i zkkuks; a fucU/k% l j l & l qe&ik ty Hk'k; k fuc) %A



17-6 i kBlrġ'uk%

- 1- v/kkfyf [krkfu okD; kfu ?kVukØekud kja i u%fy [kr
 1/d 1/2 dkyfEc; k'kVy; kusu 2003 res o"ġ tuojhekl L; "kkM'kfrFKS r; k ; k=k
 i u%ġkjC/kkA
 1/4 [k 1/2 dYi uk pkoyk vfi ru ; kusu l g vkdk' kh; k l atkrkA
 1/x 1/2 1997 reso"ġ uoEcjekl L; fođkfrfrFKS, "kk vlr fj {k; k=kafo/kk; 'Hkkj rL;
 f}rh; &vlr fj {k ; k=h* bfr xġoe- vf/kxrorhA
 1/2k 1/2 1961 reso"ġ tġkbġekl L; ġFkesfnol s, "kk tle yC/korhA
 1/3 1/2 1988 reso"ġ l k ukl k bfr dġns ġoġka yC/korhA
 1/p 1/2 dYi uk pkoyk ukEuh efgyk r qf}okje-vlr fj {k; k=ka -rorhA
 1/N 1/2 djukys VSkġ kcyfudr ufo | ky; s b; a ġkj fEHkd f' k {kka ġklrorhA
 1/t 1/2 ġ/kkuefl=.kk 'bl jkġ bfr dġnL; vfxeki xgL; uke 'dYi uk pkoyk
 ġFke% bfr mn?kkf"kreA
- 2- v/kkfyf [kr'škq okD; škq dkġBdklrxr' kġnškq mi i nfoHkFDra ġ; q; fjDrLFkui fir%
 fØ; rke-
 1/d 1/2 &&&&& 1/4 vkpk; 1/2 ue%A
 1/4 [k 1/2 &&&&& 1/2 dYi uk 1/2 vf/k-R; o/krs es ft Kkl kA
 1/x 1/2 l k &&&& 1/4 ku 1/2 l g vkdk' kh; k l atkrkA
 1/2k 1/2 vLekda ġ/kkuefl=.kk &&&& 1/4 n 1/2 ġfr J) ki d ukfu l eiž rk 'bl jkġ
 dġnL; vfxeki xgL; uke 'dYi uk pkoyk ġFke% bfr mn?kkf"kreA
- 3- dkġBdkr-mfpre-v0; ; i nafpRok fjDrLFkkufu i j; r
 1/ek] rr% dġ] uu] rfg] dFke 1/2
 1/d 1/2 &&&& ġfo'kfr vkpk; %A
 1/4 [k 1/2 vjġ &&&& , oa onA
 1/x 1/2 &&&&dkyk/khue- bna txrA
 1/2k 1/2 r; k f'k{kk &&&&ġklrk \



1/3 1/2 v; \$ Ro; k &&&KkreA

1/4 1/2 ; fn i fB"; fr&& mÜkh. k% Hkfo"; frA

4- v/kfuf[krokD; Skq y³ ydkjL; LFkkus ^äorq çR; ; L; ç; kxa—Rok i u%fy[kr

1/d 1/2 : I nš kokLr0; % ; yh xkxfju% I oçFkee-vürfj{ke~vxPNrA

1/4 [k 1/2 o; a ok; q kukr~ i fFK0; k% I k0n; ž- vi ' ; keA

1/4 x 1/2 I k oškfudhfok; s 'kkškd; ž- vdkrA

1/4 k 1/2 vušds oškfudk% vürfj{ka çklupuA

1/3 1/2 oškfudk% vušdškq fo" k; Škq I kexhl p; ue~vdøZA

1/4 1/2 dYi uk pkoyk 1961 reso" kš tle vyHkrA

5- bea i kBa i fBRok Hkof~% d k i j .kk i klrk\ i xpokD; Škqfy[krA

6- funž kkuđ kje-mi ; Ørsu i nš fJDrLFkkukfu i j ; r

1/d 1/2 ----- 1/4 bne~ ui ø 1/2 'kkškuaxjeA

1/4 [k 1/2 ----- 1/4 bne~ i ø 1/2 ckydsu I g d f' pr~vfi fe=rkau djkrA

1/4 x 1/2 ----- 1/4 bne~ L=h-1/2 vkeau jkprA

1/4 k 1/2 ----- 1/4 bne~ L=h-1/2 ckydkuka I k0n; ±n' kžh; eA

1/3 1/2 ----- 1/4 bne~ i ø 1/2 I šud; k% ohjrk i ž ka uh; k oržA

1/4 p 1/2 ----- 1/4 vnl ~ i ø 1/2 i j kØeh jtk vfLrA

1/4 N 1/2 ----- 1/4 vnl ~ i ø 1/2 ckyk; fgra{khjA

1/4 t 1/2 ----- 1/4 vnl ~ L=h-1/2 ux; k± I Ttuk% fuol flrA

1/4 > 1/2 ----- 1/4 vnl ~ i ø 1/2 tkur~Hkr~% ckyd% jkšnfrA

1/4 ≠ 1/2 ----- 1/4 vnl ~ L=h-1/2 ukj hfHk% fot ; Jh% i klrkA

7- fuEufyf[kr' ykdškq fo} I ~' kCnL; : i k f.k fpRok rška foHkFDra opuap funž kr

Lons ks i v; rs jtk fo} ku~ I ož i v; rA

nš kku rjsfi fo} ka a i v; flr tuk% fJ; kAA

I 3 fra fontk dk k% J) ; k fontk i ž šA

yHkLo fontk Kkua fontk okD; ekpjAA

J) k fontk rs Hkkr~fi ž ks fo} u~Roed eA

fo} ka % I ožk ou | k okško&foHkkr'krkšAA



17-7 mÜkj kf.k

17-3 cški ž uk%

1- 1/d 1/2 jkdš k' kež 1/4 [k 1/2 nnhl; ekuk 1/4 x 1/2 f}okja 1/4 k 1/2 1961 reso" kš 1/3 1/2 oškfud; ke~
1/4 p 1/2 gfj ; k. kk



- 2- ½ d ½ fofo/kkfu] ¼ [k½ LoPN§ ½x½ fo"K; Skq] ¼k½ 'kDyKu] ¼³½ nk#.kk] ¼p½ i Fkes
- 3- ½ d ½ iii] ¼ [k½ v] ½x½ i] ¼k½ ii] ¼³½ iv

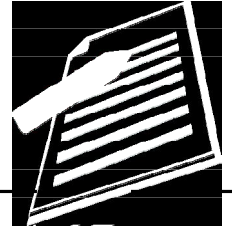
ikBxri'uk%

- 17-1 1- ½ d ½ vldk' ke. Mys ¼ [k½ i Foh ½x½ plnrkj d% ¼k½ i fFKO; k% ¼³½ i atkc vfhk; kfu=dh egkfo | ky; kr-¼p½ dYi ukpkoyk
- 2- ½ d ½ vldk' ke. Mye-¼ [k½ Roe-½x½ oSkkfudk%¼k½ jkd's k' kekl¼³½ xgu{k=kf.k ¼p½ i fFkoh
- 3- ½ d ½ xr% ¼ [k½ of. kre-½x½ -rk ¼k½ tkre-¼³½ çklrk%

- 17-2 1- ½ d ½ dYi ukpkoyk d# tle yC/korh\ ¼ [k½ rL; k% dL; ka fof' k"Vk #fp% vkl hr\ ½x½ I k dkykj kMks fo' ofo | ky; kr-dL; mi kf/ka yC/korh\ ¼k½ I k dkl ke-Hkkk.ka tkrk\ ¼³½ dflEu-dbns rL; k% fu; çä% tkrk\
- 2- ½ d ½ I k fnYyhuxjs tle yC/korh ¼ [k½ I k fons ks f' k{kkka çklrorh ½x½ I k uxjs Lukrdki kf/ke-vf/kxorh ¼k½ I k 'kkkdk; È-vfi -rorhA ¼³½ I k r= vxrorh ¼p½ I k Qya; kfprorhA
- 3- ½ d ½ Hktrk ¼ [k½ x#oj ½x½ foHkk ¼k½ vxzt s ¼³½ Jheku-¼p½ egkn;

- 17-3 1- ½ d ½ dYi ukpkoyk çFkeokja 1997 res o"kk vlr fj {ka xrkA ¼ [k½ dkyfEc; k'KVy; kuu r; k f}rh; k ; k=k -rkA ½x½ ; kue-"kkM' k fnukfu vlr fj {ks mMMh; ekue-vkl hrA ¼k½ d§ jjksL; fo"K; s I kexhl p; ua-reA ¼³½ dkyk/khue-bne-txrA
- 2- ½ d ½ v= rke-bfr ina ^dYi ukpkoyk* bfr Nrsç; Ørea ¼ [k½ çl ukfuA ½x½ ^çfr* ; ksxs f}rh; k foHkfDr% ç; çäka
- 3- ½ d ½ r; k HkkjrL; f}rh; &vlrfj {k ; k=h bfr xkjoe-vf/kxrEA ¼ [k½ Ro; k I E; d-i "VeA ½x½ ; kuu vudSkq fo"K; Skq I kexhl p; ua-reA ¼k½ r; k ; k=k çkjC/kkA

¼³½ ç/kkuefl=.kk vlrj {k& vuđ zkkudñL; uke ^dYi uk pkoyk çFke%
bfr mn?kks"kreA



17-6 iKBWrižuk%

- 1- ¼p¼ ¼k¼ ¼N¼ ¼³¼ ¼x¼ ¼d¼ ¼[¼ ¼t¼
- 2- ¼d½ vkpk; kž ¼[¼ dYi uke-¼x½ ; kusu ¼k½ rke-
- 3- ¼d½ rr% ¼[¼ ek ¼x½ unua ¼k½ dę ¼³½ dFke-¼p½ rfgZ
- 4- ¼d½ : I nš kokLr0; % ; jhxkxfju% I ožFkee- vlrj {ka xrokuA
¼[¼ o; a ok; q kukr~ i fFk0; k% I kñ; ±n"Volr%A
¼x½ I k o&kfudhfo"k; s 'kkskdk; ±—rorhA
¼k½ vuds o&kfudk% vlrj {ka çkluqlr%A
¼³½ o&kfudk% vudskq fo"k; Skq I kexhl p; ua—rollr%A
¼p½ dYi uk pkoyk 1961 reso"ki tle yC/korhA
- 5- Lo; a d#r
- 6- ¼d½ bne-¼[¼ vlksu ¼x½ vL; S ¼k½ vkl ke-¼³½ vu; k% ¼p½ vl kS ¼N½ vetj; S
¼t½ vetj; ke-¼>½ vetj; kr-¼x½ veñk%
- 7- (i) fo}ku~ & iz fo-] , - o-
(ii) fo}kd e~ & f}- fo-] , - o-
(iii) fonkk & r- fo-] , - o-
(iv) fonks & p- fo-] , - o-
(v) fonk% & "k- fo-] , - o-
(vi) fonk% & "k- fo-] , - o-
(vii) fonk" & l - fo-] , - o-
(viii) fo}u~ & l Ecks kue} , - o-
(ix) fo}kd % & iz fo-] cgppue-



i ; kbj .kl ; I j {k.ke~

Hkoku~ tkukfr , o ; r~v | Ros i ; kbj .kl ; Hk" k.kk l eL ; k or~A o ; a xgL ;
 vodjaunh" kqf {ki ke% oL= k.f.k p Qfuy su unh" kj diw Skq l j kbj Skq , o i {kky ; ke%
 vks| kfxdx\$ % vfi tya intj ; rA fdef/kde~ xak ; eufsi inw" krs tkrA o ; a rr~
 n" kra tyed fi cke% #X .kk% p Hkoke% / ofufolrkjd ; U= %fo' kskr%jk= ksfofHkU l ekj kqSkq
 mPp% xhrkula dkykgy su / ofuinwk .ka tk ; rA vks| kfxdfodkl su ok ; q nwk .kefi
 tkreA , oed fopkj inwk .ke~ vfi l oE n' ; rA vrks LekfHk% l nk i ; kbj .kl ;
 I j {k .ka drD ; eA , rnFk±vLekfHk% fda drD ; e~ bfr fo" k ; svLeu~ i kBs o ; a i Bke%



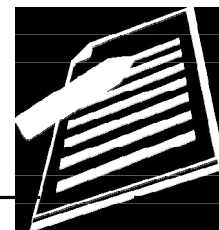
mīś ; kfu

bea i kBa i fBRok Hkoku~

- ^i ; kbj .ke~ bfr 'kCnL ; vFk±y\$ [krq l eFk% Hkfo" ; fr(
- i ; kbj .kl ; I j {k .ks vLekfHk% fda fda drD ; e~ bfr y\$ [k" ; fr(
- i ; kbj .k&i nwk .kl ; dkj .kkfu o.kE ; rq l {ke% Hkfo" ; fr(
- i pfo/kkuka e .Mykuka ukekfu y\$ [krq l eFk% Hkfo" ; fr(
- l ĩrok³e ; kr~i ; kbj .kfo" k ; da l UnHkZ ; a y\$ [krq 'k{ ; fr(
- fol xĀ U/k% mnkgj .kkfu fpRok l ũU/k@ l fu/kPNna dfj" ; fr(
- }U} l ekl L ; foxga foxg ; @rinukap l el uad fj" ; fr(
- vl } cĳ gu} ĩ /kkruka : i k .kka iz , ksa dfj" ; frA



fØ; kdyki %



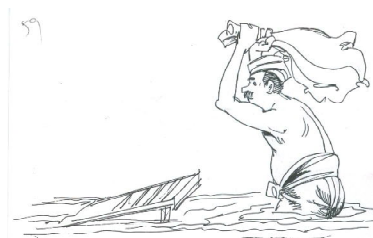
18.1



18.2



18.3



18.4



18.5

mi fj fp=kf.k nf' k'rkfuA rkfu /; kusu n"Vok v/kkfyf[krkuka i z ukuka' kq) %mÜkj % l g
esyua d#r&

i z uk%

¼d½ okgui nkfk% l oE= fdaHkofr\

¼k½ f}rh; s fp=s dL; i oZ k% o. kÙe~vfLr\

¼x½ efgyk% fda f{ki fUr\

¼k½ /ofui nllk. ksu ok; qj nllk. ksu p fda tk; rð

¼p½ j td% u | ka dkfu {kky; fr\

¼p½ pyr~; kua fda R; tfr\

mÜkj kf.k

¼½ oL=kf.k

¼ii½ /kne~

¼iii½ i nllk. ke~

¼v½ vodje~

¼½ nhi koY; k%

¼vi½ j ksx%



18-1 ewy i kB%

i ; kbj . kL ; I j {k . ke~

I Eifr ewy i kB% /; kusu i Bke%

ifjr% vko. kkr I oku~vLeku~; r~rr~i ; kbj . ka
dF; rA v | Ros l oE i ; kbj . kl j {k . kL ; fpUrk
0; klukrA LopNa i ; kbj . ka ekuothouk ; vi {kra
HkofrA inw'kra i ; kbj . ka fouk'kk ; dYirA v |
ik ; % ykkSk . kk o/krA e ; kzk% HkT ; Ur} ukfnz rs
ikNfrda thoueA

onSkq i ; kbj . kfo"k ; s l oE dY ; k . kdkeuk n' ; rs
; Fkk&

'kUukokr% iorka 'kUu% rirql w ZA

'kUu% dfuØio% i tB ; ks fHko"krA

vFk i pfo/ka i ; kbj . kLFkku&LFkye . Mye}t
tye . Mye}rstke . Mye}ok ; ø . Mye}uHke . Mye-
pA

i ; kbj . kL ; i fkea LFkua Hkfe%A i fFKO ; ka ; s i kni k%
oh# /kksouLir ; ks ok tk ; Urs rs l oE {kek ; HkoUra
; = r = fuf{krkfu lykFLVdolrnu inik . ka tu ; flurA
, rkfu u {kh ; Ur} u fDy | Ur} u ok u' ; flur vfi rQ
ouLi rhuka i j kg . ks ck/kka tu ; flurA

Hkxorigj . k . ks fi vkns ksn' ; rs ; r-o{k . kanguau
dj . kh ; e&

ek nEtl ; ks egkHkxk% nhutl ; ks nkk/kpEka

egkHkjrifi fyf[kre~ouu j { ; rs 0 ; k?k% 0 ; k?ks k
j { ; rsoue** bfrA v'kkodL ; jkT ; s , dksfi o{k%
jktkKafouk Nsilqu 'kD ; rsLeA I j f{krkuka i 'kuuka
i f{k . kka p guua n . MkgE~ vkl hrA

'kQnkFKk%

I j {k . ke~¼ cpko

vko . kkr ¼ ?kj rk gS

i fjr%¼ plj kavlg

0 ; klukr ¼ 0 ; klr djrk gS

vi {kre~¼ vko' ; d

v | Ros¼ vkt dy

dYi rs¼ l eFKzgrk gS

ykkSk . kk ¼ ykyp dh pkg

HkT ; Urs¼ VW jgh gS

vkfnz rs¼ vknj fd ; k tkrk gS

'ke~¼ dY ; k . kdkih

u%¼ gekjsfy,

okr%¼ ok ; q

i orke~¼ cgs

dfuØnno%¼ fctyh dsl kfk xjtrk
gpk nork

i tB ; %¼ cknv

vHko"krq¼ plj kavlg cjl s

oh# /k%¼ ygygrh yrk ; j

ouLir ; %¼ o{k

{kek ; ¼ dY ; k . k dsfy,

fuf{krkfu ¼ Ondh xbz

tu ; flur ¼ i sk djrh gS

u {kh ; Urs¼ u"V ughagkrh gS

u fDy | Urs¼ xhyh ughagkrh

i j kg . ks¼ mxusea

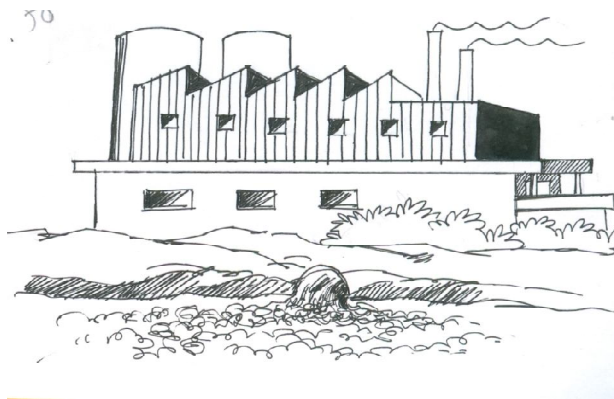
nEtl ; %¼ i Mka dsfy,

ek nkk/kp~ vgEk ¼ nkg ugha djuk
pkfg , A 0 ; k?k%¼ ck?k j { ; rs¼ j {k
dh tkrh gS jktkKafouk ¼ jktk dh
vkk dsfcuk] Nsilqu 'kD ; rsLe ¼
dkvk ughatk l drk Fkk guua¼ ekj ukj
n . MkgE~¼ n . Muh ;

i ; kbj .kL; f}rh; a rüoa tye~vflrA v | Ros tykfu
 nfi'krkfu fo"kk.kd ßl Drkfu p n' ; UrA vfi p
 nfi'krtyi kusu LokLF; au' ; frj ujK%#X.kk%hkofür i pRoA
 p ; kfURa

vürfj {ke.Mys i ; kbj .kL; ; r~rüoa oržs rr~dF; rs
 rstke.Mye~ ; U=kxkjSkq vks} kfxd{ks=Skq ÑR; kfu rku~
 jf'kel engku-mRI tflur ; skzothoua {kfrxLra tk; rA
 i jek.kpłłnkn-mRI "V%jf' ei q t%fouk' kdkshkofra vr%
 , rñ; % fodkjñ; % rstke.Mya l ofkk j {k.kh; eA

i ; kbj .kL; l ož%0; klrai Ñ"Varüoaok; e.MyeA , ru
 xU/k% i ß jfrA ok; e l ož= ifo=a ok; e.Mya thoupØA
 p i j; frA v | Ros fuekZ'k' kkykñ; ks fuxZ' /kæ% okrkoj .ka
 fo"kkDraHkofra fo"kkDrksok; e vusdku-jksku-mRi kn; frA

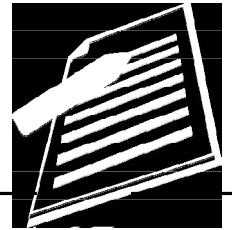


18.6

uHke.Myai ; kbj .kL; i pealFkkueA ogukfu ; U='kkyk%
 /ofufolrkj dk' p mPp% /ofueqik |
 /ofuinñk.ka dØfURa ; = r= inñ"krks /ofu%
 cf/kjRoe-mRi kn; frA vürfj {ksn'k; kstue~; kor~vkstksu*
 ok; e.Mya ijkoñke-bo vkoržA rflEu~vkstksu i Vys
 l Kei rafofdj .ki Hkkosk n' ; rs i {k; %A ; fn vkstksu i VyL;
 j {kk u fØ; rs rnk {k; dkfj .k% Hk; jk% 0; k/k; %
 l EHkfo"; flURa vuophyi ; kbj .ks thol f"V% o/kžž
 i frdñyi ; kbj .ks p fou' ; frA

fo"kk.kd ßl Drkfu ¾ fo"ksys Ñfe; ka
 l s; Ør] nfi'krtyi kusu ¾ xnk ikuh
 i husl ž i prRoe-¾ er; qdks
 ; kfür ¾ i klr gkrs gñ; U=kxkjSkq¾
 dkj [kkuka] fo | ßl EclUksu ¾ fotyh
 ds l Ei dZl ž /krq; kst d&fo; kst d
 ÑR; kfu ¾ /kkq/ka dks tkMteus vñš
 vyx djusdh i fØ; k, ž jf'el engku-
 ¾ fdj .kka ds l eng dkš mRI tflur ¾
 mRi lU djrsgñ mRI "V%¾ Nkñk
 x; k] fodkjñ; %¾ nkska l ž
 i Ñ"Ve-¾ l okñ"V] i ß jfr ¾
 Qyrh gñ i j; fr ¾ i fj r djrh gñ
 fuekZ'k' kkykñ; %¾ dkj [kkuka l s
 fuxZ' /kæ%¾ fudysgq /kq a l s
 fo"kkDra ¾ fo"ksy k] mRi kn; fr ¾
 mRi lU djrh gñ] uHkæ.Mya ¾
 vkdk' ke.My] okgukfu ¾ xkfMž ka
 ; U='kkyk%¾ dkj [kkuž

/ofufolrkj dk%¾ ykmMLi hdj
 mRi k | ¾ i ßk dj dž cf/kjRoe-¾
 cfjki ul i jkñUke-bo ¾ ekukaoki l
 ykšk gq/k] l Keire-¾ vc
 fofdj .ki Hkkosk ¾ QSyto ds i Hkko
 l ž vi {k; %¾ fouk' k] gñu] {k; dkfj .k%
 ¾ fouk' kdkjñ] 0; k/k; %¾ chekfj; ka
 thol f"V%¾ i kf.ktxr-dñ jpuK





18.7

; fn o; a i; kbj .kl j {k. ks l ko/kkuk% Hkoε rnδ vLekda
 thoua 'kkfUre; a l q̄ke; a p Hkforq 'kDukfRA vLekda
 ekufi dfoŃfrdkj .kkr~ vuds jkxk% tk; Ura
 eul ks 'kkfUr%cgjksku~tu; fr] l kelftdaokrkoj .kap
 uk'k; frA vr, o vLekfHK%eu% 'kq̄ adrd; eA ; fn eu%
 fueŷya Hkfo"; fr] rnδ vLekda fopkj k% 'kq̄ k% fplrua
 'kq̄ a Hkfo"; fr ; u i; kbj .kL; fo'kq̄) % vo'; eδ
 Hkfo"; frA rnδ dkj .ka; r~__"k; % l rradke; UraLe&

ekufi dfoŃfrdkj .kkr~¼ ekufi d
 cgjkb; kεnkskads dkj .k] eul %¼
 eu dHj cgjksku~¼ vud jkskadk̄
 tu; fr ¼ i sk djrh ḡ l rre~¼
 fujUrj] dke; Ura¼ dkeuk djrsq̄
 ; r% r%¼ tgh tglagk̄ l ehgl s¼
 bPNk djrsq̄ rr%¼ ogka l } u%
 ¼ geŷ vHk; ad# ¼ fuMj cukvks
 i 'kq̄; % ¼ i 'kq̄ka l } i zt kH; % ¼
 iztk dsfy, l 'ke-d# ¼ dY; k. k
 djka

; rks ; r% l ehgl } rrs uks vHk; a d#A
 'kUu% d# i zt kH; } vHk; a uks i 'kq̄; %A



18-2 cks'kç'uk%

1- i kBa i fBROkk fjDrLFkkukfu ij; r

¼d½ ----- i fo=aok; ε. Mya thoupØap ij; frA

¼[k½ v | Ros l oZ= ----- fpUr k 0; kluksRA

¼x½ onškq l oZ= i ; kbj .kfo" k; s----- n' ; rA

¼k½ i ; kbj .kL; i FkeaLFkkua-----A

¼³½ l j f{krkuka----- i f{k. kkap guua----- vkl hrA

2- ^d* LrEHkL; a okD; ka kku~^k* LrEHkL; okD; ka k% l g esy; r

pδB LrEHk%

¼d½ i nŃkra i ; kbj .ke-

¼[k½ 'kUukokr% i orke-

¼x½ i fFkO; ka ; s i kni k% oh# /k%

¼k½ v' kksdL; jkT; s , dksfi o{k%

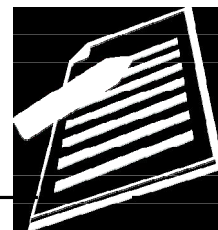
p[kB LrEHk%

¼½ rs {kek; , o HkourA

¼i½ cf/kj Roe-mRi kn; frA

¼iii½ jk t kKka fouk Nškkqu 'kD; rs LeA

¼v½ thoua l q̄ke; a Hkforq 'kDukfRA



1/3 1/2 i nfi'krks /ofu%

1/4 1/2 cgjksku~ tu; fra

1/2 1/2 eul ks 'kkfUr% , o

1/4 1/2 fouk' kk; dYi rA

1/4 1/2 ; fn o; a i ; kbj .kl j {k. ks

1/4 1/2 okrkoy .ka fo"kkDraHkofra

I ko/kkuk% HkoE

1/4 1/2 v | Ros fuekZ k' kkykH; % fuxZ /ke% 1/4 1/2 'kUu% rirql w ZA

3- i kBaifBROk i pfo/ki ; kbj .klFkkukuka ukefu fy [kr

1/4 1/2 -----

1/4 1/2 -----

1/4 1/2 -----

1/4 1/2 -----

1/4 1/2 -----



18-3 v/kpk voxPNke%

i Fke%vAk%

bnkuhe~ i Fkee~ vA ka cksk%eA

i fjr% vko .kkr ----- nkx/kpgFkA

v | Ros i ; kbj .kl j {k. kL; fpUr k l oE or rA LoPNi ; kbj .ka fouk ekuo thouant dj eA
i nfi'kra i ; kbj .ka fouk' kL; dkj .ka Hkofra onSkqo; a i N"Vka i ; kbj .kpruka i ' ; ke%
mngkj .kkfke~ vfLeu~ i kBa ks i nUka el=e~ voykd; ke%A

'kUukokr% i orka 'kUu% rirql w ZA

'kUu% dfuØi% i tD; ks fhko"kr A

i nPNn% 'ke~u% okr% i orke~ 'ke~u% rirql w ZA

'ke~u% dfuØnr~n% i tD; % vfHko"kr A

vlo; % okr% u% 'ke~ i orkeA l w % u% 'ke~ rirA dfuØnr~n% i tD; % u% 'ke~
vfHko"kr A

HkkokFk%

ok; o% vLekdadY; k. kk; i dgUrA l w % vLekdafgrk; rirA fo | qk l g xtU~n%
i tD; % vLekda {kek; o"kr A



0; k[; k

iÑfr% i fr{k.ka ekuoL; fgri Eiknusfujrka i ; kbj.kL; I j{k.kk; iÑfrekuo; k%
 ikjLifjda I Uryue~ vfuok; žA iÑR; ka i fj0; klr% i pegkHkr% , o ekuo' kjhja
 fofufeřA 'kq ok; ħ LOPNa tyĥ 'kq kai fFkohafouk ekuothoul; dYiuk vfi drę
 u 'kD; rA I gl kf.k o"kk.k i 0± ošnd__f"kfHk% , rr~ I R; a I E; d- voxreA r%
 ikÑfrdrĹokukanørk: isk Lrę; %Ñrk%A r%i ; kbj.kL; 'kq ; s; KI ħFKkfofufeřkA
 ijUrql Eifr iÑr%mi škk f0; rA ekuodY; k.kk; iÑr%i ; kbj.kL; I j{k.kk dj.kh; kA
 i ; kbj.kLFkkuai pfo/ke-mDre& LFkye.Myeĳ tye.Myeĳ rstke.Myeĳ ok; ģ.Mye-
 uHkĳe.My pA i ; kbj.kL; i FkeaLFkkuahkĳe%i kni %I j{; rA vr%vLekda i kphuxĹFKškq
 o{kl j{k.kk; funž kk% I flrA o{k%ndor~i w; k% i ģor~i kyuh; k%el; UrA i jUrq; =
 r= fuf{klrkfu lykLVdolrĳiu i kni kuka I 0/kLs ck/kdkfu HkoflurA vr% ekuo%
 o{kl j{k.kk; i ; kbj.k' kq/; FkĳlykLVdolrĳiu ; Fkl EHkoa fujkdj.kh; kfuA

I kj%

; r~vLeku~ i fjr% vko.kkfr rr~i ; kbj.ke~v | Ros i ; kbj.kl j{k.kL; fpUrK I ož-
 rhok n' ; rA onškq i ; kbj.kfo"K; s I ož dY; k.kdkeuk n' ; rA ekuothouk; LoPNa
 'kq ap i ; kbj.ke~vi š; rA brLrr%fuf{klrkfu lykLVdolrĳiu inĳk.ka tu; flrA
 i ; kbj.kLFkkuai pfo/keA i Fkea LFkkuarq LFkye.Mye~ Hkĳe.Mye~ oKā i kni k%
 euĳ; L; {kĳ; HkolurA Hkxori jk.ksf i vkfn"Ve~ ; r~vLekfHk% o{k% dnkfi u
 nguĳ; k%A

vktdy I ħ kjHkj ea ykx i ; kbj.k dsfo"K; eafpUrKxLr gA i ; kbj.k dh 'kq rk
 ds fy; s rFkk inĳk.k jkdus ds fy; s I ož xkš"B; ka vks kštr dh tk jgh gA
 fopkj inĳk.k I sgh okrkoj.k inĳkr gkrk gA vkt ykyp dh Hkkouk c<+jgh gš
 ikÑfrd thou dk dkbz vknj ugha djrka gkykād onka ea I ož i ; kbj.k I 0dkh
 dY; k.kdkeuk dh xbzgA o{k%al si ; kbj.k dh I j{k I EHko gSbl hfy; sHkxori jk.k
 ea Li"V vknš k gšfd o{k% dks dHk tykuk ugha pkfg; A gealykLVdolrĳka dks
 b/kj m/kj Qaduk ugha pkfg, rkfd i ; kbj.k I j{kr jgA

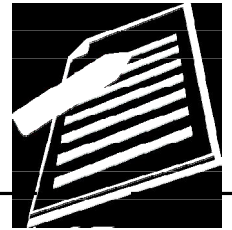
0; kdj .kfclno%

I fu/kPNnk%

ukfnz rs	¾ u \$ vkfnz rs	v \$ vk ¾ vk	nh?ka fu/k%
ykbšk.kk	¾ Ykkš \$, "k.kk	v \$, ¾ , s	of) I fu/k%

i tD; ks fhko"krq ¾ i tD; % \$ vfHko"krq & m
vknš kkn' ; rs ¾ vknš k% \$ n' ; rs & m
nhuŀ; ks nŀx/ke~ ¾ nhuŀ; % \$ nŀx/ke~ & m

fol xŀ fu/k% ¼v\$b ¾ vkš
fol xŀ fu/k% ¼v\$b ¾ vkš
fol xŀ fu/k% ¼v\$b ¾ vkš



iŀfriR; ; ifjp; %

nŀx/ke~ & √ng~ \$ rēpŀ v0; ; e-
dj.kh; e- & √ŀ \$ vuh; j} uiŀ i FkekfōHkfDr% , dopueA
i; kŀj.ke~ & ifj \$ vk \$ √o \$ Y; ŀ} uiŀ i FkekfōHkfDr% , dopueA
l j{k.ke~ & l e- \$ √j{k- \$ Y; ŀ} uiŀ i FkekfōHkfDr% , dopueA
fuf{kŀrkfu & fu \$ √f{ki- \$ Dr} uiŀ i FkekfōHkfDr% , dopueA
inŀkre- & iz \$ √nŀk- \$ f.kp- \$ Dr} uiŀ i FkekfōHkfDr% , dopueA

ijLeš n&fŀ; ki nkfu

vko.kŀr & vk \$ √o \$ yV} i Fkei# "k% , dopue-
0; klukŀr & fo \$ √vki- \$ yV} i Fkei# "k% , dopue-
u' ; flŀr & √u' k} yV} i Fkei# "k% , dopue-
vgFk & √vg} yV} e/; ei# "k% cgŀpue-
vfHko"krq & vfHk \$ √o" k} yV} i Fkei# "k% , dopue-

vkReuš n&fŀ; ki nkfu

dF; rs & √dFk- \$ deŀkP; } yV} i Fkei# "k% , dopueA
n' ; rs & √n' k- \$ deŀkP; } yV} i Fkei# "k% , dopueA
HkT; ŀrs & √Hk t- \$ deŀkP; } yV} i Fkei# "k% cgŀpueA
{kh; ŀrs & √f{k \$ deŀkP; } yV} i Fkei# "k% cgŀpueA
fDy | ŀrs & √fDy- \$ deŀkP; } yV} i Fkei# "k% cgŀpueA
dYi rs & √Dyi- \$ yV} i Fkei# "k% , dopueA
o/kŀrs & √o/k- \$ yV} i Fkei# "k% , dopueA

v0; ; i nkfu

ifjr% & ifjr% vLeku- l okŀ- vko.kŀr rr- i; kŀj.keA
v | Roš | oŀ & v | Ros | oŀ i; kŀj.kl j{k.kL; fpŀrk 0; klukŀrA
v | } ik; % & v | ik; % ykŀkSk.kk o/kŀrA



;=] r= & ;=] r= fuf{klrkfu lykfLVdoLrfu i nilk.ka tu; flrA
vFk & vFk i pfo/ka i ; kbj.kLFkkueA
ek & nhull; % nph; % ek ntk/kp~vgEkA



i kBrç'uk%18-1

1- I ðÑrsu mÙkj r

¼d½ i fj r% vko.kkfr ; r~vLeku-rr-fda dF; rð
¼[k½ onskq i ; kbj.kfo"K; s dk n"; rs l oE\
¼x½ v | i k; % fopkj i nilk.kk; dk o/krð
¼k½ ouLi rhuka i j kg.ks dkfu ck/kka tu; flr\
¼³½ Hkkxori j k.ks o{kfo"K; s d% vknð k% vflr\
¼³½

2- drñ nkfu fpur

¼d½ i ; kbj.kl j{k.kL; fpurk vLeku~0; klukfrA
¼[k½ , rkfu i j kg.ks ck/kka tu; flrA
¼x½ onskq dY; k.kdkeuk n"; rA
¼k½ i fFkO; ka i kni k% {kek; , o HkoLrA
¼³½ o{k.kk. kka ngua u dj.kh; eA

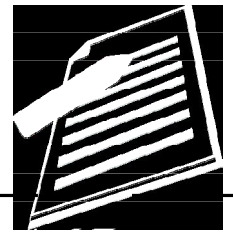
3- j[kkf rin fku cgppus i fjorž r

¼d½ v | ykkkSk.kk o/krA
¼[k½ v | Ros i kÑfrda thoua ukfnz, rA
¼x½ Hkkxori j k.ks vknð k% vflr ; r~o{kL; ngua u dj.kh; eA
¼k½ fuf{klralykfLVdoLrq u'; fr] u fDy | rA
¼³½ ons l oE dY; k.kdkeuk vflrA

f}rh; %vák%

egHkkjrsfi fyf[kre~ ----- jksku~ mRi kn; frA

I Eifr f}rh; e~váka l E; d~vochs kke%A v= egHkkjrL; dFkue& ^ousu j{; rs
0; k?k%0; k?k% j{; rsoue** vR; f/kda egúoi wkE A oukuke~vHkkos0; k?k.kka l j{k.kau
Hkfo"; frA vr% rsvl j{f{krk% Hkfo"; flrA 0; k?k% vfi oukfu j{kflr ; r% rSkka Hk; kr~
tuk%oukuka Nnuadræu mRi glrA v= '0; k?k% bfr 'kCnsu u dya0; k?k% vfhki r%



vfi rql Ei wke i 'kq t xr~i f{k t xr~p vHkh"VeA oukfuj i 'ko% i f{k.k% p i ; kbj .kl ;
 l rnyus l gk; rka d p rA vr , o i j k Hkkj rs v' kksdL ; j kT ; s j k t k k a f o u k o {k a N i k q
 u 'kD; rsLeA i 'kuka i f{k.kkaguue~vfi n.Mkgē~vkl hrA , d u f'kyky s k s Kk; rs
 ; r~2200 o"kl; % i w z e p v' kksd s r R d k y h u k e~v k o' ; d r k e~v o x R ; i ; k b j .k j {k .k f o "k f ; .k h
 v k K k n ū k k v k l h r A v L ; k e~v k K k ; k a u d o y a /k k f e z l a l k a N f r d a p f p l r u a n' ; r j
 v f i r q i ; k b j .k l k j {k .k f o "k f ; .k h t k x : d r k o k k f u d h n f "V % p i f r f c f E c r k n' ; r A
 i ; k b j .k l ; f } r h ; a r ū o a t y e~v f l r A l E i f r u d o y a u n h u k e~ , o t y e~v R ; f /k d a
 i n f i "k r e~v f l r q v k s j k s x d l a = k l ; % f u "d k f l r i n i k d r ū o % H k k f e x r t y e~v f i i n f i "k r e A
 i n f i "k r t y % v u d s j k s k k % H k o f l r A

v l r f j {k e . M y s f o j k t e k u a r s t k e . M y e~v f i v k s j k s x d {k s = s k q / k k r q k s t d f o ; k s t d ũ R ; k l ; %
 f u x z % j f ' e l e g s i j e k . k a p l h n k l ; % m R l "V % j f ' e i q t s p i n f i "k r e A r n f i l o E k k
 j {k .k h ; e A

i ; k b j .k l ; i ũ "V a r ū o a o k ; e . M y e f i f u e k z k' k k y k h ; % f u x z % /k e % f o "k D r a t k r e A
 , r r~v f i v u d k u~j k s k u~m R i k n ; f r A

I k j %

e g k H k k j r s l R ; a f y f [k r e~ p o ; k ? k s k o u a j { ; r a p v' k k s d L ; j k T ; s o {k d r z a
 i 'k i f {k o /k % p n . M u h ; % v i j k /k % v k l h r A t y a i ; k b j .k l ; f } r h ; a r ū o a o r z A
 n f i "k r t y a k u s u L o k L F ; a u' ; f r A v l r f j {k e . M y s r s t k e . M y a i ; k b j .k l ; , d a R k R o e~
 v f l r A i ; k b j .k l ; i ũ "V a r R o a o k ; e . M y e A o k ; e n f i "k r % u d j .k h ; % ; r % f o "k D r k s
 o k ; e v u d k u~j k s k u~t u ; f r A

e g k H k k j r e a f y [k k g s f d o u l s g h c k ? k d h j {k k d h t k l d r h g a v' k k s d d s j k T ;
 e a , d H k h i M + j k t k d s v k K k d s f c u k d k V k u g h t k l d r k F k k a j f {k r i 'k a /k a v i s j
 i f {k ; k a d k o /k , d n . M u h ; v i j k /k F k k a i ; k b j .k d k n l j k r R o t y g a n f i "k r t y
 i h u s l s d b z j k s Q s y r s g a v l r f j {k e a r s t k e . M y i ; k b j .k d k r h l j k r ū o g a
 i ; k b j .k d k i ũ "V r ū o o k ; e . M y g a f o "k D r o k ; q t y g h d h H k k f r v u d k a j k s k a
 d k s i ũ k d j r h g a v r % o k ; q /k q ; l s j f g r r F k k f o "k D r i n k F k k l s j f g r g k s f t k l l s
 i ; k b j .k 'k q j g l d a

0; kdj .kfclno%

I fu/kPNsn%

n . M k g ē~ ¾ n . M \$ v g ē~ ¾ v \$ v ¾ v k j n h ? k l f u /k %
 v | R o s f i ¾ v | R o s \$ v f i ¾ , \$ v ¾ . j i w z i l f u /k %
 ; e k ū o t h o u e~ ¾ ; % \$ e k u o t h o u e~ ¾ % & j ~ j f o l x l f u /k %



fo"kkDrks ok; ¼ fo"kkDr% \$ ok; ¼ & j}fol xZ l fu/k%

l eLri nkkfu	foxgk%	l ekl ekl
1 nfi'krfo"kk. kq} ai Drkfu	nfi'krkkfu p fo"kk. kq} ai Drkfu p	}U}%
2 i 'kq} f{k. kke~	i 'kuka p i f{k. kka p	}U}%
3 ; U=kxkjks kfxd{ks=Skq	; U=kxkkj Skq p vks kfxd{ks=Skq p	}U}%
4 ok; ɸ. Mythoupds	ok; ɸ. Mya p thoupda p	}U}%

iNfri R; ; ifjp; %

Niikē~	& √fNn~\$ rəp} v0; ; e~
guue~	& √gu~\$ Y; ɸ} uiqiz , o A
fyf[kre~	& √fy[k~\$ Dr] uiq iz , o A
xLre~	& √xl ~\$Dr] uiqiz , o A
l ai Drkfu	& l e~\$ √f l p~\$ Dr] uiqiz , o A
fØ; ek. kkfu	& √N \$ debkP; \$ 'kkup} uiq iz , o A
mRl "V%	& mr~\$ √l t~\$ Dr] uiqiz , o A
id"Ve~	& iz \$ √N"~\$ Dr] uiqiz , o A
0; klre~	& fo \$ √vki~\$ Dr] uiqiz , o A

fØ; ki nkfu

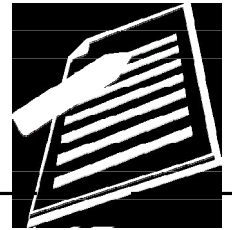
; kfuR	¾ √; k \$ yV} izid c-o-A
vkl hr~	¾ √vl ~\$ y³} izid , -o-A
mRl tfuR	¾ mr~\$ √l t~\$ yV} izid c-o-A
id jfr	¾ iz \$ √l ` \$ yV} izid , -o-A
ij; fr	¾ iz \$ √bj~\$ f.kp~\$ yV} izid , -o-A
mRi kn; fr	¾ mr~\$ √in~\$ f.kp~\$ yV} izid , -o-A
j{; rs	¾ √j{k~\$ debkP; \$ yV}] izid , -o-A
'kD; rs	¾ √'kd~\$ debkP; \$ yV}] izid , -o-A
dF; rs	¾ √dFk~\$ debkP; \$ yV}] izid , -o-A

v0; ; i nkfu

vfi	& egkHkjrsfi fyf[kreA
u] fouk	& jktkKka fouk o{k% Niikēu 'kD; rs LeA
v Ros	& v Ros tykfu nfi'krkfu l fuR A
vfi p	& vfi p nfi'krtyikusu LokLF; au' ; frA
vr%	& vr% rstke. Mya j{k. kh; eA
l oī%	& l oī% 0; klra rUoa ok; ɸ. MyeA



i k B x r ç ' u k % 18-2



1- e t ðkk; k% v0; ; inkfu fpRok fjDrLFkkukfu ij; r
 ¼d½ ----- i; kbj. ka l oE nñ'krafØ; rA
 ¼[k½ vLekfHK% rstke. Mya fofo/kfodkj ð; % ----- j{k. kh; eA
 ¼x½ vksktua fouk thok%u tk; Ur} ----- i kf. kukaLokLF; e----- u'; frA
 ¼k½ ----- vLekfHK% fefyRok i nñk. kl eL; k; k% fuokj. ka drD; eA

e t ðkk

vr% l oEkk] vfi] v | Ro} vfi p

2- deðkP; kUrokD; kuka drðkP; s i fjorLia d#r

deðkP; e~

drðkP; e~

¼d½ 0; k?ks k oua j}; rA	¼½ ----- j{kfrA
¼[k½ onSkq dY; k. kdkeuk n'; rA	¼i½ ----- i'; ke%A
¼x½ Or{k% Nðkq u 'kD; Urs LeA	¼ii½ ----- 'kDuøflur LeA
¼k½ /kæsu okrkoj. ks fo"kkDra Hkoy rA	¼v½ ----- A

r`rh; %våk%

uHks e. Mya ----- vHk; a uks i 'kð; %A

0; k[; k

r`rh; káks of. k`ra; r~ i; kbj. kL; i pea LFkua uHkæ. MyeA Hkour% tkufur; r~
 okrkoj. ksfofHKUuk%/ouk; %0; klrk%HkofUrA rhok%ddZkk%p?ou; %i; kbj. ka i nñk; flurA
 v | Ros i; kbj. kfo'kskKkuka/; kua/ofui nñk. ka i fr vkd"VeA /ofui nñk. kL; nñji Hkousu
 fpUru{k`kerk {k; eklukfrA d. k`Unz; fodkjsk tuk%cf/kj k%HkofUrA l KEi rai; kbj. ki nñk. ks
 ^vstksu&i Vyš vi {k; % l oðkka fpUr; k% fo"k; % l tkr%A i; kbj. kj {k. ks thoua
 'kkUra l q`ke; ap HkofrA eul %v'kkfur%u døyev-vudku-jksku~tu; fr vfi rq
 l kekftdi; kbj. ke~ vfi i nñk; frA vr% l ofo/ki; kbj. kfo'kð; s ekuf l da
 i; kbj. ki nñk. ka nñjhdj. kh; eA vr , o _f"fkHK% dffkre&

^; rks; r% l ehgl } rrsks uks vHk; a d#A

'kUu% d# izt kH; % vHk; a uks i 'kð; %AA**

i nPNñ% ; r%; r% l ehgl } rr% u% vHk; e~d#A

'ke~u% d# izt kH; % vHk; e~u% i 'kð; %AA



vHk; e- d#A u% izt kH; % 'ke- d# u i 'kH; %
vHk; e- d#A

HkkokFKZ

v= __f"%" i kFKZ; fr ; r~l oZ= 'kkfUre; % okrkoj .ka Hkosr} d#% vfi vk' kdk Hk; a ok
u L; krA l o# kf. kuka dY; k. ka HkosA

I kj%

uHke. Mye- i ; kbj .kL; i pea LFkkueA okgukfu] ; U='kkyk% /ofufoLrkj dk% p
mPPk% /ofue- mRi k | /ofuinHk. ka d#ZUr ; u cf/kjRoe- mRi k | rA vktkui Vys
fofdj .ki Hkkosk v/kuk vi {k; % n' ; rA ; fn vL; j {kk u fØ; rs rnk Hk; #dj k%
0; k/k; % l EHkfo"; fUrA ; fn o; ai ; kbj .kj {k. ks l ko/kkuk% Hkos} rnk thoua 'kkfUre; a
HkosA vr% __"k; % izt kH; % i 'kH; % p vHk; a dY; k. ka p dke; UrA

vkdk' ke. My i ; kbj .k dk i kpoka LFkku gA in#kr /ofu okguk; U='kkykva vkj
/ofufoLrkj dka l si #k gkrh gSrFkk og cfgjki u mRi uu djrh gA ; fn vktkui i Vy
dh j {kk ugha dh tkrh gSrc Hk; #dj chekfj; kamRi uu gks tk; #hA eu dh v'kkfUr
cgr l sjkska dks i #k djrh gSbl hfy, gekjs __f"%. k l eLr i kf. k; kadsfy, vHk;
dh dkeuk djrs gA

0; kdj .kfclno%

I fu/kPNsk%

rn# ¼ rnk \$, o] vk \$, & , } of) l fu/k%

eul ks 'kkfUr% ¼ eul % \$ v'kkfUr ¼ %& m] fol x# fu/k%

n' ; rs i {k; % ¼ n' ; rs \$ vi {k; % , \$ v ¼ .] i #Z il fu/k%

I eLr inkfu

foxg%

I ekl uke

'kkfUre; l q[ke; s 'kkfUre; a p l q[ke; a p

}U}%

'kq eu% 'kq a eu%

deZkkj ; %

vHk; e- u Hk; e-

u -rRi #%"%

cgjksku- cgo% jksk% rku-

deZkkj ; %

i #friR; ; ifjp; %

l f"V% & √ l t~\$ fDru~

'kkfUre; a & 'kkfUr \$ e; V-ui q i Fkek , dopue-

fo' kq) % & fo \$ √' kqk~\$ fDru~

fp0rrue~& √fp0rr~\$ Y; √~
 'kkf0rr% & √'ke~\$ fdru~
 dr0; e~& √N \$ r0; r~
f0; ki nkfu

I Ehf0"; flr
 fou'; flr
 dke; Urs
 o/krs
 vkorrs

I e~\$ √Hkr \$ yV} i Fkei # "k% cg0ppueA
 fo \$ √u'k~\$ yV} i Fkei # "k% cg0ppueA
 √dke~\$ yV} i Fkei # "k% cg0ppueA
 √o/k~\$ yV} i Fkei # "k% , dopueA
 vk \$ √or\$ yV} i Fkei # "k% , dopueA

/kkrq i kf.k

√i ~ /kkr% ¼ jLeš nh½ vnkfnx.kr%

yV~ ydkj%

yV~ ydkj%

	, - o-	f}- o-	c- o-	, - o-	f}- o-	c- o-
i0 i0	vfLr	Lr%	I flr	Hkfo"; fr	Hkfo"; r%	Hkfo"; flr
e0 i0	vfl	LFk%	LFk	Hkfo"; fl	Hkfo"; Fk%	Hkfo"; Fk
m0 i0	vfLe	Lo%	Le%	Hkfo"; kfe	Hkfo"; ko%	Hkfo"; ke%

y³~ ydkj%

ykl~ ydkj%

i0 i0	vkI hr~	vkLrke~	vkI u~	vLrq	Lrke~	I Urq
e0 i0	vkI k%	vkLre~	vkLr	, f/k	Lre~	Lr
m0 i0	vkI e~	vkLo	vkLe	vLkfu	vI ko	vI ke

f0f/kfy³~

i0 i0	L; kr~	L; krke~	L; k%
e0 i0	L; k%	L; kre~	L; kr
m0 i0	L; ke~	L; ko	L; ke

c# & ¼/nkfnx.kr%½ mHk; i nh

i jLeš ns

yV~ ydkj%

yV~ ydkj%

	, - o-	f}- o-	c- o-	, - o-	f}- o-	c- o-
i0 i0	c0hr]	c#r%	c#flr]	o{; fr	o{; r%	o{; flr
e0 i0	c0h'k]	c#k%	c#k	o{; fl	o{; Fk%	o{; Fk
m0 i0	c0hfe	c#%	c#%	o{; kfe	o{; ko%	o{; ke%

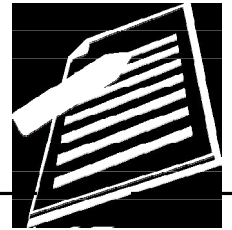
y³~ ydkj%

ykl~ ydkj%

i0 i0	vc0hr~	vc#rke~	vc#u~	c0hrq	c#rke~	c#flrq
e0 i0	vc0h%	vc#re~	vc#r	c#g	c#re~	c#r
m0 i0	vc0e~	vc#	vc#	c0kf.k	c#ko	c#ke

f0f/kfy³~

i0 i0	c# kr~	c# krke~	c# k%
e0 i0	c# k%	c# kre~	c# kr
m0 i0	c# ke~	c# ko	c# ke





gu- ¼vñkfnx.kr%½ i jLEkñ nh

yVydkj%			yVydkj%			
iD iQ	,- o-	f}- o-	c- o-	,- o-	f}- o-	c- o-
e0 iQ	gflr	gr%	/uflr	gflk"; fr	gfu"; r%	gfu"; flr
m0 iQ	gfí	gFk%	gFk	gfu"; fl	gfu"; Fk%	gfu"; Fk
	gfle	glo%	gle%	gfu"; kfe	gfu"; ko%	gfu"; ke%
y³ydj%			ykl/ydj%			
iD iQ	vgu-	vgrke-	v?uu-	glrq	grke-	?ullrq
e0 iQ	vgu%	vgre-	vgr	tfq	gre-	gr
m0 iQ	vgue-	vglo	vgle	gukfu	guko	guke
fof/kfy³-			fof/kfy³-			
iD iQ	gl; kr-		gl; krke-	gl; k		
e0 iQ	gl; k%		gl; kre-	gl; kr		
m0 iQ	gl; ke-		gl; ko	gl; ke		

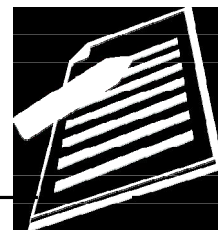
**Ñ ¼rukfnx.kr%½ mlk; i nh
i jLEkñ ns**

yVydkj%			yVydkj%			
iD iQ	,- o-	f}- o-	c- o-	,- o-	f}- o-	c- o-
e0 iQ	djkr	d#r%	d#lur	dfj"; fr	dfj"; r%	dfj"; flr
m0 iQ	djk%	d#Fk%	d#Fk	dfj"; fl	dfj"; Fk%	dfj"; Fk
	djk#e	d#%	d#%	dfj"; kfe	dfj"; ko%	dfj"; ke%
y³ydj%			ykl/ydj%			
iD iQ	vdjkr-	vd#rke-	vd#lur-	djkrq	d#rke-	d#lurq
e0 iQ	vdjk%	vd#re-	vdjr	d#	d#re-	d#r
m0 iQ	vdjoe-	vd#l	vd#l	djokf.k	djoko	djoke
fof/kfy³-			fof/kfy³-			
iD iQ	dq kr-		dq krke-	dq k		
e0 iQ	dq k%		dq kre-	dq kr		
m0 iQ	dq k#e-		dq kb	dq k#e		



i kBxrç'uk%18-3

- 1- i z u k u k e - m ù k j k f . k f y [k r
 ¼d½ dkfu /ofui mlk.ka d#lur\
 ¼k½ fofdj .ki Hkkosk vkst ksui Vys l kEi rarfde~n' ; r#
 ¼x½ vLekda thoua l d[ke; a dFka Hkforq 'kDuk#r\



1/2 1/2 eul % v' kkfUr% da uk' k; fr\

1/3 1/2 __"k; % i zt kH; % i ' kH; % fda dke; UrA

2- , dopusfØ; ki nkfu i fjorž r

1/2 1/2 I EHKfo"; fUr -----A

1/4 [k/2 ' kDuøfUr -----A

1/2 1/2 dke; Urs -----A

1/2 1/2 døfUr -----A

1/3 1/2 vkorUr s -----A

3- okD; škqfØ; ki nkfu drī nkfu p fpur

1/2 1/2 /ofufolrkj dK% /ofui nllk. ka døfUrA

1/4 [k/2 ^vkstku* ok; ø. Mya i jkoUke- vkorUrA

1/2 1/2 vuøpyi ; kōj .ks thoul f"V% o/kUrA

1/2 1/2 eul % v' kkfUr% cgj kxku- tu; frA

1/3 1/2 vLekda __"k; % i zt kH; % vHk; a dke; UrA



18-4 fde~vf/kxre~

- i ; kōj .kL; I eL; k fpUruih; k vflrA
- i ; kōj .kLFkkuL; i pfo/kkfu ukelfuA
- vLekfHk% o{knguau drD; e} lykflVdOkLruka i z kx%u drD; % ; r% rlfu i nllk. ka tu; flrA
- okgukfu] /ofufolrkj d; U=kf.k /ofui nllk. ka døfUrA i 'kuuka i f{k. kka p I j {k. ke~vko' ; de} o{kdrZua u drD; e} nll'kra tyau i kr0; eA



18-5 ; kx; rkfoLrkj%

Hkkofolrkj%

Hkkjrns ks2200 o"kk; % i øž~, o i ; kōj .kL; tkx: drk vkl hr~bfr uuafole; kogeA ; L; i ; kōj .kL; fo" k; sv | o; acgqfpfUrrk%Le%rL; i ; kōj .kL; I j {k. kL; fpUr



v'kkdL; jkT; sfi vkl hrA vL; iæk.kk% l flur rRdkyhuk% mi yC/kk% f'kyky[kk%
 rr%rqi; kbj.kL; bñ'kh l eL; k ukl hr~; r%vLekdai; kbj.kai Ñr% fofo/kki knku%
 i wkèkl hrA l eLrkfu i kÑfrdrÜokfu nørk% , o eU; Urs LeA

vr% ; tφñs mDre&

vfxunørk okrknørk l w kñørk ---- o: .kks nørkAA

vkne-nø l for% id φ ; Ka id φ ; Kifra Hkxk; k

fn0; ks xU/ko% dri % drau i pkrqokpLi frohpau% LonrA ; tφ 30@1A

LFkye& i fFkoh vLekda ekrk vr% ueLdj.kh; k orhs dffkra fg&

ekrk Hkñe% i q-ks ga i fFko; k% vFkobn 12@1@12A

tye& ¼vki % 'kauks nshj fhk"V; s vki ks HkoUrq i hr; A ; tφ 36@12A

rst%& vfxuehMs i jksgn; KL; nøefRoteA

glrkja jRunk/kreA __xon 1@1@1A

ok; && vkne~'kUuks okr% i orka 'kduLri rq l w %A ; tφ 36@10A

uHk%& 'ka u l #fp% Hkorq Lo/kkfHk%A 'ka jkn l h cgrh 'ka uks vfn%A

'ka uks nøkuka l grrkfu l UrqA ukgd-7@35@3

l oE= 'kkfUr% HkorA Dofpni fopkj i nll.kau l; kra vr% ; tφñs bRFka i kffkzre&

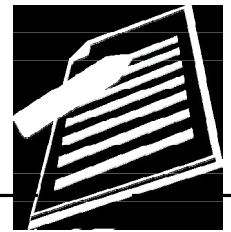
vkne~ | k% 'kkfUrj Urj f {ka 'kkfUr% i fFkoh 'kkfUrjki % 'kkfUrj ksk/k; % 'kkfUr%A ouLi r; %

'kkfUrfoz os nðk% 'kkfUrcE 'kkfUr% l o± 'kkfUr% 'kkfUrjð l k ek 'kkfUrj f/ka

i; kbj.kl j {k.kk; , rkn'kh 'kkfUr% l oE= vi f {krka

Hkf"kdck; z~

		pgkfnx.k/kro% ¼v½	
i Fke% i #%"k%	, dopue-	f}opue-	cgppue-
e/; e% i #%"k%	pkj; fr	fpUr; r%	rkm; flur
mUke% i #%"k%	Hk{k; fl	x.k; Fk%	i vt; Fk
	dFk; kfe	pkj; ko%	fpUr; ke%
		bdkjklr i qy³ %	
i Fkek	, dopue-	f}opue-	cgppue-
f}rh; k	efu%	equh	equ; %
r rh; k	__f"ke-	__"kh	__"khu-
prfkhZ	gfj.kk	gfjH; ke-	gfj fhk%
i peh	equ; s	equH; ke-	equH; %
"k"bh	mn/k%	mnf/kH; ke-	mnf/kH; %
l lreh	0; k/k%	0; k/; k%	0; k/khuke-
l Ecksku	jokS	j0; k%	joh"q
	gsdi s	gsdi h	gsdi ; %



bdkjklr L=lfy³k%

i Fkek	, dopue-	f}opue-	cgppue-
f}rh; k	efr%	erh	er; %
rrh; k	tkfre-	tkrh	tkrh%
prfkhz	fLFR; k	fLFRH; ke-	fLFRfHk%
i peh	cð ; s	cñ) H; ke-	cñ) H; %
"k"Bh	uhr%	uhfrH; ke-	uhfrH; %
I reh	frFK%	frF; k%	frFkhuke-
I Eckku	HkæS	Hkū; k%	Hkūe"lq
	gsers	gs erh	gs er; %



18-6 i kBlurç' uk%

- 1- jç klf rinkfu vk/kR; iz ufuekz ka d#r
 - ¼d½ ekuothouk; LoPNa i ; kbj .ke~vi f{kra HkofrA
 - ¼[k½ Hkxori jk. ks næk% nhuk% dffkrk%A
 - ¼x½ egkHkkjrs oufo" k; s fyf [kre~ ; r~ouu 0; k?k% j ; rA
 - ¼k½ v | Ros fuekz k' kkykH; % fuxZ /kæ% okroj . ka fo"kkDra HkofrA
 - ¼³½ rstæ . Mya fodkjH ; % j {k. kh; eA
 - ¼p½ ; fn 0; a i ; kbj .kl j {k. ks l ko/kkuk% Hkoæ] vLekda thoua l ç'ke; a 'kkfUre; a p Hkos~
- 2- dFkukuka l eqpresyua d#r
 - ¼d½ ukfnz rs v | Ros ¼½ fofdj .ki Hkks k vi {k; % n' ; rA
 - ¼[k½ Hkfe% e. Mykuka ¼i½ rrrks uk vHk; a d#A
 - ¼x½ vkS| kfxd {ks=dkj . kkr~ ¼ii½ i Fkear Roa or rA
 - ¼k½ vkst ku i Vys l kei ra ¼v½ i kÑfrda thoueA
 - ¼³½ ; rks ; r% l ehg l s ¼½ ekuothoua {kfrxLra tk; rA
- 3- l eLri nkula foxga ÑRok l ekl uke vfi fy [kr^
 - ¼d½ i 'kq f {k. kke~
 - ¼[k½ ; U=kxkj kS| kfxd {ks=kf. k
 - ¼x½ fuxZ /kæ%
 - ¼k½ i kni oh# /ko {kk%



¼³½ i ; kbj .kl j {k.ks

¼p½ vHk; e-

4- funðkkud kje-mi ; Þr% /krq i %fjDr LFkkukfu ij ; r

¼½ ee xgs 'kra i Þrdkfu -----A ¼v l } yVydj %

¼i½ ykpukH; kafoghul; niZk% fda-----A ¼Ñ yVydj %

¼iii½ i jk 'kmzks uke jktk -----A ¼v l -y³ ydj %

¼v½ l % ek. koda /ke±-----A ¼c yVydj %

¼½ Roal R; a-----A ¼c yk/ydj %

¼vi½ nqt Zusn; ka ek -----A ¼Ñ yk/ydj %

¼iii½ vge-v{kjk. kke-vdj %-----A ¼v l -yVydj %

¼iii½ l % peI. k xta-----A ¼gu-yVydj %

¼x½ Roal k/ku ka l oka-----A ¼Ñ fof/kfy³ ydj %

¼½ l R; a----- fi z a-----A ¼c fof/kfy³ ydj %

¼ii½ Roal aktes 'k=uu-----A ¼gu-yk/ydj %

¼iii½ vga defi thoa u -----A ¼gu-fof/kfy³ ydj %

5- ¼i ; kbj .kl; l j {k. ke~ fo" k; e- vf/kÑR; "kMøD; kfu jp; rA



18-7 mUkj kf .k

18-3 ckski z uk%

1- ¼d½ l oI-% ¼[k½ i ; kbj .kl j {k. kL; ¼x½ dY; k. kdkeuk ¼k½ Hkfe%
¼³½ i 'kuke} n. MkgèA

2- ¼d½vi] ¼[k½viii] ¼x½zi] ¼k½zii] ¼³½ii] ¼p½v] ¼N½iv] ¼t½vii

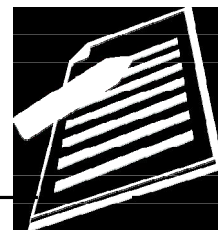
3- ¼d½ LFkye. Mye- ¼[k½ tye. Mye- ¼x½ rstke. Mye- ¼k½ ok; e. Mye-
¼³½ uHke. Mye-

ikBxri z uk%

18-1 1- ¼d½ rr- i ; kbj .ka dF; rA

¼[k½ onSkq l oI= dY; k. kdkeuk n'; rA

¼x½ v | i k; % fopkj i nIk. kk; ykHkSk. kk o/kzA



1/2 k1/2 fuf{klrkfu lykflVdolrfu ouLi rhuka i j ksj. ks ck/kka tu; flrA

1/3 1/2 Hkkxor i j k. ks vknš k% vflr ; r~o{kk. kka ngua u dj. kh; eA

2- 1/2 d1/2 fpurk] 1/4 k1/2 , rkfu] 1/2 x1/2 dY; k.kdkeuk] 1/2 k1/2 i kni k% 1/3 1/2 ngueA

3- 1/2 d1/2 ykklkSk. k% o/kDrA 1/4 k1/2 i kNfrdkfu thoukfu u vkfnz UrA
1/2 x1/2 o{kk. kkeA 1/2 k1/2 fuf{klrkfu lykflVdolrfu] u'; flr] fDy | UrA
1/3 1/2 onSkq dY; k.kdkeuk% l flrA

18-2 1- 1/2 d1/2 v | Roš 1/4 k1/2 l oFkk] 1/2 x1/2 vfr p] vfi] 1/2 k1/2 vr%

2- 1/2 d1/2 0; k?k% oua j {kfrA

1/4 k1/2 onSkq dY; k.kdkeuka i ' ; ke%A

1/2 x1/2 o{kku~Nšikq u 'kDupflr LeA

1/2 k1/2 /kœsu okrkoj .ka fo"kkDra HkofrA

18-3 1- 1/2 d1/2 ; U= 'kkyk% /ofufolrkj dk% okgukfu p /ofuinlk.ka dφflrA

1/4 k1/2 fofdj .ki Hkkosk vkst kui Vys l KEire~vi {k; % n' ; rA

1/2 x1/2 vLekda thouarnš l q̄ke; aHkforq' kDukr ; nk o; ai ; kbj .kl j {k. ks
l ko/kkuk% HkoεA

1/2 k1/2 eul % v' kkfUr% l kekft da okrkoj .ka uk' k; frA

1/3 1/2 __"k; % i zt kh; % i ' kh; % p vHk; a dke; UrA

2- 1/2 d1/2 l EHkfo"; flr 1/4 k1/2 'kDukr 1/2 x1/2 dke; rs 1/2 k1/2 djkr 1/3 1/2 vkoršA

3- **drī nkfu** **fØ; ki nkfu**

1/2 d1/2 /ofufolrkj dk% dφflr

1/4 k1/2 ok; φ. Mye- vkoršs

1/2 x1/2 thol f"V% o/krs

1/2 k1/2 v' kkfUr% tu; fr

1/3 1/2 __f"k% dke; rs

18-6 i kBŪriž uk%

1- 1/2 d1/2 ekuo thouk; fde~vi f{kra Hkofr\

1/4 k1/2 Hkkxor i j k. ks nēk% dhn' kk% dfFrkrk%



¼x½ egkHkj rs oufo"k; s fda fyf[kreA

¼k½ v | Ros fuekz k' kkykh; % fuxi/kæ% okrkoj . ke~ dhn' ka Hkofr\

¼³½ rst ke. Mya dñ; % j{k. kh; e\

¼p½ vLekda thoudFka l q[ke; a 'kflure; a p Hkforq 'kDukfr\

2- dFkukula l efpresyue~

¼d½ ukfnz rs v | Ros i kÑfrda thoueA

¼[k½ Hkñe% e. Mykuka i Fkea rUoa orzA

¼x½ vks| kfxd{k=dkj . kkr~ekuothoua {kfrxLra tk; rA

¼k½ vkstku i Vys l Kei rrafodj . ki Hkkosk vi {k; % n' ; rA

¼³½ ; rks ; r% l hegl } rrrks uls vHk; a d#A

3- ¼d½ i 'ko% p i f{k. k% p] r"skke~ }U}%

¼[k½ ; U=lxkj k% p vks| kfxd{k=kf. k p] }U}%

¼x½ fuxi-k% /kæ% r% ¼deZkkj ; %

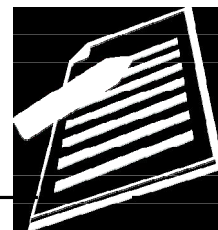
¼k½ i kni k% p oh: /k% p o{k% p] }U}%

¼³½ i ; kbj . kL; l j{k. ke~ rfLeu~¼k- r-½

¼p½ u Hk; e- u xk-rRi # "k%

4- ¼½ l flrA ¼ii½ dfj"; frA ¼iii½ vkl hrA ¼v½ colfr vFkok cirA ¼½ cfigA ¼vi½ d#A ¼vii½ vfLeA ¼viii½ gflrA ¼x½ dq kA ¼½ cñ krA ¼xi½ tfgA ¼xii½ glu; keA

5- 'i ; kbj . kL; l j{k. ke~ fo"k; s LoBN; k "kMokD; kfu y[; kfuA



19

Øksks uFkdkj d%

ekuothousl oñk l oē-vuðnyes u ?kVrA dnkfpr~dkeuk% i frgrk% HkofUr] dnkfpr~df'pr~dL; fpr~migkl a djksrA , rkn' kh"q i frdny i fjfLFkr" kq dpu tuk% l o±'kkUrHkko u l gUrA i je-vijsd spr~Øð k% Hkðok vkReu% i j'skka p vi dkja dØZUrA ØkskL; i fj .kke% Hk; jk% , o HkofUrA Økskko's foosd% fou' ; frA , dnk vfrØð u nØkl l k noh l jLorh vfhk' klrkA v= o; e~bekeð jkpd dFkka i Bke%A



mís ; kfu

bea i kBa i fBRok Hkoku~

- ØkskL; nti fj .kkea o. kř; r q l eFk% Hkfo"; fr(
- /kjf. krysl jLor; k% vorj .kL; dFkka y\$[krq 'kDr% Hkfo"; fr(
- nØkl keµ% pfj =fp=. ka drq l {ke% Hkfo"; frk(
- l dkjklUr i qYy³ 'kCnkuka # i kf .k y\$[krq 'k{; fr(
- fol xLFkkus jRoal Roe~bfr dfj"; fr(
- n' k-/kkrk% : i k. kka i z; kxa dfj"; frA



fØ ; kdyki %

fp=kf.k n"Vek iz ukfu mÙkj rA mÙkj kf.k e t ðkk; ka nÙkkfuA



19-1

- 1/d½ ekrk ckydk; fda nnkfr\
- 1/4 k½ ckydk; rq fda jkpr\
- 1/x½ l % Øksksu mÙeÙk% Hkrok fda djksr\
- 1/2 k½ efÙkdLfkfydk dē i rfr\
- 1/4 3½ efÙkdLfkfydk; k% d% i fj . kke% Hkofr\

Hkæk\$ Hkkt ue} Lfkfydk f{ki fr} Lfkfydk HkXuk Hkofr} fe"BKUua

 **19-1 ey i kB%**

Øksks uFkdkj d%

v/kqk oq ey/ki kBa /; kusu i Bke%

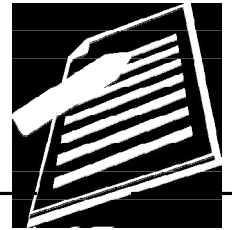
ij k Hxoku~i jeSBh deykl usl eq kfo"V%
 nØ% i fjor% fo | kxksBh% l ekpju~vkl hrA
 dšpr~ Lrfrprgj k% __p% l enpkj; uA
 dšpr; t; i BuA dšpr~l kel fu vxk; uA
 r= i ÑR; k vfrjksk. k% egkri k eqj =šru; %
 nØk k f}rh; s; elni kyukEuk efuuk l g
 dygk; eku% l ke xk; u~ ØkskkU/k% Hkrok
 foLojedjkrA l ošqap r'sq' kki Hk; kr~ekššq

'kCnkFkz%
 i jeSBh ¾ cāk
 i fjor%¾ f?kjs gq
 fo | kxksBh%¾ fo | kxksBh
 l ekpju~¾ vk; kštr djrs gq
 __p%¾ __pkvka dk
 l enpkj; u~¾ mPpkj .k dj jgsFks
 vfrjksk. k%¾ vfrØkskh
 eqj v=šru; %¾ vf= efu dk iē
 foLoje~¾ cd gjk

efu"klj firkege~ mi oht; Urh I jLorh
rPNok gfl rqi kjHkrA

rkarFkk gl Urha I efu% ^vk% iki dklj.f.k!
nfohX/ks eke~ migl fl * ^bR; Ørøk
tVkdykiL; jkfp"kk fl pfluu
jkškungunøsk n'kfn'k% HkdfVekc/uu~
vfrykfgsu p{kdkk dki dEi rjfyrk³fyuk
djks v{kelyke- vkf{kI; dke.Myosu
okfj.kk I eqLi"; 'kki tya txkgA

mi oht; Urh ¾ i dkk >yrh gþz
nfohX/ks¾ njfhkekfuuh
tVkdykiL; ¾ tVkl eg I s
jkfp"kk ¾ rst I s
jkškungunøsk ¾ Økskkfxu dsno I s
HkdfVekc/kuu-¾ Hkkjap<krsgg
vfrykfgsu ¾ vR; f/kd yky
dki ¾ Øsk I smRi lu dā dā k dsdkj.k
ppy vaxfy; ka okys
djks ¾ gkfk I s
dke.Myosu ¾ de.Myqds
I eqLi"; ¾ vkpeu djds



19-2

v=klrjs Lo; EHKpLI ehi s I eq fo"Vk noh
I kfo=h vonr} ^vk% nj kReu- Økskks gr]
dFke- vkReL [kfyre- vx.k.;
I gjl jefueuqt olnoUnuh; ka f=Hkøuekrja
Hkxorta I jLorta 'klrø-vfhky"klI **] ^rks
e"kz; Hkxou! vHkøej's'kk 'kki L; *
bR; uukF; ekuks fi focqk% ^mik/; k; !
L[kfyreda {keLo* bfr c) katfyi p/%
i d k | ekuks fi Lof'k"; %i q! ek dFklRi I %
i R; uge- bfr fuok; Æk.kks I; f=.kk
jkškos kfoo'kksnøkd k% ^nfoZhr d O; i u; kfe
rsfo | ktfurkeþufre-beke} v/klrkn~xPN
er; ÿkde* bR; øøk rINki kndafol I tA
ifr'kki nkuk; m | rka I kfo=ha ^l f[k!
I øjjk'ske} vl ð Ñrer; ks fi ep; %
ekuuh; k% bfr vfhkn/kkuk I jLorh , o rka
U; okj; rA

v=klrjs¾ bl h chp
Lo; EHKp%¾ cāk ds
vx.k.; ¾ u I e>rsgg
e"kz ¾ {kek djks
vHkøe%¾ ;kk; ughagS
vuø ¾ vuø; fd, tkusij Hkh
focqk%¾ noka ds }kjk
L[kfyre-¾ vij/k dks
i d k | eku%¾ euk, tkrsgg Hkh
i R; uge-¾ fo?u
fuok; Æk.k%¾ jkødk tkrk gq/k
vf=.kk ¾ vf= ds }kjk
0; i u; kfe ¾ nj djrk gw
fo | ktfurke-¾ fo | k tfur mlufir dks
fol I tZ¾ NkM+fn; k
v/klrkn-¾ uhps
ifr'kO ¾ cnys ea'kki nusdk m | r
I øjj ¾ jkødk
vl ð ÑO ¾ vl ð Ñr efr okys Hkh efu
vfhkn/kkuk ¾ dgrh gþz
U; okj; r-¾ jkødk



vFk rka rFkk 'klrka l jLorha n"Vøk
 'kki dydyafuok; Zfi rkeg%l qkhje-mokp]
 ^c?eu! u [kyql k/kq forks; aiUFk%; sukfl
 i ðÙk%A {kek fg eyya l o?r i l keA
 ijnkskn' kZun{kknf"Vfjo dqi rk cñ) % u rs
 vkRenkska i'; frA vfrjksk.k'p{kqekuU/k%
 ,o tu%A u fg dki dyq"krk foe'kfr
 efr% drD; e~vdrD; e-okA jksknkskfu"K/ks
 Loan; s fuxkg; s fdeFkZefl
 fuxghrokuuxl ka l jLorheA* bR; ØRok
 i qjkg& ^oRl s l jLofr! fo"kkna ek xk%A
 , "kk Rokeuq kL; fr l kfo=hA
 fouknf; "; fr pkLef}jgnØf [krkeA
 vkReted[kdeykoykdukof/k'p rs 'kki a
 Hkfo"; frA

l qkhje-¾ /kS ð wðl
 n{kk ¾ prj
 vfrjksk.k%¾ vfr Økskh
 p{kqeku-¾ vka kkaokyk
 dki dyq"krk ¾ Øksk l sdyq"kr
 efr ¾ cñ)
 fuxkg; s¾ fu; fl=r djusdsLFkku ij
 vulxl ka¾ fujijk/k
 i q%vkq ¾ fQj dgk
 ek xk%¾ er i klr gkoks
 vuq kL; fl ¾ i hNs i hNs tk, xhA



19-2 ck'kç' uk%

1- i kBa l E; d~i fBrok ^* LrEHL; okD; ká k% l g ^* LrEHL; okD; ká kuka eyua
 d#r

^v*

¼d½ d spr~Lrfrprjk%

¼k½ r rks e"kz Hkxou!

¼x½ d spr~ l kekfu

¼k½ oRl s l jLofr!

¼¾½ bR; ØRok rPNki kn da

¼p½ {kek fg eyya

^c*

¼½ vxk; uA

¼i½ __p% l empkj; uA

¼iii½ fo"kknaek xe; A

¼v½ fol l tA

¼v½ l o?r i l keA

¼vi½ vHkfej skk 'kki L;

2- i kBkr~mfprinkfu fpRok fjDrLFkkukfu ij; r

¼d½ fi rkege~mi oht; Urh l jLorh rPNok gfl rq-----A

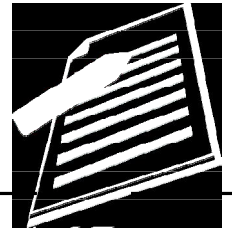
¼k½ vkReted[kdeykoykdukof/k'p rs 'kki a-----A

¼x½ dqi rk cñ) %u rs vkRenkska-----A

¼k½ oRl s l jLofr! fo"kknaek -----A

¼¾½ efu% dke.Myosu okfj.kk l ej Li"; 'kki tya-----A

- 3- izuku-mùkjr ¼ di nu½
- ¼d½ Hkxoku-iješBh dē I eq fo"V%
- ¼[k½ ØkskkU/k% Hkðok nðk½ k% fde~vdjkr\
- ¼x½ Lo; Hkø% I ehi s dk I eq fo"Vk vkl hr\
- ¼k½ {kek dška enye\
- ¼³½ dhn'kh cñ) % dÙkð; e~vdrð; aok u foe'kfr\



19-3 v/kpuk voxPNke%

i Fke%vák%

ijk Hkxoku- ----- 'kki tya txkgA

v/kpuk o; a i kBL; i Fkeká ka I E; d~vockskke%

0; k[; k

v= nðk½ I %Økskl Ec) k , dk dFkk I enkärkA ijk nð% i fjoðr% i ješBh ¼i jes i ns fr"Bfr bfr½ cāk fo | kxksBh% I ekpju~deyL; vkl us mi fo"V% vkl hrA __pkð ; tðkka I kEuka p mPpkj .ka Hkofr LeA xksB; ka ijLi ja fo | kfol ðknšrs fookns vfrØks/ku% nðk½ I % f}rh; u eqjuuk I g dyg% I tkr% dygk; eku% I % I ke xk; u~foLoje~vdjkrA foLoja Jðok I jLorh gfl rorhA nðk½ k% rR{k.keð 'kki a nkrø~m | r% vHkorA

, rka dFkka I E; d~vocks) ø~v/kksyf[krkuka i fjp; % vLekda I gk; d% Hkfo"; fr& fo | kxksBh% cāl "V; kfnfofo/kfo" k; k. kka foopukFkē~ vk; kš; ekuk% xksB; % __Pk& __XonL; eU=k%

; tð'k & ; tðñL; eU=k%

I kekfu & I keonL; eU=k%

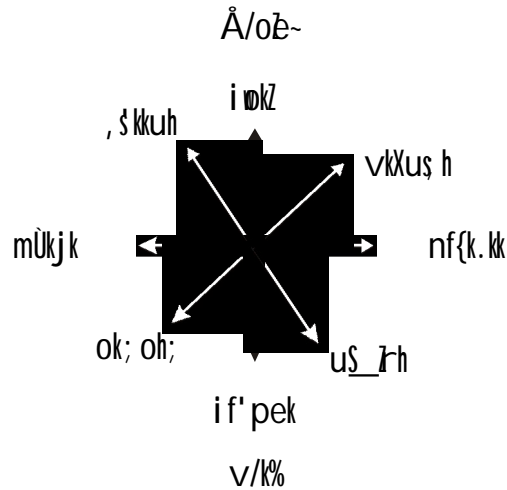
nðk½ k& nðk½ k% , d% vfrØkskh __f"l% bfr Hkofö% vo' ; eð Jra HkorA I % v=% vul w k; k'p vkRe t%¼ ø%½ vkl hrA rL; ið knue~vrho nðdjekl hrA ru vuds tuk% vfHk' klrk% dkyfnykl L; vfHkKku' kkdðryL; ukVdL; ukf; dk 'kdðryk vfi ru 'klrk vkl hrA

foLoje& LojnkskeA onel=k. kka xkus=; %Lojk% HkofUr mnkÙk% vuqkÙk% Lofjr' pA vFkkz~; %Loj% mPp% mPpk; Is I ^mnkÙk% HkofrA ; %Loj% uhp%¼ 'ku% mPpk; Is I vuqkÙk% HkofrA ; %Loj% e/; e: isk mPpk; Is I Lofjr% dF; rA ; fn , dL; LojL; LFkkus vU; %Loj% iz ð; rs rnk foLoj% tk; rA



n'kfn'k%

- 1- i ɯkɫ 2- vɫXus h] 3- nf{k.kk] 4- uS_ɫh] 5] i f'pek] 6- ok; oh] 7- mÜkj k] 8- , s kkuh] 9- Å/oë} 10- v/k%



0; kdj .kfclno%

i ni fjp; %

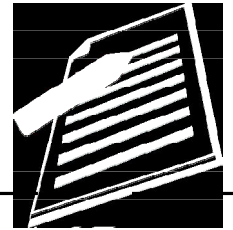
- ; tɫ'k ^; tɫ ~ 'kCn% ui qɫ dfy³eɫ f}rh; kfoHkfDr% cgppueA
- i ÑR; k ^i Ñfr* 'kCn% r}rh; kfoHkfDr% , dopueA
- v=% ^vf=* 'kCn% "k" BfoHkfDr% , dopueA
- fn'k% ^fnd* 'kCn% iz f}rh; kfoHkfDr% cgppueA
- p{kɫk ^p{kɫk* 'kCn% ui qɫ dfy³eɫ r}rh; kfoHkfDr% , dopueA
- okfj .kk ^okfj* 'kCn% ui qɫ dfy³eɫ r}rh; kfoHkfDr% , dopueA
- mi gl fl mi \$ gl ~yV-e-i q , dopueA
- t xɫg √xg-fyV~izi q , dopue-

ä i R; ; kUr'kCnk%

- I eqfo"V% I e-\$ mi \$ √fo'k-\$ Dr i q , dopue-
- ifjor% ifj \$ √o' \$ Dr \$ i q , dopue-

DRoki R; ; kUr'kCnk%

- Hkɫok √Hkw \$ DRok
- mDRok √op-\$ DRok
- Jɫok √Jq \$ DRok



Y; i i R; ; kUr' kCnKs

vkf{kl; vk \$ √f{ki~\$ Y; i~
I eqLi'; I e~\$ mi \$ √Li'k~\$ Y; i~

'kr' kKup-i R; kUr' kCnK%

dygk; eku% √dyg \$ f.kp~\$ 'kKup-i q izfo- , dopue-
micht; Urh mi \$ √cht~\$ 'kr' \$ L=hfya iziq , dopue-
gl Urhe- √gl ~\$ 'kr' \$ L=hfya e} f}rh; k fo- , dopue-

I fU/kPNsK%

eqj =t ru; % ¾ eqU% \$ v=% \$ ru; % ¼ol x% fU/k%
ØkskU/k% ¾ Øksk \$ vU/k% ¼nh?k fU/k%
rPNqok ¾ rr~\$ Jqok ¼; tul fU/k%

i Fkeldkl kj%

ij k Hkxoku~cāk nD% i fjor~% fo | kxk'Bh% Hko; u~mi kfo' krA xk'SB; ka onel=k. kka
i kB% vHkorA fo | k; k% foHkUuSkq fo"K; Skq oknfookn% i kpyrA , dfLeu- fo"K; s
Øksk; Ør% nØk k% __f"K% dU vfi eqUuk I g dygk; eku% I ke xk; us LojHk³e-
vdjkrA rr~Jqok Hkxorh I jLorh vgl rA viekue-vutkw nØk k% I jLorha'klraq
tya gLrs vxg.kkrA

i kphu I e; ea cāk usnor'kvkads I kFk 'kk'or cā dsfo"K; ea pplz djus dsfy,
xk'SBh dk vk; kst u fd; kA xk'SBh ea onel=ka dk i kB gypkA ogk mu ykxka ds chp
vki I ea fo | kfo"K; d cgl fNM+xbA , d fo"K; ij Økskh nØk k dk fdl h nØ js
eqU ds I kFk >xMk gks x; k vKj muds }kjk I kexku djrs gq Øksk ds dkj.k
LojHk³ gks x; kA 'kki dsMj I sl c eqU rks p q jgsfdUrq Hkxorh I jLorh I s; g
Lojghu i kB I gu ugha gypk vKj osgl i MhA Lo; adks viek fur eku dj nØk k
us I jLorh dks 'kki nus dsfy, gkFk ea ty ysfy; kA



i kBxrc'uk% 19-1

1- , di nu mØkj r

- ¼d½ Hkxoku~ijeSBh d% i fjor~% vkl hr\
- ¼f k½ nØk k% dL; ru; % vkl hr\
- ¼x½ elnikyukEuk eqUuk I g dL; dyg% tkr%



1/2 k 1/2 l ke xk; u-npkl k% fde~vdjkr\

1/3 1/2 foLoja Jplok dk vgl r\

1/p 1/2 l jLorha 'klrq npkl k% fde~txtg\

2- e tllk; k% mi ; ppra 'kri R; klra i nafpRok fjDrLFkkui fr±d#r&

mi oht ; Urh] gl Urh] vkc/uu} l ekpu} /kkoUrh] f'k{k; Urh

1/d 1/2 rka----- n"Vok efu%rL; SvØq; rA

1/4 k 1/2 fi rkege----- Hkxorh l jLorh tgl A

1/x 1/2 HkqfVe----- npkl k 'kki tyatxtgA

1/2 k 1/2 ----- ckydk gl frA

1/3 1/2 i jeBh fo | kxkSBh%----- vki hrA

1/p 1/2 ----- v/; kfi dk fp=an'kz frA

3- fjDrLFkkuSkqmfpradei nafy[kr&

1/d 1/2 dspr~Lrfrprj k%----- l epkj; uA

1/4 k 1/2 dspr----- vxk; uA

1/x 1/2 npkl k% l ke xk; u----- vdjkrA

1/2 k 1/2 dke.Myosu okfj.kk l eqLi" ; npkl k ----- txtgA

1/3 1/2 dspr----- vi BuA

1/p 1/2 ----- mi oht ; Urh l jLorh gfl rqi kjHkrA

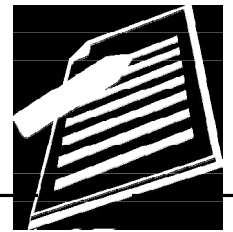
f}rh; %vdk%

v=klrjs ----- U; okj; rA

l Eifr o; af}rh; e~v'ka l E; d~voXPNke% o; a l ož tkue% ; r~Øskkos ks tu% dÜk; e~vdr; a fopkjf; rē~v{ke% fde~Lejflur Hkour% ; r~dnkpr~Øskkos ks Hkofö% vfi fdf pr~vfu"Va ÑreA ; fn Lefri Fke~vk; kfr dlfpr~?kVuk rfgl i pokD; Skq fy[klra

0; k[; k

o; a ik; % i' ; ke% ; r~ ØskkdeÜk% tuk% vuFk± dprUrA vfrØskkh npkl k% vfi Øskku/k%Hkrok nØ; k l kfo=; kj nØ\$ f'k"; \$ Lofi=k p cgq k%fuokfjr%vfi l jLorhe~vfh'klroka i frfØ; k: isk i fr'kka i inkre~m | rk l kfo=h l jLor; k fuokfjrka rL; k% ers eq; % l oFkk ekuuh; k%



ckY; dkys HkoUr% vudFdFk% JpouR% ; kl q 'kki L; ojL; ok o.kZe- vki hrA
 i kphudkys i d l uuk% nØk% __"k; %p ojnkue-#"V'k'p 'kka i inkraq l eFk% vki uA ; r-
 fdf pr-vfi __f"keq kkr-fofu% `rarr-vo' ; eØ ?kfVreA mDre-p mÜkj jkepfjr&
 ^__"kh. kka i qj k | kuka okpe- vFkz uqkkofrA** v/kRosfi ; s tuk% l rra l R; e-
 vkj k/k; flur rs , rkn' kha 'kfDra i kluøflurA

o; ai ' ; ke% ; r~tuk% fHku i Ñr; % fHku LØkHkok% HkoflurA vL; keØ dFk; ke-, dr%
 Øk ki jk; .k% nØkz k% vijr% {kek: fi .kh 'kUrLoHkok l jLorh ; k nØkz l k vfHk' klrk
 vfi nØh l kfo=ha i fr' kki nkukr-U; okj; rA l jLorh fo | k; k% nØh orzA vr, o l k
 foueLoHkok fo | rA ; r% fo | k nnkr fou; eA**

0; kdj .kfclno%

i ni fjp; %

focqk% 'focqk' 'kCn% rrrh; kfoHkfDr% cgøpue-
 vf=.kk ^vf=* 'kCn% rrrh; kfoHkfDr% , dopue-
 nfoZhrd ^nfoZhrk' 'kCn% l Eckkku&, dopue-
 vfHky"kf l vfHk \$ y" k-\$ yV-e-i q , dopue-
 {keLo √{ke-\$ ykV- e-i q , dopue-
 ÑFk% √Ñ \$ fof/kfy³-e-i q , dopue-vkReusi nh
 0; iu; kfe fo \$ √vi \$ uh \$ yV-m-i q , dopue-
 xPN √xe- ykV-e-i q , dopue-
 fol l tZ fo \$ √l t-\$ fyV-
 l øj l e-\$ √g \$ ykV-e-i q , dopue-

røøi R; ; kUr' kCn%

'klrø- √'ki-\$ røøi-

'kkup-i R; ; kUr' kCn%

vuøkf; eku% vuq \$ ukFk-\$ f.kp-\$ 'kkup-i q izfo- , dopue-
 i d k | eku% iz \$ l n-\$ f.kp-\$ 'kkup-i q izfo- , dopue-
 fuok; Æk. k% fu \$ o' \$ f.kp-\$ 'kkup-i q izfo- , dopue-

I fu/kPNsnk%

Lo; EHkøLI ehi s	¾ Lo; Hkø% \$ l ehi s &	fol x d fu/k% ¼ Roe½
Øk kki gr%	¾ Øk k \$ mi gr% &	xqkl fu/k%
vHkøej skk	¾ vHkøe% \$, "kk &	fol x d fu/k% ¼ Roe½



bR; uqkF; ekuksi	¾ bfr \$ vuqkF; eku% \$ vfi &	; .kt fu/k%fol xđ fu/k' pA
iđ k ekuksi	¾ iđ k eku% \$ vfi &	fol xđ fu/k% ¼mRoel½
ÑFKLriI %	¾ ÑFK% \$ riI % &	fol xđ fu/k% ¼ Roel½
fuok; Ğk. kks l; f=.kk	¾ fuok; Ğk. k% \$ vfi \$ vf=.kk& fol xđ fu/k% i wđ i l fu/k%	; .kt fu/k' pA
vl ĞÑrer; ksfi	¾ vl ĞÑrer; % \$ vfi &	fol xđ fu/k% ¼mRoel½
bR; ØRok	¾ bfr \$ mDRok &	; .k- l fu/k%
rPNki knde-	¾ rr-\$ 'kki \$ mnde-&	0; tul fu/k% xqkl fu/k' pA
U; okj; r-	¾ fu \$ vokj; r-&	; .kt fu/k%

f}rh; kkl kj%

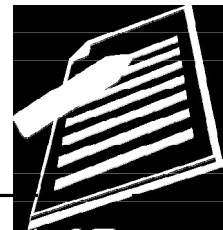
vfLeu~ vol js nðh l kfo=h vfi cã. k% l ehi s l eq fo"Vk vkl hrA l k nðkđ l e-
vonr~ ; r- l % Øk/kh] vkReki jk/ke- vx. ; ; l o% olunuh; ka f=Hkøuekrja Hkxorha
l jLorha 'klrø~ bPNfrA nð% f'k"; % p iđ k|ekuksi fi=k vf=.kk p fuok; Ğk. k%
vfi l % l jLor; k% fo | ktfurxo±nijhdre^xPN v/k% eR; žykde^ bfr dFkf; Rok
'kki tyafol ftžokuA i fr' kki ankrø~ m | rke- l kfo=ha l jLorh U; okj; rA

bl vol j ij l kfo=h Hkh cãk ds l ehi cBh FkhA mløkus nðkđ k l s dgk& ^vjs
njkrøu} Øk/kh vi us vij/k dksu ekuusokyk rwl cds }kjk olunuh; kj f=Hkøu dh
ekrk l jLorh dks' kki nsuk pkgrk gA** nørkvka vks f'k"; ka }kjk i kFkZuk fd, tkus
ij Hkh rFkk fi rk vf= }kjk l jLorh dks' kki nsusdsfy, euk fd; s tkus ij Hkh og
ugha ekuk vks ml us l jLorh ds fo | ktfur oxl dks r k m us dsfy, 'kki dk ty
fNMel dj l jLorh dksuhpser; žykde ea tkusdk 'kki nsfn; kA nðkđ k dks i fr' kki
nsusdsfy, rš kj l kfo=h dks l jLorh us, d k djus l sjkd fn; kA



i kBxrç'uk% 19-2

- 1- v/kkfyf [krokD; kfu i fBRok js [kfidrine~vkfJR; i žufuekz ka fØ; rke-
¼d½ nðh l kfo=h Lo; EHkø% l ehi s l eq fo"Vk vkl hrA
¼ [k½ l k nðkđ l e~viPNr} 'fdeFk±Roa l jLorha 'klrø~ bPNfi \
¼x½ nðkđ k% nð% f'k"; % p i kFkZ~%A
¼k½ l % vf=.kk fuokfjr~%A
¼³½ v/kLrknxPN eR; žykde~ bR; ØRok rPNki knda fol l tA
¼p½ l jLorh l j% vl j% equfHk% uj% p olunuh; kA



- 2- I fU/kPNns I fU/k; Þrs i ns ok fjDrLFkkukfu ij; r&
 ¼d½ Øk\$ migr%¾ -----
 ¼k½ vHkie% \$ ----- ¾ vHkiej\$kk
 ¼x½ ----- \$ vuqkF; eku% \$ ----- ¾ bR; uqkF; ekuksi
 ¼k½ ----- \$ vatfyi%¾ c) katfyi%
 ¼¾½ bfr \$ ----- ¾ bR; ÞRok

3- v/k% 'kkupr; ; kUrinkfu I fUrA r\$ka i Ñfr% funð kuh; k

ine~

i Ñfr%

- | | |
|-----------------|-------|
| ¼d½ dygk; eku% | ----- |
| ¼k½ vuqkF; eku% | ----- |
| ¼x½ ið k eku% | ----- |
| ¼k½ fuok; ðk.k% | ----- |
| ¼¾½ orkðku% | ----- |
| ¼k½ dEi eku% | ----- |

r`rh; %vðk%

vFk rka rFkk ----- 'kki a Hko"; frA

I Ei fr o; a rrh; e-vðka i u% i Bke% I E; d-voxpNke% pA

O; k[; k

fujijk/ka I jLorha 'kirkn"Vøk cðk I /k\$ ±nqk I aU; on; r&

¼d½ ~u [kyq I k/k] fors; a iUFk%; ukfI Roa i zUkA**

v; aekx% r qØkko' kkr~' kki nku vU; skke~vfu"Vdj.kL; ekx% I Ttkukuka ekx% u
 vLrA; fn df' pr-i frdye-vkpjfr rfgZ}sfodyi kSor& Økkekx% {kekekxZ pA
 Økkekxð-mi; Þraelu; ekuk% dFk; flur; r-ØskjfgR; tuL; 'k=ÞqHk; au HkofrA
 Øk\$' k; ku-tuku- 'kBk% rFkð uk'k; flur; Fkk dopjfgRku-væku-rhç.kk% ck.kkA

ija I rka r q {kekekx% , oA vLekfHk% vfi {kekekx% , o vuqj.kh; %A; rks fg&
 ^egktuks; su xrk% I iUFk%A**

cðk nqk I e-mi kfn'kr~; r-'kki nkukr~oja {keknkua Hkofr}; r% ^{kek fg eya
 I oñi I ke** {kekry; ari% u fo | rA {kek'khyk; tuk; nqtZ% vfi fdefi vfu"Va
 dræu i HkofrA dfkrefi ^{kek'kL=a djs; L; nqtZ% fda dfj"; fr** {kek , da



o'khdj .kel=a ; u l o± l k/kf; rā 'kD; rA l qBq mDra egkHkkj rs ^{keko' khÑfrykzls
 {ke; k fda u l k/; rA**

¼[k½ i jnk'skn'kz{lek nř"Vfjo dñi rk cñ) %u rs vkRen'ska i'; fr**

cāk nþkñ l e- vdfk; r~ ; r- ijnk'skn'kzi jk; .kk cñ) fjo rs Øk'sk; Þrk cñ) %
 vkRen'skn'kzsvl eFkkz vflrA o; aik; %i'; ke%; r-dpu tuk%fujlurjai jnk'skn'kz
 fujrk%hkoflurA rs i jkoxqki jek.ku-vfi iořhÑR; i'; flur vFkkř-ij'skaLoYie-vfi
 nk'skaegklurank'skfe o i'; flurA ijarsegÜkjku-vfi vkRen'skku-u i'; flurA Øk'sk; Þrk
 cñ) %Lonk'skn'kzsu i ÞrřA Øk'skhtu%u=oku-vfi u=ghu%bo HkofrA l %drD; e-
 vdrD; aok fu'prāqu 'kDukřA Øk'skL; dkj .kk~; o nþkñ k%funk'skk; Sl jLoR; S'kki a
 nÜkokuA vr% l q i "Va ; r~ Øk'sk% egku-vuFkřdj%A*

ik; % o; a i'; ke% ; r- fd' křj k% vR; f/kda Øk'ska dþlurA Øk'skko'sks vfopk; l ; r-
 fdf pñfi dþlurA fda tkufur Hkolur%; r~; nk o; a Øk'ska dþ% rnk vU; S'ka gkf%
 rkn' kh u Hkofr ; kn' kh vLekdeA ; Fkk vřurřfydk fdf pr-i ðokyukr-i kd-Lo; a
 i ðokfyrk Hkrok fou'; fr rFk o; e- vfi Øk'sku fouk'ka i fr xPNke%A mDr p
 xhrk; ke&

Øk'skr-Hkofr l Eekg% l ekřkr-LefrfoHke%A
 LefrHka kkr-cñ) uk' k% cñ) uk' kkr-iz k'; frAA

vr%dY; k.kdkñ{křHk%Øk'skL; fu; U=.ke-vo'; eþ dÜkD; eA Øk'skfu; U=.ks/; ku; křx%
 i.k.kk; keL; vH; kl % dkfufpr~; křkl ukfu p vR; f/kda l gk; dkfu HkoflurA

0; kdj .kfclno%

i ni fjp; %

ri l ke-	& řil * 'kcn%	"k" BřfoHkřDr%	cgppue-
ori s	& řRI k' 'kcn%	l Eckřkus	, dopue-
foe'křr	& fo \$ ře*k-\$ yV-	iDiØ	, dopue-
vuq kL; fr	& vuq \$ ř; k yV-	iDiØ	, dopue-
foukřf; "; fr	& fo \$ řuq~yV-	iDiØ	, dopue-

i Ñfr&i R; ; iz kř%

iDÜk% & iz \$ or-\$ Dr] iØ iD foHkřDr% , dopue-
 mDrok & op-\$ DRokk

I fU/kPNɔ%

I k/kq for% \$ v; e-	¾ I k/kq forks; e-	¼ol xɔ̃ fU/k%½
vfrjksk.k% \$ p{kqekuU/k%	¾ vfrjksk.k' p{kqekuU/k%	¼ol xɔ̃ fU/k%½
bfr \$ mDRok	¾ bR; ØRok	¼. kɔ̃ fU/k%½
iɸ% \$ vkg	¾ iɸjkg	¼ol xɔ̃ fU/k%½jRoe½
nɸV% \$ bo	¾ nɸVfjo	¼ol xɔ̃ fU/k%½jRoe½

I ekl k%

dki dyɸ'krk & dki sɔ dyɸ'krk	¼rɸh; k rRi ɸ'k%½
jksknkskfu" k s & jksk%, o nksk%	¼deZkkj/k I ekl %½
jksknksk k fu" k %	¼rɸh; k rRi ɸ'k%½
vukxl ke- & u vxxl k vukxl k rke-	¼uɸrRi ɸ'k%½

fol xɔ̃ fU/k%

fol xɔ̃; Ñrs l ðÑrs fol tɔh; 'kɔnL; iz ks% HkofrA

fol tɔh; L; j~

eɸj =%	& eɸ%	\$ v=%
vHkɸejSkk	& vHkɸe%	\$, "kk
i ; % kod; kɸjo	& i ; %	\$ i kod; k% \$ bo
nɸVfjo	& nɸV%	\$ bo
cɸ) uɔ̃	& cɸ) %	\$ u
iɸjkg	& iɸ%	\$ vkg

fol tɔh; L; l ~

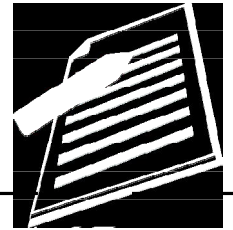
v=ɔ̃ru; %	& v=%	\$ ru; %
v/kLrkr~	& v/k%	\$ rkr~
ÑFKLril %	& ÑFK%	\$ ril %

fol tɔh; L; m

I rksok	& I r% \$ ok
riksxyfr	& ri% \$ xyfr

fol tɔh; L; 'k- ¼% & l ~ & 'k½

vfrjksk.k' p{kqeku~ & vfrjksk.k% \$ p{kqeku-





fol tZu; L; "k- ¼ & l ~ & "k½

p{k}teku- & p{k}k\$ eku-

'kCn: i kf.k

nøkl l ~ & v; a 'kCn% l dkj kUr% i fYya%A vL; : i kf.k v/k% nh; Urs

	, dopue-	f}opue-	cgøpue
i Fkek	nøkl k%	nøkl l kS	nøkl l %
f}rh; k	nøkl l e-	nøkl l kS	nøkl l %
r rh; k	nøkl l k	nøkl kØ; ke-	nøkl kSHk%
pr f}kZ	nøkl l s	nøkl kØ; ke-	nøkl kØ; %
i peh	nøkl l %	nøkl kØ; ke-	nøkl kØ; %
"k" Bh	nøkkZ l %	nøkl l k%	nøkl ke-
l lreh	nøkl fl	nøkl l k%	nøkl l l q
l Eckkue-	gsnøkl %	gsnøkl l ks	gsnøkl l %

plne l } egkrst l } i kpr l } 'kCnkuke-vfi : i kf.k bRFke-, o HkofUrA

'kri R; ; kUrL=hfya'kCnkuka : i kf.k ; Fk gl ~ \$ 'kr ¾ gl Urh] fy[k-\$ 'kr ¾ fy[kUr½ bZkj kUr unh 'kCnor~HkofUrA

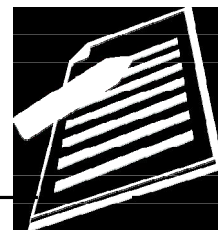
/kkrq i kf.k

n'k- ¼ ' ; ½

	yV- ydkj%	ykV- ydkj%
	, dopue- f}opue- cgøpue-	, dopue- f}opue- cgøpue-
i Fkei # "k% i ' ; fr	i ' ; r%	i ' ; flr i ' ; rq
e/ ; ei # "k% i ' ; fl	i ' ; Fk%	i ' ; Fk i ' ; re-
mÙkei # "k% i ' ; kfe	i ' ; ko%	i ' ; ke% i ' ; kfu i ' ; ko i ' ; ke

	y³- ydkj%	yV- ydkj%
	, dopue- f}opue- cgøpue-	, dopue- f}opue- cgøpue-
i Fkei # "k% nξ; fr	nξ; r%	nξ; flr vi ' ; r-
e/ ; ei # "k% nξ; fl	nξ; Fk%	nξ; Fk vi ' ; %
mÙkei # "k% nξ; kfe	nξ; ko%	nξ; ke% vi ' ; e- vi ' ; ko vi ' ; ke

	fof/kfy³-
	, dopue- f}opue- cgøpue-
i Fkei # "k%	i ' ; r- i ' ; rke- i ' ; \$ Ø
e/ ; ei # "k%	i ' ; % i ' ; re- i ' ; r
mÙkei # "k%	i ' ; \$ e- i ' ; Ø i ' ; eA



r`rh; kãkl kj%

fi rkeg%l jLorha' klrkan"Vøk 'kki dydyanjhÑR; xðkhjLojsk vdfk; r~nøkã eq%
 ekx% mfpr% ukfLrA ; % ftrfðnz; % u Hkofr rL; foosd% u'; frA efjuuk rq {kek
 dUkD; k ; rksfg {kek fg eny l oñil keA __"k% nøkã l % nfv% rq ijnkskn' kün{kk
 vflrA Øksksu vfHkHkurk cñ) %vkReu%nkska u i'; frA vfrjksksk tu% vU/k% HkofrA
 Øksksfo | ekusl fr fdeFkEl %fujijj/kl jLorha' kki su fuxghrokuA rnulrja cãk
 l jLokrhe-vdfk; r~; r~l k fo"kknau dq kfrA l kfo=h r; k l g er; ÿkðaxfe"; frA
 i fL; eqkn' kzi; Øre~' kki L; vof/k% Hkfo"; frA

nøkã k usl jLorh dks' kki nsfn; kj ; g ns[kdj iztki fr us' kki dsdkj .k mRi lu
 dkyky dks' kkr dj nøkã k l s dgk fd tks ekz mlugkaus vi uk; k gS og mfpr
 ugha gð tks ftrfðnz; ugha gkrk ml dk foosd u"V gks tkrk gð efu dks rks {kek
 djuh pkfg, D; kãd {kek gh l c riL; kvka dk eny gð nøkã k dh nfv rks nli jka
 ds nksk ns[kuseafui qk gð Øksk l s vfHkHkur nfv vi us nkska dks ugha ns[k i krhA
 vfrØksk l s 0; fDr vU/kk gks tkrk gð nøkã k dks Øksk l s Hkjs vi us an; ij
 fu; U=.k j [kuk pkfg, Fkka bl dsckn iztki fr usl jLorh l s dgk fd og fplurr
 u gð ml ds l kfk l kfo=h er; ÿkð tk, xh vks 'kki dh vfo/k i f dk eqkdey
 ns[kus rd gð



i kBxrc' uk% 19-3

- 1- ^d* LrEHkL; inkfu ^[k* LrEHks in% l g esy; r

^d* LrEHk%	^[k* LrEHk%
¼d½ voykd; u~	¼i½ fui qkk
¼f k½ i UFKk%	¼i½ vkfn%
¼x½ mokp	¼iii½ i'; u~
¼k½ n{kk	¼v½ i f-%
¼³½ vkjEHk%	¼v½ ekx%
¼p½ vkRet%	¼i½ vdfk; r~
- 2- i wkbkD; su mUkj r
 ¼d½ l oñil ka enya dk vflr\
 ¼f k½ dki dyf'krk efr% fda u foe' kfr\
 ¼x½ l jLorha dk vuq kL; fr\
 ¼k½ 'kki L; vof/k% dk Hkfo"; fr\
 ¼³½ nøkã k% dke~fuxghroku\



3- fo'kšk.ku | g fo'kš; a esy; r

fo'kšk.ke~

¼d½ 'klrø~

¼[k½ fo'kø; k

½x½ b; e~

¼k½ dki dyf'krk

¼³½ oRI s

fo'kš; e~

f/k; k

I jLofr

efr%

I jLorhe~

ofÜk%



19-4 fde~vf/kxre~

- iztki r% | Hkk; ka nòk% fo | kfo"k; s ppl±døzUr LeA
- onkuka i Bus LØkj.k. kka 'kø % iz; kx% drD; %A
- nøkl | % ep% LoHkko% Økšk; ør-% vLrA
- nøkl | % 'kki kr~I jLorh /kj . khrys vkxrka
- ijLeš fn/kkrøHk% | g 'kri R; ; L; iz; kx% HkofrA vkReusi fn/kkrøHk% | g 'kkupi R; ; L; iz; kx% HkofrA
- fol xLFkus jRoø | Roø 'kRoø mRoap HkofrA



19-5 ;kš; rkfoLrkj%

nøkl | k 'klrk | jLorh | kfo«; k | g iFohrye~ vkxPNrA | k 'kksku | k% rhjs vol rA __"k%P; ouL; | røu n/khfuk | g mf"krOk i ø-orh vHkorA i ø-k; onkukø 'kkL=k.kø dykukø | okø ka fo | kuka p Kkua nÜok P; ouL; __"k% nh/khp% p vkK; k | jLorh | kfo=; k | g cāykøda xrorhA | kjLor% Lofi rD; i ø-s k oRI su | g of) a xr% ; kōua i kl; | kjLor% Lofe=k; oRI k; | ok% fo | k% mDRok Lofi rø n/khp% rikous ri % vkpfjre~vxPNrA

oRI su oá k% i kpyrA rL; xks=L; uke okRL; k; u xks=e-br; HkorA okRL; k; uxks=s | hÑrHkk"kk; k% | ø fLk) % x | ys[kd% ck.khkVV% tle vyHkrA rL; fi rø fp=Hkkuø rFkk ekrø uke jktnøh bfr vkl hrA

iLrø% i kB% ck.khkVVI ; g"kpjre-bfr xøkk-r-xghr% vLLeu~ xøFks ck.khkVVsu vkRedFkk vfi fyf[krkA v; e-, dek=a xøFk% ; = dsukfi LothoudFkk fyf[krkA

Øksk% ve"KzK;L; tuL; tLrøk u tkrknz fof}"knj%
i fr'; fg ?ufur 'kBLrFkfo/kku-vl ðrk³xku-fuf'krks bosko% ¼' k'kqo egk-½

nø; % Hkkjrh; I LÑrkSfrLI % iæqkk% nø; k%Le; ÞrA I jLorh& b; afo | k; k% nøh
vflrA b; a 'oroL=kork fr"BfrA vL; k% okgua gð % vflr ; % 'oro.k% HkofrA
vL; k% gLrs LQVdekyk HkofrA vU; fLeu-gLrs i þrda fr"BfrA

nøkk& b; a 'kDr% nøhA b; a ikozh BR; fi mP; rA pkeqMk] dkr; k; uh] dkfydk
bR; knhf u nqkz; k% vU; kfu ukekfu I flrA

y{el% b; a /kuL; nøhA b; a jek] JH% BR; fi dF; rA b; a nø% vI g% p I enp
eUfKudkys prnz kjRu% I g yC/kkA b; a fo".kk% ukjk; .kL; i Ruh vflrKA vL; k%
okgue-myrd% vflrA

I kfo=h& I kfo=h cæe.k% i RuhA I kfo=h xk; =h eU=L;] vf/k"Bk=h nøh vflrA

onk& onk% Kkue; k% xUfkk% I flrA onk% pRokj% I flr __Xon% ; tðh% I keon%
vfkobn% __Xons nøLr; % orÞrA ; tðh% ; Kkuka I Ecu/ks eU=k% I flrA I keons
xkukfu I flrA vfkobns LokLF; L;] I ektL; ykd0; ogkjL; eU=k% I flrA



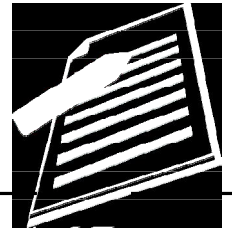
19-6 i kBlurç' uk%

1- d% de~dFk; fr\

dFkufu	d%	de\
¼d½ vk% i ki dkfj.f.k! nfozh/ks eke~mi gl fl A	-----	-----
¼k½ rrrks e"Kz Hkxou! vHkfejSkk 'kki L; A	-----	-----
¼x½ vk% ng] kReu} Økskki gr] dFka f=Hkøuekrja Hkxorha I jLorha 'klrø-vflky"kfI \	-----	-----
¼k½ I f[k! I øj jkske} vl LÑrer; ksfi ep; % ekuuh; k%	-----	-----
¼³½ mi k/; k; ! L[kfyreda {keLoA	-----	-----

2- I jLor; k% /kj .khrys vorj .kL; dFkk; k% I kja i p okD; Skq fy[krA

3- ep% nøkl I % pfj=L; prl % fo' kSkrrk% fy[krA





4- v/kkfyf [krkuk] 'kCnkuka i R; cda }KS I ekukFkzdkS 'kCnkS 'kCne t'kk; k% fy [krA

'kCnk%

I ekukFkzdkS 'kCnkS

1/2 d 1/2 i jeBh

1/4 [k] 1/2 okfj

1/2 x 1/2 p{k}

1/2 k 1/2 l jLorh

1/4 3 1/2 oRl s

'kCn&e t'kk

tye} vf{k} Hkkjrh} iztkifr% us=e} i{=} mnde} cãk} 'kkjnk} l q's

5- n'kfn'kka ukefu fy [krA

6- 'ðk% bR; fLeu-fo"k; s i pokD; kfu fy [krA

7- 'nqk} l * 'kCnL; bo plnæl ~'kCnL; : i kf.k fy [krA

8- fufnZV /kkrq i%okD; kfu ij; r

1/2 d 1/2 Roe-x ta----- 1/n' k&yV 1/2

1/4 [k] 1/2 rs fØdVe----- 1/n' k&ykV 1/2

1/2 x 1/2 mek g; %ukVde----- 1/n' k&y 3 1/2

1/2 k 1/2 ; w e-esyda----- 1/n' k&fof/kfy 3 1/2

1/4 3 1/2 o; e- 'o% m | kua----- 1/n' k&yV 1/2



19-7 mÜkj kf.k

19-3 ckski z uk%

1- 1/2 d 1/2 ii] 1/4 [k] 1/2 vi] 1/2 x 1/2 i] 1/2 k 1/2 iii] 1/4 3 1/2 iv, 1/2 p 1/2 v

2- 1/2 d 1/2 i kjHkr] 1/4 [k] 1/2 Hkfo"; fr] 1/2 x 1/2 i' ; fr] 1/2 k 1/2 xk% 1/4 3 1/2 txtg

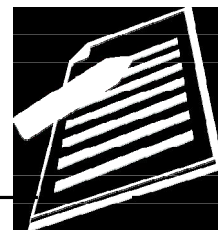
3- 1/2 d 1/2 deykl u} 1/4 [k] 1/2 foLoje} 1/2 x 1/2 l kfo=h] 1/2 k 1/2 l o} i l ke} 1/4 3 1/2 dki dyf"krk

ikBxriz uk%

19-1 1- 1/2 d 1/2 no\$ 1/4 [k] 1/2 v=\$ 1/2 x 1/2 nqk} k] 1/2 k 1/2 foLojedjkr} 1/4 3 1/2 l jLorh] 1/2 p 1/2 'kki tyeA

2- 1/2 d 1/2 gl Urhe} 1/4 [k] 1/2 mi oht ; Urh] 1/2 x 1/2 vlc/uu} 1/2 k 1/2 /kkofUr] 1/4 3 1/2 l ekpjuf} 1/2 p 1/2 f' k{k; Urh

3- 1/2 d 1/2 __p% 1/4 [k] 1/2 l kefu] 1/2 x 1/2 foLoje} 1/2 k 1/2 'kki tye} 1/4 3 1/2 ; t'k 1/2 p 1/2 fi rkege~



- 19-2** 1- ¼d½ dk ¼[k½ de~ ½x½ d% ¼k½ d# ¼³½ dk
2- ¼d½ Øk%ki gr% ¼[k½ vHke% \$, "kk ½x½ bfr \$ vuqkF; eku% \$ vfi
¼k½ c) % \$ vxtyi% ¼³½ bfr \$ mDRok
3- ¼d½ dyg~/kk% ¼[k½ vuqmi l x% ukFk~/kk% ½x½ fu mi l x% \$ o' /kk%
¼k½ orZkk% ¼³½ dEi~/kk%

- 19-3** 1- ¼d½ iii ¼[k½ v ½x½ vi ¼k½ i ¼³½ ii ¼p½ iv
2- ¼d½ l oZ ri l ka enya {kek vLrA
¼[k½ dki dyq'krk efr% dÜk; e vdÜk; e~ok u foe' kfr
½x½ l jLorha l kfo=h vuq kL; frA
¼k½ 'kki L; vof/k% i e=ekoykdua Hkfo"; frA
¼³½ nðk l jLorha fuxghrokuA
3- ¼d½ 'klr#- l jLorha ¼[k½ fo' k; k f/k; k ½x½ b; e~ofÜk%
¼k½ dki dyq'krk efr% ¼³½ oRl s l jLofr

19-6 i k B W r i t u k %

- 1- ¼d½ nðk k & l jLorhe~ ¼[k½ nðk% & nðk l e~ ½x½ l kfo=h & nðk l e~
¼k½ l jLorh & l kfo=he~ ¼³½ f' k"; k% & nðk l e~
2- Lk; a d#rA
3- Lo; a d#rA
4- ¼d½ iztki fr% cÄk
¼[k½ mnde} tye~
½x½ vf{k} us=e~
¼k½ 'kkjnk] Hkkjrh
¼³½ i {=} l rs
5- 1- i ðk] 2- v k X u s h] 3- nf{k.kk] 4- u s _rh] 5] if'pek] 6- ok; oh] 7- mÜkj] 8-
, s kkuh] 9- Å/oë} 10- v/k%A
6- Lo; a d#rA
7- Lo; a d#rA
8- ¼d½ i ' ; fl ¼[k½ i ' ; Urq ½x½ vi ' ; r~
¼k½ i ' ; r ¼³½ n{ ; ke%



20

vulr%KkuI kxj%

V Lekda l 1. Nrok³e; e-vR; f/kda i kphua fo' kkyal kxjor~KkuxEHkhjafojkt rA
 u dbye- vk/; kfRed {ks-s vfi r q foKku {ks-s vfi i kphuHkkj rh; % __f"kfHK%
 cgo% oKkfudfl) kUr k% l #: isk l Unf' kR' k% v | Ros ik' pkr; fo}ka % vfi
 Hkkj rh; foKkusu vkN"V k% Hkkok vuq U/kkudk; kE.k d pZUrA vuok% ik. Mfyi ; %
 fons kSkq eBskq efUnjSkqbnuhefi orEkuk% l flur ; kl ka idk' kuau tkreA Hkkj rh; &
 Kkujk' k% l j {k.ke~vLekda l oBkkes drD; efLrA vr% vLeu-i kBs rL; Kkujk' k%
 fclnq isk dk' pu mi yC/k; % l fr r k% ; u vLekdaeufi vf/kda Kkrqft Kkl k HkorA



mIs ; kfu

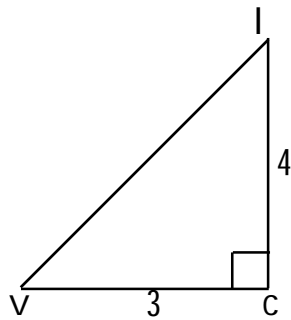
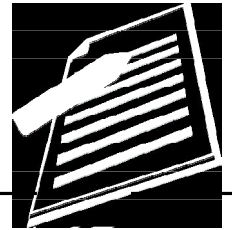
bea i kBa i fBRok Hkoku~

- foKkufo" k; dxHfkkuka i fjp; ayS [krq ' k{; fr(
- 'kY; fØ; k; k% mRÑ"Ve~mnkgj .ka o.kE; "; fr(
- izdk' koxL; fo" k; svk/kfudersu l g ikphuerL; ryuka drq' k{; fr(
- xf.krfo" k; sfo' oa i fr Hkkj rh; ; kxnkuaLi "Vhdrq l {te% Hkfo"; fr(
- i peh" k" BifohkDR; k% Hkna iz ksek/; esu fo' knhdfj"; fr(
- debkP; L; iz ksa dfj"; fr(
- pgj & Hk{k&x.k&dFk&pgj kfnx.kh; &/kkruka iz ksa dfj"; frA



fØ; kdyki %

v/kksyf [kra f=dks ka i' ; rA , rr~ l edks k&f=Hkqt e~vflrA vL; , dk Hkqt k f}&
 vaxfyi fjferk vU; k p f=&vaxfyi fjferk vflrA rL; d.kBkqt k dfri fjferk Hkfo"; fr\



'kqol #s of. k're-vc² \$ cl² ¼ vl²

$$rfgl vl \text{ ¼ } \sqrt{3 \times 3 + 4 \times 4} = \sqrt{9 + 16} = \sqrt{25} = 5$$

fdaHkoku-vL; fl) kUrL; uke tkufr\ fde-mP; r\ 'i kbFkksxkj l * fl) kUr-%bfrA

dLekr\ ; r% i kbFkksxkj l uked% xf.krK% bea fl) kUre- vjp; rA oLr% , rr-
okLrfodarF; aukfLrA , "k% fl) kUr-% i wžo ; tφñL; 'kqol #Skqof. k'-%A , rkn' kke-
vudSka fl) kUr kuka Kkua i ltrq i Bke% o; e-, ra i kBe& ^vullr% Kkul kxj%A



20-1 eyikB%

vUUr% Kkul kxj%

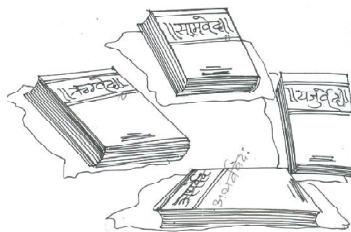
I Eifr eyikBa/; kusu i Bke%

I ðÑrok³e; a f}/kk foHkäq 'kD; r&vk/; kfReda
KkufoKkukRede- pA vk/; kfRed l kfgR; s onk%
mi onk% onk³kfu] i jk. kkfu] jkek; .kå egkHkj re-
x | l kfgR; ai | l kfgR; ð ukV; l kfgR; ap l ekfgreA
foKkusrqvk; φñ% xf. krð okLrfoKkuð HkSrd' kkl=ð
j l k; u' kkl=ð thofokkuð T; ksr' ' kkl=e-bR; knhfu
cgfu ' kkl=kf.k x.; UrA l ðÑrok³e; soKkfud&
xðFkkuka Hk. Mlxkj% , o vfLrA

vk; φñfo" k; spjdl fgrk] l φr] l fgrk] v"Vk³an; ð
Hkkoizk' k% bR; kn; % cgo% i fl) k% xðFk% l fUrA
l φr] l fgrk; ka fNUuukfl dk; k% i R; kjksi .kkFk±
'kY; fpfdRI k of. k'KA thod% bfr uked% egku-
'kY; fpfdRI d% HkfstjktL; efLr"dL;
'kY; fØ; kedjkrA

'kCnkFkð%

ok³e; e-¼ l kfgR;
f}/kk ¼ nksizdkj l s
foHkäq ¼ ckVuk] foHkfr djuk
l ekfgre-¼ l fEefyr gS
x.; Urs¼ fxus tkrsgð
i R; kjksi .kkFkð-¼ nqkjk yxkus ds
fy.



20.1



vksk/khuka fo" k; s dF; rs ; r~dksfi xYed% i kni %
 r.kefi p vksk/khxqkjfgr% ukfLrA rFkl e) e-
 vkl hr- i kphua Hkkj rh; KkueA

xf.krs 'k; n' kka ki) fr% I ; k% i kbEW; e~ 1/4 1/2
 bR; kfnda i wEØ Hkkj rh; % vkfo"Ñre- vkl hrA
 i kbFkxkj l fl) kUr% 'kYol =Skqof.kz%A I k; .kkpk; k
 idk' kL; osx%i frfue\$ka74]000 Øks kfer% 1/4 85]000
 ehyi fjer% of.kz%A vk/kjud\$ p idk' kosx% 186202
 ehyi fjer% el; rA

I hrL; iz kx% vfi fpdfRI kF± fØ; rs LeA
 I xhrfpdRI kjRukdjsukeds xBFks 34]800 jkxk.kka
 fpdfRI kfo" k; s foLrj sk o.kue~mi yH; rA

okLrfo | k; karqd.kk/dscsyjsfo | ekuk%Li 'kj fgrk%
 LrEHk% vullri jhLFk% l IrLoj i Hkkok% e.Mi k/kj k%
 LrEHk% ngyhLFk ykLrEHk% dks kkd hoky; %
 vtUr&, ykj kxqkf p=kf.kj bR; kfnfHk% vuødfu
 rF; kfu Hkkj rh; okLrfo | k; k%xfjek.kai ek.khdøLrA

jl k; ufoKkus i kr tyeg" k% ykg' kL = a
 ykg l d j .ku yo.kfuekz ka o.kz; fra vfi p
 fofok% l d kj % vHkd; kx su p i k j na l ou; k; a
 ÑRok rRI ouu tjkfgrngi kflr% Hkofr LeA

thofokkuso{kk; øñ% xtk; øñ%v' ok; øñ%bR; kn; %cgo% i fl) k% xBFk% ouLi rhuka
 i 'kuka p fo" k; segROI wkk± l puka iz PNfUrA T; ksr" k' kL = sel; rs ; r~vl ; k% xgk%
 l flurA vl; l kje.Mykfu vfi Hkforq 'kDuøfUrA ^dø% bfr xgL; ukEu% vFk%
 vflr 'Hkfeie%A , "k% 'kCn% , o rLeu-xgs thoul EHkO; rka l p; fra l w kzhuka
 l pkj% Hkew% xgk.kkaLoizk' krk ukfLr bfr vk; HkVh; i wEØ LoxBFks vk; HkVh; s
 inf' k'reA

foeku' kL = s l kje & Å t ± iz q; l pk; kfu foekufu of.kz kfu Hkkj } ktL;
 ; U = l oLoj Hkst j ktL; l ej k³.kl = /kje~ bR; kn; % vuøds xBFk% foeku' kL = L;
 i fjp; a dkj; flurA , oa foi % Kkujk' k% or's l Ñrok³e; A vr, o mifu" kRI q
 dffkre& Lok/; k; kJek ien% vL; Kkul xjL; eUFkue~vLekdal oBkkaHkkj rh; kuka
 i jea dr; e; ; su vL; Kkujk' k% l E; d~ l j {k.ke~L; krA

xYeda 3/4 > kMh
 rFkl e) e- 3/4 bruk l e)
 n' kka ki) fr% 3/4 n' keyo iz kkyh
 i fjer% 3/4 ekik gpyk
 mi yH; rs 3/4 i ktr gsrk gA
 HkfeLi' kj fgrk 3/4 i Foh dksu Nnusokys
 ngyhLFk% 3/4 fnYyh eaflFkr
 xfjek.ke~ 3/4 xfjek dks
 i ek.khdøLr 3/4 i ekf.kr djrs gA
 jl k; ufoKkus 3/4 dseLvh ea
 ykg l d j .ku 3/4 ykgs dks 'kk/kr djds
 yo.kfuekz ke~ 3/4 ued cukuk
 vHkd; kx su 3/4 vHkd dsey l s
 i k j na 3/4 i k j s dks
 tjkfgrngi kflr% o) kolFk l sjfgr
 'kj hj dh i kflr
 dø% 3/4 eky xg
 thoul EHkO; rka 3/4 thoul HkVh
 dks
 l kje Å t ± 3/4 l kje & Å t ± dks
 l pk; kfu 3/4 pyk; s krs gq
 mifu" kRI q 3/4 mifu" knka ea
 Lok/; k; kr~ 3/4 Lok/; k; l s
 ek ien% 3/4 vkyL; er djks
 Kkujk' k% 3/4 Kkujk' k dk



20-2 ckskç' uk%

1- eyi kBa i fBRok fjDrLFkkufu ij; r

¼d½ vk/; kfRedI kfgR; sonk%-----] onk³kfu] ----- jkek; .ka-----
p bfr fofo/ka I kfgR; a I ekfgreA

¼[k½ foKkusrqvk; pñ% xf.kr} -----] Hkrd'kkL=e}-----] tho'kkL=e
----- bR; kn; %x.; UrA

¼x½ I ³hrfpfdRI kjRukdj% xBFk% ----- jksk. kka fpfdRI kfo"K; sfoLrjsk
onfrA

¼k½ foeku'kkL=s----- mi ; q; I pk; žk.kkfu foekufu of.kr-kfuA

¼³½ vr, o ----- dffkre----- ek ien%

2- v/kksyf[krokD; šq"KB; Uri nkfu i kBr~fpRok fy[kr

¼d½ ----- ; U=I oLo} ----- I ejk³.kl #/kkje~bR; kn; %vudsxBfK%
----- i fjp; adkj; flrA

¼[k½ I ĩÑrok³e; s----- Hk.Mkj%, o vfLrA

¼x½ thod%bfr uked%egku~'KY; fpfdRI d%----- efLr"dL; 'KY; fØ; ke-
vdjkrA

¼k½ ----- fo"K; s dF; rs ; r~dksfi xYed%ikni% r.kefi p vksk/kh; &
xqkjfgr% ukfLrA

¼³½ ----- iž ks%vfi fpfdRI kFkfØ; rsLeA

3- ¼d½ vk; pñfo"K; dk. kka xBFkkuka ukufu fy[krA

¼[k½ thofokkus xBFk}; L; ukEuh fy[krA

¼x½ foeku'kkL=L; i e[k; k% xBFk; k% ukEuh fy[krA



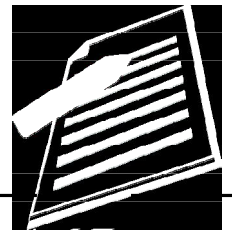
20-3 v/kqk voxPNke%

i Fke%vák%

vLrq i Fkee~váke~i p% i Bke%

I ĩÑrok³e; e~ ----- Hkj rh; Kkue~

vfLeu~váks o; a tkuhe%; r~I ĩÑrI kfgR; s dhn' k% KkuHk.Mkj% fo | rA fdaHkoUr%
vfi I ĩÑrI kfgR; L; fo"K; s dfevi tkufUr] vke~rfgzv= f} f= okD; šqfy[krA





- (i)
- (ii)
- (iii)

vLrj | lÑrI kfgR; L; Kkudks'k% , oefLr&

lÑrok³e; e-f}fo/ke- & 1- vk/; kfRede-
2- KkufoKkukRede-

vk/; kfRedok³e; e- & onk% mi onk% onk³ fu pA

KkufoKkukRede- & vk; pñ% xf.krj okLrfokkueA

l p r I fgrk& vk; pñs 'kY; fpdfRI k fo"k; d% i fl) % xBFk% vL; y[kd%egf"lZ
l p r% vLrA

pjd I fgrk& jkxfunkuafpdfRI kfo/l% p i ed'k% xBFk% vL; izkrk egf"lZ pjd%
v"Vl³ân; e- Hkkoizdk'k% vkn; % vfi vk; pñL; xBFk%

l p r%& HkkjrL; i fl) % i kphure% 'kY; fpdfRI d%

thod%& , d% i flk) % 'kY; fpdfRI d% , "k% , o HkkstjktL; eflr"dL; 'kY; fØ; ke-
vdjkrA

onk%& onk% pRokj% __d- ; t% I kej vFkoZ pA mi onk% vfi pRokj% vk; pñ%
/kuoñ% xkU/kobn% LFki R; on% vFkbn%

onk³kfu& "kV~l flur& f'k{kk} dYi % 0; kdj .ke} fu#äe} NUn% T; ksr"ke~pA

ijk.kfu& vfxu]&ok; j&f' ko]&Hkxor}&LdUn]&x#M}&de]&ukj n]&ekdZ Ms]&cã]&
i ne]&fo" .k&Hkfo"; rj&cjkg]&cãobr]&fy }&okeu]&eRL; &v"Vkn'k ijk.kfu I flurA

0; kdj .kfclno%

v= o; a inkuka i fjp; a de%

vLekde- & vLen~"k"Bh cgppue-

foKkue- & fo \$ Kk \$ Y; v- ui q i Fkek , dopueA

l ekfgre- & l e- \$ vk \$ /kk \$ ä ui q i Fkek , dopueA

iR; kjki .ke- & ifr \$ vk \$ f.kp- \$ Y; v- ½ u ½ ui q i Fkek , dopueA

"k"B; Ur i nkfu

xBFkkuke- xBFkj "k"Bh] cgppueA

vkSk/khuke- vkSkf/k] "k"Bh] cgppueA

HkkstjktL; Hkkstjkt] "k"Bh] , dopueA

efLr"dL; efLr"d] "k"Bh] , dopueA
 fNuuukfI dk; k% fNuuukfI dk] "k"Bh] , dopueA

I kj%

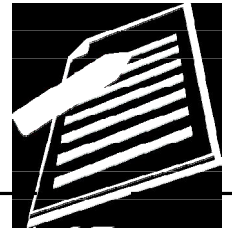
I hÑrI kfgR; L; Kkujkf' k% vuUr%A vk/; kfredxBfksq on&i gk. kn; % vuuds xBfkk%
 , rkn' kk% ; ku-v/kR; oñs' kdk% vfi peRÑrk% tkrk%A oSkfudI kfgR; e-vf/kÑR;
 vfi bnkuha 'kkskdk; kř.k i pyfUrA I pqr% i Fke% Rod- i R; kjki d% bfr i fLk) %
 thod% 'KY; fpdfRI d%vkl hrA ru Hkkt jktL; efLr"dL; 'KY; fpdfRI ke-vdjkrA

I hÑr I kfgR; ea foigy Kkujkf' k fNih gPz gA ik; % gea nks izdkj dk I kfgR;
 feyrk g& vk/; kfred I kfgR; vř oSkfud I kfgR; A igyk gekjs eu vř cř)
 dksn<+cukdj dk; Zdjusdsfy, i kRl kfgR djrk gSvř nř jk foKku fo"K; d ubZ
 tkudkjH inku djrk gA Hkkrh; vk; pñ vkt fon's kla ea Hkh vi uk; k tk jgk gS
 D; křd vk; pñ thou thusdh dyk crk nrk gA pjd vř I pqr nks xBfK bl {ks=
 ea vfr i fl) gA pjd ea jks fpdfRI k rFkk I pqr ea 'KY; fpdfRI k of. kř gA
 I pqr igyslykflVd I tñ ekustkrsgřftlgkaus vi usxBfK eadVh ukd dks tkM/ks
 dh 'KY; fØ; k dk o. kř fd; k gA thod usjktk Hkkt dh efLr"d dh 'KY; fØ; k
 dh FkhA



i kBxrç'uk%20-1

- 1- ¼d½ v/křyf [kr'skq xBfksq ds xBfkk% vk/; kfredI kfgR; L; vř kk% rku-fpãhd#rA
 ¼i½ jkek; .ke- ¼ii½ v"Vlãñ; e-
 ¼iii½ pjdI řgrk ¼v½ xhrk
 ¼v½ egkHkj re- ¼vi½ Hkkoizdk' k%
 ¼iii½ vfHkKku' kkdřrye- ¼iii½ Hkxori gk. keA
 ¼[k½ d% fo"K; % foKku{ks=s i fjx. ; rš
 ¼i½ I xhre- ¼ii½ vfHku; %
 ¼iii½ okLrřo | k ¼v½ u{k=Kkue-
 ¼v½ vkReKkue- ¼vi½ I ekf/k%
 ¼iii½ 'KY; fØ; k] ¼iii½ o{k; pñ%A
- 2- v/křyf [krkuke- , dšle-mnkj .ke- fy [kr&
 ¼d½ i jk. křfu -----





¼ k½ onk³ kfu _____

¼ x½ mi fu"kn~ _____

¼ k½ x | l kfgR; e~ _____

¼³ ½ ukV; | kfgR; e~ _____

3- foKkuL; dk'pu i p 'kk[kk%fy[; Urke-

; Fkk ¼d½ thofokkue~

¼ k½ _____

¼ x½ _____

¼ k½ _____

¼³ ½ _____

f}rh; %vák%

Hkollr% tkufUr , o ; r-foKku{ks= vk/kfudoSKlfudkuka ; kxnkue~ i z ka uh; e~vfLr i je~i jk vLekdaoSKlfud%xf.kr{ks=s j l k; u{ks=sp dhn' ka ; kxnkua i nÚke-bfr v= o; a ck/ke%

xf.krs 'kú; a _____ ngikflr% Hkofr LeA

0; k[; k

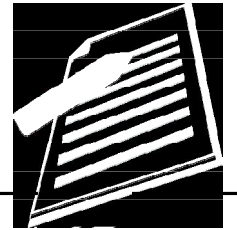
ijkdksrn~rn-fo" k; sdqkyk% vkfo" dkj dk% p __"k; , o vkl uA rsri kfo | kcyu l Ei Uuk% vLekda rs, o oSKlfudk% rfgz v | Hkork fdaKk; r&xf.kr{ks=s vLekda oSKlfudkuka ; kxnkue\ vke~ rfgz Kk; rke&

^ kú; e~n' kka ki) fr% l á; k% π i kbEW; e~bfr mi yC/k; %vLekdaoSKlfudkuke~, oA n' kka ki) fr% ¾ n'keyoi) fr%

^i kbFkkxkj l fl) kUr% d% ^i kbFkkxkj l * uked% df' pr~ofn' kd% xf.krK% vHkorA ru ukEukk , "k%fl) kUr% i fri kfnr% fdaHkollr% tkufUr ; r~v | RosNk=k%j s[kxf.kr& fo" k; s^T; kfevr% bfr : is^iE; * bfr i BfUrA , "k% , o i kbFkkxkj l fl) kUr% i je~ , "k%fl) kUr% ijkdksrn% , o vLekda' kúol =Skq of. kú%

izk' kox%& izk' koxL; fu/kkj .ka l oá Fkea l k; .kkpk; žk ÑreA ; Fkk& ^i frfueŠka ¼euVedž 185000 ehyaijfer% bfrA vk/kfud oSKlfud% rqi zdk' kL; osx% r q 186202 ehyaijfer% el; rA

^l æhrfpfdRLkk jRukdj% dhn' k% xDFK\ jksxfpdRI k; k% vnHkq% , "k% xDFK%A fofokjksk.kka fpdfRI k l æhrek/; esu of.kúrk oržA



HkfeLi 'kj fgrk% LrEHk% dš. Hkæ% Li 'kž k jfgrk%, rsLrEHk% okLrqp"V; k , "kkafof' k"Va egļoefLrA bñ' k% LrEHk% d. kž/djkt; s l flrA

l lrloji Hkkok% LrEHk% dš 'fu"kn&__"kHk&xkU/kkj &"kMt&e/; e&/kšr&i pek* bfr l xhrL; l lrlojk% l flrA , r%Loj% xq trk% LrEHk% ^vullriq kē~ l flrA

foÑfrjfgrykš LrEHk%& fda tkukfr Hkoku~fnYY; ka ykš LrEHk% dē vflr\ vke- ^egjKŠkh ½dīqēhukj {ks=š½ eđRkkdk' ks rFkš flFkr% v | kfi rLeu-dkfi foÑfr%u tkrkA

l w hōky; %d% ^l w žflnje~ bfr ukEuk mMhI ki nšksfr"BfrA dykRedn"V; k vfr l ũnja i fl) a eflnje~ vflrKA

mDrprđV; arqokLrfoKkun"V; k vnHkqēdA

ykgj l dj.kš yo.kfuekz ka dš __f" k. k of.kž e\ tjkjfgr ngi kflr% dFka Hkofr Le\ i kr×tfyegf" kž kka vHkd; kšxš i kjni dšxšA

I kj%

foKkuL; fofok/ks=šk i kphu% egf" kžHk% peRdkj i wkkžu vuđ U/kkudk; kž.k ŃrkfuA vk; HkVšx xf.krs 'kš; L; fl) kŪr% of.kž% l ē; ki nkfu ^fgŪnl š bfr dF; Ūrs; r% rlfu Hkjrns kkr~vjcnš kai fr xrkfuA okLrfoKkus fi vfr}rh; Hkoufuekž kfu vk' p; ž- mRi kn; flrA j l k; ufoKkus fofok/kkrwka; kšxš fofok/k% vksk/k; %jP; Ūrs LeA

i kphu Hkjr rh; egf" kž ka us foKku ds fofok {ks=ka ea vHkri wž vuđ H/kku fd; s tks vkt Hk ošKkfudka ds fy; sjgL; cusgq gš xf.kr ea cgr i gys gh vk; HkV us 'kš; j i kbž fl) kŪr] n'keyo i) fr bR; kfn dk o.kž fd; k FkA fofok Lekjd vkt Hk okLrfoKku ds peRdkj ka dh xfej dk in' kž djrsgš tš sv/kj ea yVds [kEHkš l kr Lojka dh /ofu mRi Ūu djus okys e.Mikdkj LrEHk] fnYyh dk tšxfgr ykš LrEHk] vtŪrk , ykj k dh xQk, ū i kphu okLrfoKku ds mRd" kž dk i ek.k gš

j l k; u foKku ea Hk Hkjr rh; ka ds vuđ škku mYys[kuh; gš ykš /kkrq dks 'kš/kr djds ued cuk; k tkrk gš i kjs dks fofok i dšj l s l š kš/kr vHkd ds l kFk feykj l Ūu djus l so) kolFk i kl ugha vkrh FkA

0; kdj .kfcŪno%

¼½ debkP; kFkš ä i R; ; L; iz kš%

vkfo"Ñre- vkfo \$ Ń \$ ä uiq i Fkek , dopueA
of.kž% o.kž\$ ä iq i Fkek , dopueA



1/2 dežkp; klrfø; ki z; ksk%

1/2 i z; kx% pfdRI kFkfø; rs LeA

1/4 k1/2 o. kUe-mi yH; rA

1/2 i zdk' kox% eU; rA

1/2 Le* ; ksyVydkjL; 1/2 rēkudkyd fØ; k1/2 fØ; k Hurdkyde-vFk±i dV; frA

1/2 1/2 mi i nrRi # "kl ekl %

vullri ghLFk%

vullri q kfr"Bflur bfr

ngyhLFk%

ngY; kafr"Bfr bfr

1/4 k1/2 "k"BhrRi # "kl eLri nkfu

ykgL; 'kL=e-

ykg' kL=e-

ykgL; l dj .ku

ykg l dj .ku

yo.kL; fuekz ke-

yo.kfuekz ke-

vHkdL; ; kx su

vHkd; kx su



i kBxrc' uk%20-2

1- v/kky [kri zuku-muk% l g ey; r

1/2 π i kbz eW; a fde\

1/2 34]800 bfr

1/4 k1/2 i zdk' kL; i frfueška ox%

1/2 l d k f j r & v H k d L ;

1/2 i kbFkxkj l fl) klrL; i w b . k U e - d e # o r z \

1/2 3-1417 bfr

1/2 l x h r j R u k d j s o f . k z - k u k a j k s c k . k l a l d ; k \

1/2 ' k y c l # = S k q

1/3 dL; ; kx su i k j n a l o u ; k \ ; a H k o f r \

1/2 1]86]302 ehyi fjfere-

2- , rsLrEHk% d# d# l flur bfr esyua d# r

LrEHk%

Lfkue~

1/2 HkfeLi ' kj fgrk LrEHk%

1/2 fnYyhuxjs

1/4 k1/2 foNfrjfr% ykLrEHk%

1/2 vullri q kē-

1/2 e. Mi k/kjk% LrEHk%

1/2 fnYyh uxjs

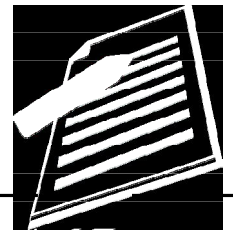
1/2 drcLrEHk%

1/2 d. kL/ds cyjs

3- v/kkyf [krokD; Skq dež nkfu ; kst; r

1/2 cgo% LrEHk% okLrfp | k; k%----- i ek. khdpžrA

$\frac{1}{4}k\frac{1}{2}$ yksg'kkL=a yksgl d dj .ksj ----- o.kz frA
 $\frac{1}{4}x\frac{1}{2}$ fpdfRI kjRukdj%jksk.kka----- o.kz frA
 $\frac{1}{2}k\frac{1}{2}$ Hkkj rh; k% i wēō 'kū; an'kkāki) fra----- bfr of.kzōUrA
 $\frac{1}{4}^3\frac{1}{2}$ l k; .kkpk; % i zdk'kL; ----- of.kzōkuA



r`rh; %vāk%

thofokkus ----- I j{k.ka L; kr~

v= o; ar`rh; svāksv'okfn&i'kuwe-vk; fozk; } l kje.MyL; fo"k; } foeku'kkL=L;
 fo"k; sp Kkua dēA fdaHkoulr-% dL; kfi i'kk%jksfo"k; } rL; funku&fo"k; } o{kL;
 p LoLFkdj.kk; defi mik; a tkufūRA vke~rfgl v= l kisk fy[kr&

i'kk@o{k%	jks%	funkue~
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0; k[; k

v= cksk% ; r~i'kuwa o{k.kka fo"k; svfi LorU=fpfdRI kxdkk% mi yH; UrA

v'ok; pñ& , "k% xdkk% v'okuka fofHkUjksk.kka rnqk; kuka p fo"k; s egūoi wkk±
l puka iz PNfra

x tk; pñ& , "k% xdkk% x tkuka LokLF; fo"k; s l E; d~Kkua nnkfra

oLr% i jkdks v'o& xtkS jkKka Nrs egūoi wkkA ; q n"V; k , r; k% fof'k"Va
egūoe~vkl hrA l Ei Utuk% vfi , rSkka ifjikyua dōzūR LeA i ; kōj.kn"V; k
mHk; k% vrho egūoefLrA

o{k; pñ& , "k% xdkk% o{k.kka fo"k; s l Ei wkk± Kkua nnkfra vflēu~xdkk% o{k.kka
j{k@vkjki .ka i f i j i kyufeo dffkre~orA

l kje.My& T; kfr' 'kkL=s' l kje.Myā cgfu Hkforq'kDuofūR bfr fyf[kraorA
vk/kfudoKkfudk% vfi , oēd el; UrA

dq% d Hkfi e-% dL% $\frac{3}{4}$ i fFKO; k% tk; rs bfr $\frac{1}{2}$ exyXgA , ruō exyXg
thouL; l EHkkouk fØ; rs vk/kfudoKkfudA

xgk.kka i zdk'k& ; sxgk% i zdk' ; Urs rs l ož l w kz~ , o i zdk'ka i kluofūRA

vk; Hvh; e~fde vk; HkVVL; T; kfr' 'kkL=fo"k; s egūoi wkkz jpk vflrA



foeku'kkL=e& fdaHkour% tkufUr ; r-foekukfu dsu bl/kusu ¼i v/ky] Mhty] l h
 , u-th½ i pyflurA vke-l R; e-¼i v/ky* bfrA i ja cgqjgk Hkj }kt% foekupyus l kš
 Å tkz k% iz kx% fyf[kr%A ru fyf[kr% xBFk% vflr& ^; U=l oLoe*A

HkktjktÑra ¼ ejk³.kl w/kkje^ vfi foeku'kkL=L; ifjp; a; PNfrA

, oafg Kk; rs ijk vfi foKkuL; fofo/k{k=skq __f"khk% cgqfpflurra orzA

I kj%

ojkgfegjL; cgRI agrk; ka xtkukej- v' okukj d@dWkuke- BR; knhuke- vudskke-
 vk; fjozk; segloui wke Kkua inUkeA vflEu-xBFks , o o{k; qn% vfi l ekgr%A , "k%
 xBFk% T; ksr' 'kkL=L; cgqW; a fooj .ka innkfrA vk; BKVV; vk; BKVh; e- vij%
 egloui wke xBFk% ; = xgk .kka xfrfo" k; so .kue-vflrA 'Hkaksy* bfr 'kcn% , o Hkks xky%
 orzsbfr l k/k; frA

foeku'kkL=s i kjnL; ; kxsu] l kš & mtz k% mi ; kxsu p foekukfu mMM; Urs LeA
 ; U=l oLo f=i j foekUKL; o .kuefi mi yH; rs ; r-foekua ty} Hkfo] vurfj{ksp
 l E; d-pfyrg 'kDukr LeA vr% viw% vullr% p vLekdafokkujkf' k%A

ojkgfegj dh cgRI agrk ea gkffk; kš ?kkWkš eqkx vks cdfj; ka dk Hkh vk; qn
 l ekgr gA o{k; qn Hkh bl h xBFk dk , d Hkcx gA ; g xBFk T; ksr' 'kkL= dk
 vnHkq xBFk ekuk tkrk gA vk; BKV }kj k fyf[kr ^vk; BKVh; e- xBFk nli jk egloui wke
 xBFk gS tks xgka dh xfr dsfo" k; ea cgqW; rF; inku djrk gA 'Hkaksy* 'kcn
 gh ; g l fipr djrk gSfd vk; BKV dstekusrd ¼i Foh xky gS ; g ekuk tkrk FkA

foeku'kkL= ea i kjs ds ; kx l } l kš Å tkz ds mi ; kx l s foeku mMk; s tkrs FkA
 ; U=l oLo eaf=i j foeku dk o .ku feyrk gS tks ty] i Foh vks vurfj{k ea l jyrk
 l sfopj l drk gA bl izdkj gekjh Kkujkf'k vullr vks viwz gA

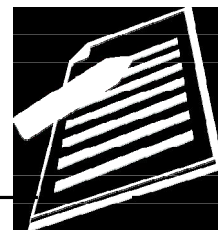
0; kdj .kfclno%

dezbkP; s drkz rrrh; kur% Hkofr deZ i FkekUr } fØ; k; k% l Ecu/k% d=kz l g u Hkofr
 vfi r q deZkk l g HkofrA ; Fkk (i) ¼dezbk-½ oS] su vHkdL; l ¼dkj %Ñr%A ¼drz oS] %
 vHkdL; l ¼dkja djkrA (ii) ¼dezbk-½ thodsu 'KY; fpdfRI k ÑrKA drz ¼thod%
 'KY; fpdfRI ka djkrA½

v/kšyf[krokD; kuka drzbkP; s Hkookpds@dezbkP; s : is i' ; Urq

vk; BKVs LoxBFks xgk .kka Kkua inf' k'reA dezbkP; e-

vk; BKV% LoxBFks xgk .kka Kkua inf' k'rokuA drzbkP; e-



Hkj }ktu foeku'kkL=sfoekukfu of.kz-kfuA dežbKp; e-
 Hkj }kt% foeku'kkL=sfoekukfu of.kz-rokuA držbKp; e-
 rs Nk; k; ka fr"BfUrA držbKp; e-
 r% Nk; k; ka LFkh; rA HkkookP; e-HkkookP; s deZ u Hkofra

foxgk% I eLri nkfu

t hokuka foKkus	thofokkus	"k"BhrRi # "k%
o{kk. kke- vk; φh%	o{kk; φh%	"k"BhrRi # "k%
Hkæ% i e%	Hkfi e e%	"k"BhrRi # "k%
KkuL; j kf' k%	Kkujkf' k%	"k"BhrRi # "k%
egÛosu i wkk%	egÛoi wkk%	r`rh; krRi # "k%
u l ā; k ; Škka rs	vl ā; k%	cgφhfg%
dk% tk; rs bfr	dqt%	mi i nrRi # "k%

iR; ; i fjp; %

egÛoe~	egr~\$ Ro	ui q iz , - o-
Loizdk'krk	Loizdk'k \$ ry~	L=h- iz , - o-
l j {k. ke-	l e-\$ j {k-\$ Y; V}	ui q i Fkek , dopue-
ifl)k%	iz \$ fl /k-\$ ä	i q i Fkek cgppue~
in' k're~	iz \$ n'k-\$ f.kp~	ui q i Fkek , dopue-
of.kz-kfu	o.kz \$ ä	ui q i Fkek cgppue~
dfFkre~	dFk-\$ ä	ui q i Fkek , dopue-
Hkfor e~	Hkw \$ r e q u~	v0; ; e-
iz ā;	iz \$; q~\$ Y; i~	v0; ; e-

/kkrwuka : i kf.k& vfLeu~i kBs `o.kz /kkrk% iz ks% N`r%A v= pgj] Hk{k}- dFk}- x.k-
 /kkrwuka : i kf.k iz ks kFk±nh; UrA

pgj~ 1/2pgjknx.kr% mHk; i nh ijLeš ns

	yVydKj%			yVydKj%		
	, dopue~	f}opue~	cgppue~	, dopue~	f}opue~	cgppue~
iD iQ	plkj; fr	plkj; r%	plkj; flr	plkj f; "; fr	plkj f; "; r%	plkj f; "; flr
e0 iQ	plkj; fl	plkj; Fk%	plkj; Fk	plkj f; "; fl	plkj f; "; Fk%	plkj f; "; Fk
m0 iQ	plkj; kfe	plkj; ko%	plkj; ke%	plkj f; "; kfe	plkj f; "; ko%	plkj f; "; ke%



	y³ydkj%			yk/ydkj%		
iD iQ	vplj ; r-	vplj ; rke-	vplj ; u-	plj ; rq	plj ; rke-	plj ; lrrq
e0 iQ	vplj ; %	vplj ; re-	vplj ; r	plj ;	plj ; re-	plj ; r
m0 iQ	vplj ; e-	vplj pko	vplj ; ke	plj ; kf.k	plj ; ko	plj ; ke

	fof/kfy³-		
	, dopue-	f}opue-	cgppue-
iD iQ	plj ; s-	plj ; rke-	plj ; s %
e0 iQ	plj ; %	plj ; re-	plj ; s
m0 iQ	plj ; s e-	plj ; o	plj ; e

, oed Hk{kdfkx.kpj kfnx.kh; /kkruka : i kf.k HkofUrA

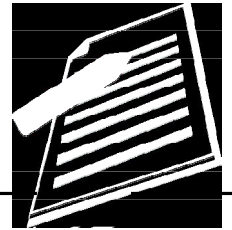
Hk{k& Hk{k; fr----- (Hk{kf; "; fr----- (vHk{k; r----- (Hk{k; rq----- (Hk{k; s-----A
 dFk& dFk; fr----- (dFkf; "; fr----- (vdFk; r----- (dFk; rq----- (dFk; s-----A
 x.k& x.k; fr----- (x.kf; "; fr----- (vx.k; r----- (x.k; rq----- (x.k; s-----A



i kBxrç'uk%20-3

- 1- i z ukuke-mÜkj kf.k fy [kr
 ¼d½ =; k. kka i fl) kuka mi fu"knke-ukekfu fy [krA
 ¼[k½ xgk. kka o. kZa dfLeu~foKkus orZs
 ½x½ foekuSkq i phudkys dhn'ke~Å t±iz q; rs Le\
 ¼k½ l ejk³.kl #/kkjL; y[kd% d%
- 2- v/kkfyf [krokD; Skq fØ; ki nkfu ij; r
 ¼d½ cgo% xbfkk% i 'kuka fo"k; s egUoi wkk± l puka -----
 ¼[k½ Hk{ie i-% 'kCn% rfLEku-xgs thoul EHkko; rka -----
 ½x½ l lÑrok³e; sfoi y% Kkujkf' k% -----
 ¼k½ vr, o mi fu"rri q-----] Lok/; k; kr~ek -----
- 3- fo' kSk. kkfu ; kst ; r
 ¼d½----- xbfkk%A
 ¼[k½----- l pukaA
 ½x½----- xgk%A
 ¼k½----- foekufuA

- ¼¾----- Kkujkf' k%A
- ¼p½----- drD; eA
- ¼N½----- Hkkj rh; kukeA



20-4 fde~vf/kxre~

- I ¼Ñrok³e; a f}fo/ka Hkofr& vk/; kfReda KkufoKkukRede~pA
- foKkul; {ks-s vk; ¼h% xf.kre} T; ksr"ke} okLrfoKkuþ j l k; uþ thofokkuþ foekufokkue~bfr fofo/kk% 'kk[kk%A
- i kphua oKkfuda l kfgR; e~vrho l e}afo' kkyap orhA
- o; e~i kphufokkul; mi {kka u dq kE} vfi r q Lok/; k; a ÑRok 'kkdkdk; ±dq kEa
- Roj ry} ?k%-i R; ; kuka; kxsa Hkkookpd' kCnkuka fuekz ka HkofrA
- i pehfokkfä% vi knkus i z q; r} "k" Bh p l Ecl/ka i dV; frA
- debkP; s drfj r rh; k Hkofr] de f.k i Fkek] fØ; k p deñ ne~vuq jfr u drñ neA
- pgj} x.kj Hk{k} dFk~/kkruka: i kf.k l ekufu HkofUrA



20-5 ; kx; rkfoLrkj%

vk/; kfReda l kfgR; e~

mi fu"kn% , dkn'k mi fu"kn%vrho i fl) k% bZ k] dñ] dB] i t u] eqMd] ek.MD;] , rjs] rñkj;] cgnkj. ; d] NKUnkx;] 'ork' orj bfrA

n'kzkfu& vkfLrdn'kzkfu] rkfu ; kfu ona i ek.ka eu; Ur& l kq; e} ; kx% U; k; % oSk"kede} i ðehed k] mÜkj ehed kA ukfLrdn'kzkfu ona i ek.kau eu; Ur& cK) n'kzue} tñn'kzue} pkokdn'kzueA

oKkfuda l kfgR; e~

'kk[kk% vk; ¼h% xf.krþ Hkksrd'kkL=e} j l k; u'kkL=e} tho'kkL=þ T; ksr''kkL=e~br; kn; % Hkfe% i xphkrfRedk dfi RfKQykdKfj dk p bfr i kphudkys eu; rsLeA Hkfe% , o Hkefr bfr l kje.Myefi i jk'kFDra dñhÑR; Hkefr bfr vLeRi ðzt% fl) kfurraA



Hkkir-bfr ioZL; i ; k; % Hkpa/kkj; fr bfr ioZk%Hkksyual k/k; flr bfr eu; rsLeA
Åtkl j{k.kfu; e% v.kfl) klr% nD; fuekz.ke~ bR; kn; % fo"K; k% ofnddkyknkjH;
Hkkjrs i d r k% n' ; UrA

, dL; ka i f=dk; ke-vkbuI Vkbuegkns L; v/kkfyf[kr%vuqNn%vLeH; aekxh'kd%
, o&

You hail from India in the name of Indian Philosophy. Yet you have not cared to learn Sanskrit. Come along, see my library which treasures classics from Sanskrit - the Gita and other treasures from Hindu Philosophy. They are the main source of my inspirations and guidelines for the purpose of scientific investigations and formulations of theories.

Hk"KfoLrkj%

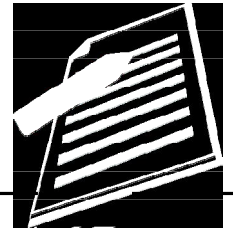
i peh"K"BhfHkDR; k% , dopus : i a l ekuHkofr i jUrqvFkksn% egku-HkofrA

i pehfoHkfa%

- vinkus i peh iz q; rA
- Hkh] tu} t%qj} foje-vkfn /kkruka ; kxs i peh iz q; r&
kyd%fl gkr-foHkfrA i d kRk% ioZkr-tk; rA l k/k% i ki kr-t%qj r%fojeFrA
- ; Lekr-v/khrs r=kfi i peh
xgk% fo | ke-v/khrA v/; ; ukr-ijkt; rA vki ukr-i gkrA 'o'kjkr-ftgfrA
- rgyuk; ke- i peh iz q; rs ; Fkk
/kukr-Kkua x#rjeA nokr-jes k% i Vqj% o/kLkn-j {k. ka J\$ %A
- vk³-bfr ; kxs i peh
vkenykr~ JkrqePNkfeA vkdsy'k' kkr~HkfeFrA
- vU; brj] vkjkr} __r} cfg%fnXokfp'kCnH; % i pehA
gj% vU; % d%
- oukr-vkjkkr~¼ ehi ½ uxj% ukfLrA
Kkukr-__rsu l q'keA o\$kk[kkr~i w±p\$%A uxjkn-cfg%oue-vfLrA

"K"Bhi z kx%

mi fj] v/k% vx} vknk\$ i g% nj} l ehi } bR; kfn'kCn% l g "K"Bh iz q; rA
xteL; nf{k.kr%
xgL; mi fj@v/k%@vx\$



xteL; @xtekn~ok nija oue-¼i peh p½
 vf/k \$ b] n; } Le] vkfn/kkrqHk% l g vfi "k"Bh iz q̄; r&
 ekr% Lejfr] vukFKL; n; rs
 ÑnUrkuca drZj deĪ.k p "k"Bh
 f'k' k% jknueĪ dkyL; xfr% i q̄rdL; i k% jkT; L; i kfr%
 fu/kkj .ks "k"Bh l Ireh ok
 dohuka dfo"qJŠB% dkfy nkl %A

fde&rr&; r&, rr&Hkor&l oŁke'kCnkuka L=hfy³: i kf.k

	fde-	rr-	; r-	, rr-	Hkor-
i Fkek	dk	l k	; k	, "kk	Hkorh
	ds	rs	; s	, rs	Hkor; kS
	dk%	r k%	; k%	, r k%	Hkor; %
f}rh; k	dke-	rke-	; ke-	, rke-	Hkorhe-
	ds	rs	; s	, rs	Hkor; kS
	dk%	r k%	; k%	, r k%	Hkorh%
r rh; k	d; k	r; k	; ; k	, r; k	Hkor; k
	dkh; ke-	rkh; ke-	; kh; ke-	, rkh; ke-	Hkorh; ke-
	dkh k%	rkh k%	; kh k%	, rkh k%	Hkorh k%
pr fkhZ	dL; S	rL; S	; L; S	, rL; S	Hkor; S
	dkh; ke-	rkh; ke-	; kh; ke-	, rkh; ke-	Hkorh; ke-
	dkh; %	rkh; %	; kh; %	, rkh; %	Hkorh; %
i peh	dL; k%	rL; k%	; L; k%	, rL; k%	Hkor; k%
	dkh; ke-	rkh; ke-	; kh; ke-	, rkh; ke-	Hkorh; ke-
	dkh; %	rkh; %	; kh; %	, rkh; %	Hkorh; %
"k"Bh	dL; k%	rL; k%	; L; k%	, rL; k%	Hkor; k%
	d; k%	r; k%	; ; k%	, r; k%	Hkor; k%
	dkl ke-	rkl ke-	; kl ke-	, rkl ke-	Hkorhuke-
l Ireh	dL; ke-	rL; ke-	; L; ke-	, rL; ke-	Hkor; ke-
	d; k%	r; k%	; ; k%	, r; k%	Hkor; k%
	dkl q	rkl q	; kl q	, rkl q	Hkorh"q

vLen&; ĩen& Hkor~ ¼i q̄y³ l oŁke'kCnkuka l ekulrj: i kf.k½

	vLen-	; ĩen-	Hkor-
i Fkek	vge-	Roe-	Hkoku-
	vkoke-	; ĩke-	HkoulrS
	o; e-	; w e-	Hkoulr%
f}rh; k	eke-	Roke-	Hkoulre-
	vkoke-	; ĩke-	HkoulrS
	vLeku-	; ĩeku-	Hkor%

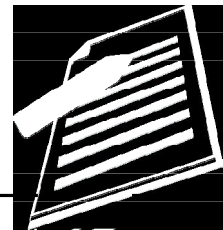


rrh; k	e; k	Ro; k	Hkork
	vkoh; ke-	; økh; ke-	HkonH; ke-
	vLekHk%	; øekHk%	HkonHk%
prfkhz	eg; e-	rH; e-	Hkors
	vkoh; ke-	; økh; ke-	HkonH; ke-
	vLeH; e-	; øeH; e-	HkonH; %
i peh	er-	Ror-	Hkor%
	vkoh; ke-	; økh; ke-	HkonH; ke-
	vLer-	; øer-	HkonH; %
"k"Bh	ee	ro	Hkor%
	vko; k%	; ø; k%	Hkor k%
	vLekde-	; øekde-	Hkorke-
I lreh	ef;	Rof;	Hkofr
	vko; k%	; ø; k%	Hkor k%
	vLekl q	; øekl q	Hkorl q



20-6 i kBlrç'uk%

- 1- v/kšyf [krokD; šq "kB; Uri nkfu fpRok rška ey' kGnafy [kr
 $\frac{1}{d} \frac{1}{2}$ l øql fgrk; ka fNUuukfI dk; k% i R; kj ki .kkFk± 'KY; fpdfRI k of .křkA
 $\frac{1}{4}$ [k $\frac{1}{2}$ vksk/khuka fo"k; s dfFkra ; r~dks fi xYed% xqkjfgr% ukLrA
 $\frac{1}{4} \times \frac{1}{2}$ vudkfu rF; kfu okLrfo | k; k% xfjek. ka i ek. khdpžŪrA
 $\frac{1}{2}$ k $\frac{1}{2}$ vL; Kkujk' k% l E; d~l j {k. ka L; krA
 $\frac{1}{3} \frac{1}{2}$ i kr tyeg" k% ykg' kL=a ykgI l dj .ku yo. kfuekz ka o. kž frA
- 2- okP; afufnz kr
 $\frac{1}{d} \frac{1}{2}$ okkfud% vkfo" dkj% Ńr%A
 $\frac{1}{4}$ [k $\frac{1}{2}$ thodu 'KY; fpdfRI k ŃrkA
 $\frac{1}{4} \times \frac{1}{2}$ okkfudk% fujŪrje~vuq U/kua dpžŪrA
 $\frac{1}{2}$ k $\frac{1}{2}$ r% 0; Fk± gL; rA
- 3- okLrfo | k; k% i p peRdkj i wkžufež; % o. ; ŪrkeA
- 4- vk?; kfRedI kfgR; s onkuka onk³kuka p ukekfufy [krA
- 5- v/kšyf [križ ukuke~mŪkj kf. k fy [kr&
 $\frac{1}{d} \frac{1}{2}$ vk; øñL; i fl) k% xŪFkk% ds l flŪr\
 $\frac{1}{4}$ [k $\frac{1}{2}$ thod% dL; 'KY; fØ; ke~vdjkr\



¼x½ vksk/khxqkjfgr% d% ukfLr\ d#na dffkre\

¼k½ jksk. kka fpdfRI kfo" k; s dfLeu- xbfks o. kua ÑrefLr\

¼³½ ykg' kL=a dL; jpuk vfLr\

¼p½ dL; I ouu tjkgfgrngi kflr% Hkofr\

¼N½ foeku' kL=s foekukula I pkyuk; dhn' kh Åtkz idfYi rk\

6- mfpresyua fØ; rke-

¼½ o{k; pñ%	¼½ T; kfr' ' kL=s
¼i½ I k&Åtkz	¼k½ jI k; u foKkus
¼ii½ yo. k fuekZ ke-	¼b½ foeku' kL=s
¼v½ vl [; k% xgk%	¼o½ thofokkus
¼½ ykg LrEHk%	¼m½ 'kYol #Skq
¼i½ dks kkdZ noky; %	¼Å½ fnYY; ke-
¼iii½ i kbFkxkj I fl) kUr-%	¼½ mMhI kjkT; s

7- ; Fkfunð ka /kkrwke-mi ; Ør: i % fjDrLFkkukfu ij; r

¼½ I %okr%-----A ¼dFk&yVydj%½

¼i½ nqV% tu% I Ttuefi vi 'kcnku-----A ¼dFk&y³ydj%½

¼ii½ prj% pK% j {kdku-o pf; Rok jktxgkr-/kue-----A ¼pj&y³ydj%½

¼v½ I nkpkj ijk; .k% ckk{kr% vfi dL; kfi /kuau -----A ¼pj&yVydj%½

¼½ HkDrk% #nk{kkyk; k% xqVdk% -----A ¼x. k&yVydj%½

¼i½ ; fn I Qyrka dkqkfl rfgZ d"Vkfuk ek -----A ¼x. k&yks/ydj%½

¼iii½ #X. k% vi F; au -----A ¼kk{k&fof/kfy³½

¼iiii½ riL; kfujrk ikozh o{k; % ifrrkfu i. kZu vfi u -----A
¼kk{k&y³ydj%½



20-7 mUkj kf . k

20-2 cskiz uk%

1- ¼d½ mi onk% i jk. kkfu] egkHkkj ra

¼k½ oLr{Kue} jI k; u' kL=e} T; kfr' ' kL=e-

¼x½ 384|800

¼k½ I k&Åtè-



1/3 1/2 mi fu"RI q Lok/; k; kJek

2- 1/4 1/2 Hkkj }ktL; HkkstjktL;] foeku' kL=L; 1/4 1/2 oKkfudxjFkkuka 1/4 1/2 HkkstjktL;
1/2 1/2 vksk/khuka 1/3 1/2 l 3hrL;

3- 1/4 1/2 pjdl fgrk] l pql fgrk] v"Vk3an; e] Hkkoizd' k%
1/4 1/2 o{kk; pñ% xtk; pñ%
1/4 1/2 ; U=l oLo] l ejk3.kl #/kkje-

ikBxrižuk%

20-1 1- 1/4 1/2 jkek; .ke] xhrk] egkHkjre] Hkkxorij.k.ke-

1/4 1/2 1/4 v 1/2 u{k=Kkue- 1/4 iii 1/2 OkLrfo | k

2- 1/4 1/2 fo".kq ij.k.ke- 1/4 1/2 f' k{kk 1/4 1/2 bZ kksi fu"kn- 1/2 1/2 dknEcjh
1/4 1/2 vfHkKku' kkd]rye-

3- 1/4 1/2 Hkkf'rd' kL=e- 1/4 1/2 j l k; u' kL=e- 1/2 1/2 okLr'Kkue- 1/3 1/2 xf.kre-

20-2 1- 1/4 1/2 iii 1/4 1/2 v 1/4 1/2 iv 1/2 1/2 i 1/3 1/2 ii

2- 1/4 1/2 iv 1/4 1/2 i 1/4 1/2 ii 1/2 1/2 iii

3- 1/4 1/2 xfjek.k 1/4 1/2 yo.kfuekZ ka 1/4 1/2 fpfdRI ka 1/2 1/2 xf.kre- 1/3 1/2 oxe-

20-3 1- 1/4 1/2 bZ k] dB% NKUnk; mi fu"kn] 1/4 1/2 T; kfr" k' kL=s 1/4 1/2 l k] Å t±
1/2 1/2 Hkkstjkt%

2- 1/4 1/2 iz PNFUr 1/4 1/2 l p; fr 1/4 1/2 or'rs 1/2 1/2 dfFkre] i en%

3- 1/4 1/2 cgo% 1/4 1/2 egUoi wkk± 1/4 1/2 vl q; k% 1/2 1/2 l pk; Žk.kfu 1/3 1/2 foi g%
1/4 1/2 i jea 1/4 1/2 l oBkka

20-6 ikBxrižuk%

1- 1/4 1/2 fNUuukf l dk; k% ey' kCn% fNUuukf l dk

1/4 1/2 vksk/khuka ey' kCn% vkskf/k

1/4 1/2 okLrfo | k; k% ey' kCn% okLrfo | k

1/2 1/2 Kkujk' k% ey' kCn% Kkujkf' k

1/3 1/2 eg"kk% ey' kCn% egf"kl

2- 1/4 1/2 debkP; e- 1/4 1/2 debkP; e- 1/4 1/2 drbkP; e- 1/2 1/2 HkkookP; e-

3- HkfeLi 'kj fgrk%LrEHkk%e.Mi /kkjk%Lr-EHK% ngyhLFk%ykgLrEHk% dks kkdZnoky; %
vtUrk , ykj xgkfp=kf.kA

4- onk%prOkj%& __xøn% l keon% ; tøn% vFkōbn%
onk³kfu "kV& f'k{k} dYi % 0; kdj .ke} fu#Dre} NUn% T; ksr"keA

5- ½d½ pjd l fgrk l pqr l fgrk v"Vk³ân; e} Hkkoizdk'k% pkn; %A

¼k½ thod% HkktjktL; eflr"dL; A

½x½ dksfi xYed% ikni% r.kakj vk; øñA

½k½ l øhrfpdRI kjRukdjs

½³½ ikr tyeg"l%

½p½ l ldkj; ør&vHkd; kxsu ikjnl ouu

½N½ l k&Åtkz

6- ½½ bZ ½i½ b ½ii½ vk ½v½ v ½w½ Å ½i½ , ½iii½ m

7- ½½ dFk; fr

½i½ vdfk; r~

½ii½ vpkj; r~

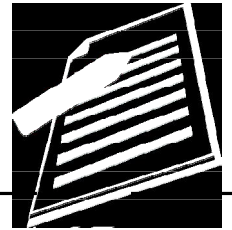
½v½ pkjf; "; fr

½w½ x.k; flr

½i½ x.k;

½iii½ Hk{k; r~

½iii½ vHk{k; r~





'kY; fpdfRI ktud%l φϕ%

HkoUr% tkufUr ; r-#X.kk% tuk%oñ; afdRI daok mi xNfUrA oñ; % rSkajksL; funkuaÑRok rñ; %vksk/ka; PNfr rSkajksap vi u; frA ; nk dL; kfpn-nqk/uk; ke-v³Hk³% Hkofr vFkok 'kjhs oz kkn; % tk; Urs rnk o; a fda dē% o; a jksxtua dL; fpr- dqky'kY; fpdfRI dL; I ehi a u; ke% I % ihfMrkfu HkXukfu v³kfu 'kY; fØ; k}kjk mn?kkV; rSkke-vLFuka i q%LFki ukaÑRok Rop%l hØ; frA dkyu tu% LokLF; a yHkrA fda tkufUr Hkour% ; r- 'kY; fØ; k; k% tud% l φϕ% vkl hrA I % i kphu&Hkjrh; oSkfud%vkl hrA I u dōya'kY; fØ; k; k%vfi rq'lykfLVd I tñh' uke RodiR; kjki .kL; vfi tud% dF; rA v= o; arL; fo"i; s, o i Bke%



míś; kfu

bea i kBa i fBRok Hkoku-

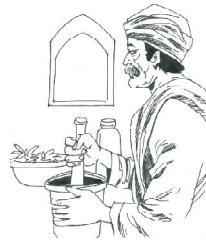
- 'kY; fpdfRI k; ka eg"kk% l φϕL; vonkua o.kē; rā l eFk% Hkfo"; fr(
- l φϕl āgrk; ke-mfYyf[krkuka 'kY; ; U=k. kka oño/; a o.kē; rā 'kDr% Hkfo"; fr(
- JSB'kY; fpdfRI dL; y{k.kkfu yš[k"; fr(
- fofo/k'kY; fo/kk% o.kē; "; fr(
- ^r0; r{ vuh; j^ i R; ; ; φri nkfu okD; s i z kē; fr(
- l ā/k; φri nkuka l fu/kPNnaÑRok l fu/kukelku yš[k"; fr(
- eqp} b"kl- fo'kl- i PN~/kkruka okD; škq i z ksca dfj"; frA



fØ; kdysi %



21.1



21.2



21.3



21.4

#X. kkuka t ukuka j ksfuokj . kkFk±i zkkur-% }sfo/khA dSkkf pr-j kxk. kka Ñr spw kz xkfydk& vknhf u nh; Urs rFkk dSkkf pr-Ñrs 'kY; fpdfRI k fØ; rA v/kkfyf [kr'skq dSkq j kxkSkq pwkz&kfydkfnfhk% vksk/kfpdRI k Hkofr dSkq p 'kY; fpdfRI kj bfr fopk; Z i R; de- l Ee[ke-^vksk/kfpdRI k* ^kY; fpdfRI k* p bfr fy[krA

v th. kē~ _____

vfLFkHk³% _____

Toj% _____

oØukfI dk' kkskue~ _____

fo"kkDr% oz k% _____

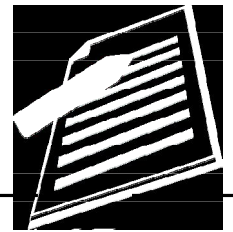
mPpjDrpki e~ _____

f' kj% i kfyR; e~ _____

ÑÜk&v³fy; kst ue~ _____

x/kl hokr% _____

rrh; s i kBs Hkonfhk% egf"kpj dfo"k; s i fBra Kkra p ; r- l egku- oñ; % vkl hrA pjdry; , o egku- 'kY; fpdfRI d% l qm% vfi vkl hrA rL; fo"k; s v= o; a i Bke%A





21-1 ey i k B%

'KY; fpdfRI ktud% I φφ%

bnkuha ey i kBa i Bke%A

fpdfRI kfoKkus foHkkx}; a orh& vksk/kfpdRI k
'KY; fpdfRI k pA vk; φhL; i kphureksxwFMS pj d&
I fgrk I φφI fgrk pA pj dI fgrk uke
vksk/kfpdRI kxwFK% pj dsk rFk I φφI fgrkuked%
xwFK%p egf"Kz.k I φφsu jfpr% bfr el; rA I φφkL;
ukekysy[k% okYehfdjkek; .ks vfi vLrA I %
fo'okfe=L; iφ-% vkl hrA 'KY; fpdfRI k; ka
; U='kL={kkj&vfXu& i f.k/kkukfu bfr pRokfj
'KY; fo/kkukfu of.kz-kfuA fdauke 'KY; eA 'KY; or-
rnrfr rr~'KY; eA rL; fuji ua 'KY; deA



21.5

mÙke% 'KY; fpdfRI d% dhm' k% Hkor~ bfr fo" k; s
o.kz fr I φφ%

'kKš ž~ vk' kφØ; k 'kL=r\$.; e~ vLonoš FkφA
vI Eekg' p oS] L; 'kL=deġ.k 'kL; rAA

I φφkφrkuka 'kL=deġ.k mi; q; ekukuka ; U=k. kka
I q; k 'krkf/kdk vLrA oLrφ%' kL=deġ.k oS] L;
gLr , o izkkure%A I okġ.k vfi ; U=deġ.k
rn/khukfuA 'kL=kf.k "kv-i zdkj.kf.k r | Fkk
LokfLrd; U=kf.k I Uná.k; U=kf.k] rky; U=kf.k
ukMh; U=kf.k] 'kykdk; U=kf.k mi; U=kf.k pfrA

'kCnkFKz%

i f.k/kkukfu ¾ iz kx
'KY; e-¾ dkVki vkwj sku
; U=a ¾ midj.k] vkStkj
{kkj ¾ {kkj} jI
'KY; fo/kkuA¾ 'KY; fpdfRI k dsfu; e]
fof/k; k]
rnrfr ¾ ptkrk gš xMf k gš
fuji ue-¾ gVku] fudkyuk
vk' kφØ; k ¾ f{kiz fØ; k] Qmhz
r\$.; e-¾ rh[kki u] 'kL= dk rst]
/kkjnkj gskuk
vLonoš Fkφ ¾ i l huk vġ dā u u
gskuk
vLEekg%¾ eBNkz k% vHko% fLFkjrk]
'kka vġ fLFkj jgus dk Hkko
'kL; rs ¾ iz k k fØ; r] iz k k dh
tkrh gš I jgk tkrk gš
mi; q; ekukuka-¾ iz φrkuke-ftudk
iz kx fd; k tk jgk gkA
'krkf/kdk%¾ 'kr%vf/kdk , d I kSI s
vf/kd
izkkure%¾ eġ; re% ¼ eġ k gž
; U=deġ.k ¾ mi dj. kka dk mi; kx
LokfLrd ; U=kf.k ¾ LokfLrd dh
Hkφr chp I stφs; æ tejk (cross
shaped higes)
I Uná.k% ¾ fpeVh] I Mkl h (for-
ceps)
rky; U=e-¾ pEep dh vkNfr dk
; æ (scoops)
ukM%; ¾ uyh ds I eku Hkrj I s
i kys midj.k (tubules)
'kykdk; U=kf.k ¾ NMhupek ; U= (rod
type instruments)
exi f{k. kke-¾ i 'kuuka i f{k. kka p]
i 'kφ; i f{k; ka dk
'KY; K%¾ 'KY; fpdfRI k tkuusoky]
I tU
#X.kL; ¾ jkxtul;] jkxh dk
I houkFKž-¾ I husdsfy,] tkMhusds
fy,] I φ; % ¾ I φ; k]

r= prfo±kfr% LofLrd; U=kf.k] }s I Unakš }s
 rky; U=} foakfr% ukM; % v"Vfoakfr% 'kykdK%
 i pfoakfr% mi; U=kf.k p I fUrA , rška d k f u p r ~
 ; U=k.kka e[k f u ukuki z k j k.kka e x i f { k.kka e [k %
 I n' k f u i k ; % H k o f U r A ; F k i k f . k e [k f u o L r q x g ~ k f U r
 r F k n < f ; k , r % v f i ' k Y ; K % # X . k L ; ' k j h j L ;
 v 3 a x i g h r q ' k D u k s r A

'kL=i f . k / k k u s f o a k f r f o / k k f u ' k L = k f . k I p l q s u
 o f . k r k f u A I h o u k F k ± f o f o / k k % I R ; % v f i v = o f . k r k A

'kL=k.kke- vkp k j . k f o f / k % i k ; u Ø e % x g . k i) f r %
 m i n s k f u ; e k o f y % ' k L = I E i r } o t z h ; k % n k s k k %
 b r ; k n ; % v f i r = f o L r j s k o f . k r k A { k j s k f p d R I k
 { k j d e f . k m f Y y f [k r k] v f X u d e k f . k v f X u n k g s u
 f p d R I k i n f ' k r k] I p l q L ; v | r u [; k f r %
 u k l k i f r " B k i u s v f L r A , r n F k ± r s u I p e ; ' k L = &
 f p d R I k v k o " N r k r n o v | ' y k f L V d I t j h *
 b f r d F ; r A v k / k f u d I p e ; ' k L = & f p d R I k t u d %
 I p l q % , o b f r i k ' p k R ; % v f i v 3 h N r e - v f L r A

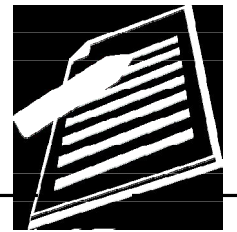
u u e ~ v k j k k ; i n k u a e g k i q ; n k ; d e A v r , o m D r a
 L d U n i g k . k &

v k j k k ; ' k k y k a ; % d q k r ~ e g k o s ; i j L N r k e A
 I o k i d j . k k i r k a r L ; i q ; Q y a J . k A A
 / k e k F k d k e e k s k . k k e k j k k ; a I k / k u a ; r A
 r L e k n k j k k ; n k u s u r n a U k a L ; k P p r q V ; e A
 v F k d e k = a f o n e k a L o L F k h N R ; i z R u r A
 i k l u k s r I e g R i q ; e u l r a { k ; o f t r e A A

o L r r % I L N r s c g e W ; K u a f u f g r e - v f L r A e k u o %
 t U e r % f = f H k % _ . k % I g t k ; r A r s k q , d e -
 _ f " k & _ . k e A v L e k d a i m z t k % _ " k ; % e g r k d " V s u
 K k u a l E i k f n r o l r A ; f n o ; a L o k / ; k ; a d e % r f g z u
 d o y e - _ f " k & _ . k e - v f i r q I e k t & _ . k e - v f i
 v i k N r a H k o f r , o a K k u j F k % p v x s I j f r b f r
 u k f L r % I U n g A

'kOnkFK%

vkp j f . k f o f / k % 3 / 4 i z k s x d j u s d h
 f o f / k
 i k ; u Ø e % 3 / 4 m i ; k s x d j u s d k Ø e
 x g . k i n A k f r % 3 / 4 m i d j . k d k s i d m e u s
 d k r j h d k
 u k l k i f r " B k i u s 3 / 4 d V h g V u k d d k s
 v i u s L F k u i j f c B k u k
 m i n s k f u ; e k o f y % 3 / 4 m i n s k d s f u ; e
 ' k L = I E i r ~ 3 / 4 m i d j . k k a d k H k A k j
 o t z h ; 3 / 4 u d j u s o k y } f t l d h
 e u k g h g k } o f t r
 f o L r j s k 3 / 4 f o L r k j I s
 { k j s k 3 / 4 { k j I } j l] v E y I s
 v f X u n k g 3 / 4 v k x I s n k x u k
 v | r u 3 / 4 v k / k f u d
 I p e ; ' k Y ; f p d R I k 3 / 4 l y k f L V d
 I t j h
 i k ' p k R ; % 3 / 4 i f ' p e 1 / 4 j k i v e s j d k 1 / 2
 d s f u o k f l ; k a } k j k
 v a x h N r e - 3 / 4 L o h d k j d j f y ; k g s
 v k j k k ; ' k k y k 3 / 4 f p d R I k y ;] u f l x
 g k e
 e g k o s] % 3 / 4 i e [k f p d R I d
 p r i q V ; e - 3 / 4 i # " k k F k p r i q V ; e - / k e] v F k
 d k e v k s e k s k
 n U k a L ; k r - 3 / 4 f n , g q d s I e k u g s
 { k ; o f t r e - 3 / 4 f t l d k { k ; u g k }
 v { k ;
 f = f H k % _ . k % 3 / 4 r h u _ . k k a l } n o _ . k j
 f i r _ . k v k s _ f " k & _ . k I s
 v i k N r e - 3 / 4 n j h N r e] e p r
 K k u j F k % 3 / 4 K k u d k j F k
 I j f r 3 / 4 v k x s p y r k g A





21-2 cks'uk%

HkonfHK% ey i kB% i fBr%A v/kqk v/kfyf[krkuka i z ukuke-mÜkj kf. k nÜk

1- I eqpre-mÜkja fpguhd#r

I qf% d% vki hr\

¼d½ oñ; jkt%

¼[k½ 'kY; fpdfRI d%

¼x½ 'kY; dkj%

2- i kBai fBRok fjDrLFkkukfu ij; r

¼d½ fpdfRI kfoKkusfoHkkx}; aorT& ¼i½ ----- ¼i½ -----

¼[k½ 'kY; fpdfRI k; ka pRokfj 'kY; fo/kkukfu of.kr-kfu ; U= -----
{kkj ----- bfrA

¼x½ 'kL=deI.k mi ; q; ekukuka ; U=k. kka I q; k ----- vLrA

¼k½ I houkFk±fofo/kk%----- vfi ru of.krKA

¼³½ , rnfkr±ru ----- vkfo"Ñrk rno v | lykLVdl tjh bfr dF; rA

¼p½ ; fn o; a----- dæ% rfgl u dbye-__f"K&__.ke-vfi rq-----
vfi vi kÑraHkofrA

3- i | ká kku-ey; r

¼i½ vI Eekg' p

¼d½ LoLFkhÑR; i z Rur%

¼ii½ vkjkk; 'kkyka; % dq kr~

¼[k½ rL; i q; Qya J.kq

¼iii½ rLeknkjkk; nkusu

¼x½ vkjkk; a I k/kua; r%

¼v½ vFkdek=a fo }ka e~

¼k½ 'kL=deI.k 'kL; rs

¼w½ i klukr I qgRi q; e~

¼³½ r\$; .; e~vLonoj Fkþ

¼i½ I oki dj .kks rka

¼p½ egkoS i jLÑrke-

¼iii½ /kekFkdkeekkk. kka

¼N½ vullra {k; oftRe-

¼iiii½ 'kS ð vk' kq; k' kL=

¼t½ rnmÜka L; kr~prqV; e-



21-3 v/kvk voxPNke%

i Fke%vdk%

fpfdRI kfoKklus ----- xghrq 'kDukfrA

I Ei fr i Fkee~vdk i q% i Bke% voxPNke% pA

0; k[; k&

I oĭ Fkea y[kd% fpfdRI kfoKkuL; foHkkx}; a dFk; frA r= i Fke% ^vksk/kfpfdRI k*
vflr ; = dōyapwĭkĭkydk% j l kfnfHk%fpfdRI k fØ; rA f}rh; %rkor~^ KY; fpfdRI k*
orĭs; = 'KY; fØ; k ek/; eſu #X.kL; fNŪue-v³ fonk; ZjksL; dkjde~vi kÑR;
oz k% i q% l h; rA

vk; pñL; }KS i kphurekS xUFkk& 1- pjdI ĩgrk ¼/kSk/kfpfdRI kxĭFK%& pjdsk
iz.khr%A 2- I pġl ĩgrk ¼ KY; fpfdRI kxĭFK%& egf'kĭ pġſu fyf[kr%A

I pġ% jkek; .ksI pġL; mYy[k%fon; rA , rr-l p; fr ; r-l pġkL; thoudky%
okYehd%vfi i mĕ~vkl hrA , oe-br%l k) &f}I gl kfCni mĕI pġL; uke l qĭLk) e~
vkl hrA I pġ%fo'okfe=L; iĕ% vkl hr~bfr dF; rĭ i jarL; fo"k; so; e~vf/kda
u tkue%A rL; egrdeĭHk% rL; ; 'k%v|kfi thofrA

'KY; deĭ rL; deZ 'KY; fØ; kfHk% jksk.kke~vi u; ueA ^ KY; deZ bfr i na^ KY; *
'kCnr~0; ĩi Ūue~^ KY; e~ bfr uke rh{.kd.Vd%; r~'KY; or~rġfr] i hM; fr rnfi
'KY; eA rL; 'KY; L; fu"dkl ue~, o 'KY; fpfdRI kA

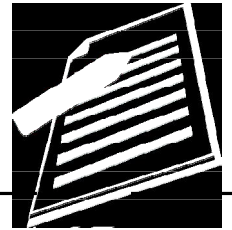
'KY; fo/kkufu& 'KY; fpfdRI k; ka pRokfj 'KY; fo/kkufu dffkrkfuA rkfu l flur&
1- ; Ū=i f.k/kkue~ ¼; Ū=k. kka iz; ksx% 2- 'kL=i f.k/kkue~ 3- {kkj i f.k/kkue~
4- vfxuif.k/kkueA I pġL; erſu vkn'ĭ% 'KY; fpfdRI d%, oĭo/k% HkofrA 1- I %
'kj% HkofrA 2- I % vk' kġØ; % Hkofr] vFKĭ~dk; kĭ.k 'kh?ka f{ki xfruk I Ei kn; frA
3- rL; 'kL=kf.k& Ū=kf.k ok rh{.kkfu HkoflŪrA 4- 'KY; deĭu"i knus l % l oĭ Fkġ u
Hkor} Hk; ſu Lonap u eqprA 5- eul k flFkj% Hkor~rL; vl Eekg% vfi HkorA

v/kvk i kBs i Fkea 'ykda i q% l ko/kkur; k i Bke%

i nPNſ% 'kS ĕ~vk' kġØ; k 'kL=r\$.; e~vLonoi Fkġ
vl Eekg% p oĭ L; 'kL=deĭ.k 'kL; rAA

vĭo; % 'kL=deĭ.k oĭ L; 'kS ĕ~vk' kġØ; k] 'kL=r\$.; e} vLonoi Fkġ vl Eekg%
p 'kL; rA

0; k[; k& 'kL=deZ ¼ KY; deZ dġ% fpfdRI dL; v/kſyf[krkfu y{k.kkfu iz kd uh; kfu



'kS ĕ~vk' kġØ; k
'kL=r\$.; e~vLonoi Fkġ
vl Eekg' p oĭ L;
'kL=deĭ.k 'kL; rAA



- 1- 'kkš ž~ ¼ kgl e½
- 2- vk' kř; k ¼ kh?krk rFkk dk; &l Ei knue½
- 3- 'kL=rš; ; e- ¼mi dj .kkuka rhç .krk½
- 4- vLonoš Fkř ¼ kY; fØ; ka l Ei k | ; k l % vLon% voi Fkřp Hkor½
- 5- vl Eekř% ¼eul % LFkš ž½

l p r s u 'kY; fpfdRI kFks 'krkf/kdkfu ; U=kf.k fu/kkřjrkfuA i ja ršq gLr% , o izkkure%A gLr s u , o 'kY; dež fØ; rA gLrL; dđkyrka fouk ; U=k.kke-u dks fi ykk%A vr% l okř.k ; U=kf.k] gLrL; v/khukfu , oA , oagLr% izkkurea ; U=eA 'krkf/kdkukfu 'kY; ; U=kf.k "kMfo/kkfuj rn~; Fkk&

; U=k.kka i d k j % I đ ; k

- | | | |
|--------------------|---|----|
| 1- LokfLrd; U=kf.k | & | 24 |
| 2- l Unák; U=kf.k | & | 02 |
| 3- rky; U=kf.k | & | 02 |
| 4- ukMh; U=kf.k | & | 20 |
| 5- 'kykdk; U=kf.k | & | 28 |
| 6- mi ; U=kf.k | & | 25 |

LokfLrd; U=kf.k prfp±kfrfo/kkfuf dFkrkfufA ršqvušška; U=k.kkaeđkkřfr% dškf pr~ i 'kuka i f{k.kka ok eđkkřfr l n'kk HkofrA r s u š dkj .k s rška r k f u & r k f u u k e k f u n h ; U r A

; Fkk i 'ko% eđk s u i f{k.k% p p ok oLrfu n<a xg-kfUr rFkš , r k f u ; U=kf.k vfi j k š x t u l ; v³ k f u n < a x g - k f U r ; s u 'k Y ; d e ž E i k n u a l E ; d - H k o r A

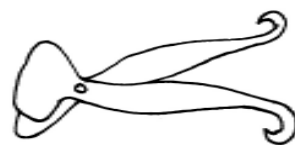
LokfLrd; U=kf.k ¼ 'křđkkřfr l n'kkfu½

- ; U=uke&** 1- fl g; U=e} 2- 0; k?kz U=e} 3- od; U=e} 4- rj {kq U=e} 5- __{k; U=e} 6- }hi h; U=e} 7- Űkxky; U=e} 8- ex; U=e~

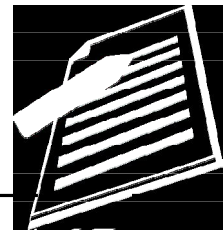
¼; k?kz ¾ ck?k] od% ¾ HkšM+ k] rj {kř ¾ ydMεX?kk] __{k% ¾ Hkky} }hi h ¾ phrk] Űkxky% ¾ fl ; kj ½



21-6



21-7



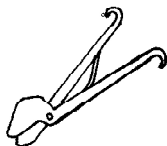
21-8



21-9



21-10



21-11



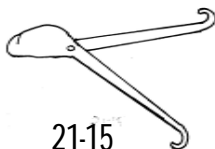
21-12



21-13



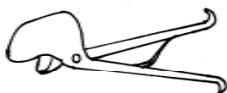
21-14



21-15



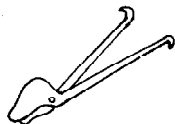
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21-17



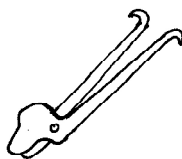
21-18



21-19



21-20



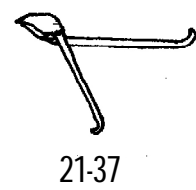
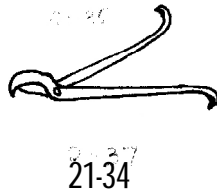
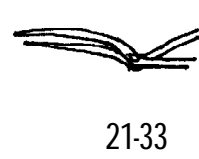
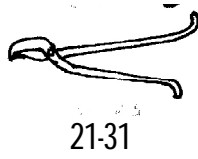
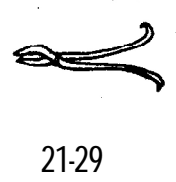
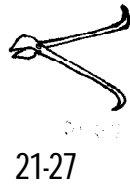
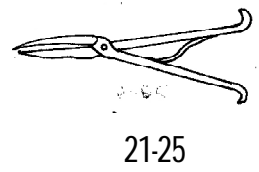
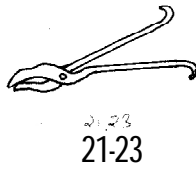
21-21



Loklrd; U=kf.k ¼ f{kp pd n'kkfu½

; U=uke~1- dkd; U=e} 2- d ; U=e} 3- dj j; U=e} 4- pk" k; U=e} 5- ' ; u; U=e} 6- 'k' k?kkv; U=e} 7- x/kz U=e} 8- Øksp; U=e} 9- v tfyd.kz U=e-

¼dkd%¾ dkdk] d %¾ cxxyk] dj j%¾ mdkc dj h] Pkk" k%¾ uhyd] ' ; u%¾ ckt] ' k k?kkv%¾ phy] x?kz%¾ xhkz Øksp%¾ l k j l] v tfyd.kz%¾ mYy½



I kj%

f p f d R I k f o K k u L ; } s f o H k k x & v k S k f / k f p f d R I k j ' k y ; f p f d R I k p A l p l r % ' k y ; f p f d R I k t u d % d F ; r A l % f o ' o k f e = L ; i e % v k l h r A r L ; x l F k % ' l p l r l f i g r k * u k E k A l p l r L ; m Y y [k % e g f " k z k k o k Y e h f d u k L o j k e k ; . k s N r e A , r r - i e k . k a ; r - l p l r % o k Y e h d % i w E k - v k l h r A l p l r u p r o k f j ' k y ; f o / k k u k f u m D r k f u &

• ; æ i f . k / k k u e ~ • ' k l = i f . k / k k u e ~ • { k k j i f . k / k k u e ~ • v f x u i f . k / k k u e A ' k y ; f Ø ; k ; k a ' k r k f / k d k f u ; U = k f . k & ' k l = k f . k a

f p f d R I k f o K k u d s n k s f o H k k x g & v k S k f / k f p f d R I k r F k ' k y ; f p f d R I k A l p l r ' k y ; f Ø ; k d s t u d d g s t k r s g A o s f o ' o k f e = d s i e F k A m u d s x k k d k u k e g S l p l r & l f i g r k A l p l r d k m Y y [k e g f " k z o k Y e h f d } k j k v i u h j k e k ; . k e a f d ; k x ; k g A ; g m l d k

iek.k gSfd l ɸɹ okYefd l siwZgg FkA l ɸɹ }kj k pkj 'kY; fo/kku dgs x; s g&

- ; æif.k/kku • 'kL=if.k/kku • {kkjif.k/kku • vfxuif.k/kkuA
- 'kY; fØ; k ea l kS l s vf/kd 'kL= dgs x, gA



ikBxrç'uk%21-1

- 1- vk; ɸñL; ikphurexɸFk; k% uke fy[krA
 1/2d-----
 1/4[k/2-----
- 2- okYefd duk jkek; .ks l ɸɹL; ukekYy[ka Ñre} vu u fda fl n/; fr\

- 3- 'kY; deZfdadF; r\ -----
- 4- v/kkfyf[kre~'ykda ij; r
 'kS ð----- 'kL=r%. ; e-----]
 vl Eekg' p ----- 'kL=deI.k i z kL; rA
- 5- =; k. kka LofLrd; æ.k. kka ukekfu fy[kr

f}rh; %vák%

'kL=if.k/kkua ----- ukLr l UngA

v/kpuk o; af}rh; e- váke- voxPNkeA

vLekfHk% i Fkes váks i fBre~; r- l Jp u prfoZkkfu 'kY; fo/kkufu mYy\$[krkfu&

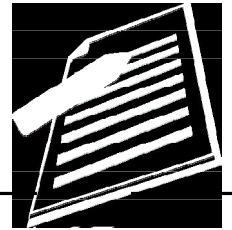
- ; æif.k/kkue~ • 'kL=if.k/kkue~ • {kkjif.k/kkue~ • vfxuif.k/kkue~ pA

; U=if.k/kkufo" k; s vfi HkonfHk% i Fkes váks i fBre~vfLrA v/kpuk 'kL=&{kkj&vfxuif.k/kkufo" k; s fdápr~ tkueA

0; k[; k&

; %mi dj. k%oz kknhukay\$[ku} Hknuy} Nnu al houap fØ; rsrkfu 'kL=kf.k dfFkrkfuA l ɸɹ u fo'kfrfo/kkfu 'kL=kf.k of.kz-kfuA 'kL=if.k/kkus 'kL=k.kke~mi; kxfof/k% xg.ki nAfr% mi n\$ k&fu; ek% 'kL=l Eir} otZuh; k% n\$kk% p foLrjsk of.kz-kA

{kkjif.k/kkus{kkj sk pfdRI kfof/k%of.kz-kA vfxuif.k/kkusp vfxungskuspfdRI k&fof/k%of.kz-kA l ɸɹL; egr; k% i fr"Bk; k% dkj. kaÑÚkukfl dk; k% i ɸ% i fr"Bki usrL; fui qkrk orzA vu u dkj. ku l vn; kfi Le; zA





vkjkk; 'kyka; %dq k~
egkoñ; i gLÑrkeA
I okã dj. kki s~karL;
i q; QyaJ. kAA

/kekFkdkeeksk. kkejk; a
I k/kua; r%A
rLeknkjkk; nkusu
rnãÙkaL; kPprqV; eA

vFkdek= fonokã a
LoLFkhÑR; iz Rur%A
i klukr I egr i q; eulra
{k; oftrAA

, "k% fof/k% I qE; 'KY; fpfdRI k ukEuk mfYyf[krka I % fof/k% lykLVd I tãh bfr ukEuk iã; krka

jkfx tukuka fgrk; vn; kfi I oðkjsk ijksi dkfjfhk% tu% ok vjk; 'kkykLFkki ua fØ; rA vjk; 'kkyk dFkaio/kk L; kr\ rL; k%LFkki usu i q; ykH% dFkaHkor\ vjk; i nkua dFka i q; de±bfr dF; r\ , r'skka iz ukuke-mÙkj kf. k 'ykde=; snÙkkfuA rn~; Fkk&

i nPNn% vkjkk; 'kkyke~; %dq k~egkoñ i gLÑrkeA
I okã dj. kki s~ke~rL; i q; Qye~Ùk. kAA

vlo; % ; %¼tu%½ egkoñ i gLÑrke~ I okã dj. kki s~ke~vkjkk; 'kkyke~dq k~rL; i q; Qye~Ùk. kAA

0; k[; k&

; = jkfx tuhi; % vkjkk; a nh; rs I k vkjkk; 'kkyk fpfdRI ky; % bfr dF; rA vjk; 'kkyk dFkkurk L; kr~

1- egkoñ; i gLÑrkj dkyfpfdRI d% i wkkz

2- I okã dj. kki s~k p; fn fpfdRI ky; s'KY; dekhulafu"i knukFk+i; klrkfu mi dj. kku] Hkoş % rfgz ½ jkfx tukuka fpfdRI k I Hkok HkorA½

i nPNn% /kekFkdkeeksk. kke~vkjkk; e~ I k/kue~; r%A
rLekr~vkjkk; nkusu rr~nÙke~L; kr~prqV; eAA

vlo; % ; r% /ke&vFk&dke&eksk. kke~ I k/kue~ vkjkk; eA rLekr~vkjkk; nkusu rr~prqV; e~½ke&vFk&dke&eksk~ bfr½ nÙke~L; krA

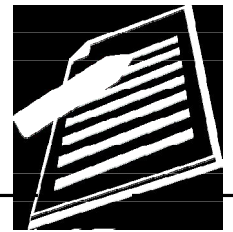
0; k[; k&

^prqV; e~ bfr insu i #kkFkprqV; e~ bfr dffkreA /keã kyue~ vFkz I p; e~ bPNki r~½ eksk; iz Rue~bfr prokfj dek. k i #kkFkprqV; L; fo"K; kf. kA

vkjkk; i nkua i #kkFkprqV; L; I k/kuaHkofra; fn tu%#X. k%Hkofr rnk I %/kEkzpj. ks vFkã p; } dkel ou} ekkl k/kus ok I oFkk vl eFk% Hkofra mDra fg& ""kjhej| a [kyq/keã k/kueA** #X. ku 'kjhjsk u fdf pr~fØ; rA vr% vkjkk; i nkua i #kkFkprqV; L; I k/kue~bfr dffkre&

i nPNn% vFk , dek=e~fonokã e~LoLFkhÑR; iz Rur%A
i klukr I egr~i q; e~vullre~{k; oftrAA

vlo; % vFk , dek=e~fonokã e~iz Rur% LoLFkhÑR; ¼tu%½ vullre~{k; oftr~ I egr~i q; e~ i klukrA



0; k[; k&

, dek=a tuaiz Rui ɔɔda; %LoLFkhdjksr] LokLF; aiz PNfr l %egRiq; ai kluksr rr-
iq; e-vullra l hekifgr] {k; oftrap rr~u dnkfi {kh; rA

, oa Li"Va ; r~ vLekda l ekts fpfdRI dL; egrh ifr"BkA LokLF; ykHk; ; %
vkjK; 'kkykfuekz kadjksr] r= ddkyku-0s; ku-LFki ; fr] mi ; ksch; U=k. kke-mi dj. kkuka
p 0; oLFkka djksr l %egr~iq; ai kluksrA

ekuo thous ^i # "kkfKp r qV; e* fononfhk% dffkreA v/kksyf[krk% l fur i # "kkfKk%

1/2 /kek p j .ke- 1/2 vfk] 3xg% 1/2 dkeuki fr% 1/2 eksk&i klr; s iz Ru%

; fn dksfi tu%vLoLFk%Hkofr rfgZ l %i # "kkfK] k/kusvfi vl eFk%Hkofr] ; %tuH; %
vkjK; annkfr l %oLr% rku&rku~tuku~i # "kkfK] k/kuk; l {keku~djksrA vusu
deZkk l %v{k; ai q; ai kluksrA

^ekuo% tUer%* f=fhk% __.k% l g tk; rA , rku =hf.k __.kfu l fur&

1- n0__ .ke-

2- __f" k__ .ke-

3- fi r`__ .ke-

l hNs fufgracgeV; a Kkua i kl; rL; ipkjsk i l kjsk p o; a __f" k&__ .ku eDrk%
Hkoke% __.k=; kr~efDr% l ekt&__ .ke- vfi vikdjksrA

l kj%

l p r s u 'kY; f0; kfk3 u doya; U=k. kke~vfi r q' kL=k. kK] l r; knhukap mYys[ka NreA
rSkkami ; kxfof/k% p of. kZ%A l p r L; i fl) %vk/kj% l qe; 'kY; fpfdRI k vLrA l %
N0kka ukf l dka i q% LFki us fui qk% vkl hrA , oa l v | rulykLVd l t j h uke fo/k%
tud% dF; rA vkjK; inkuaegki q; nk; de~vLrA vkjK; 'kkykLFki uk i q; nk; de-
deA vkjK; nkusu i # "kkfKp r qV; e- , o n0ka HkorA

0; kdj .kfclno%

1/2 l fu/k% v/kksyf[krskq i nSkq l fu/kPNna d#r l h/kuke p fy[kr

'krkf/kdk%	3/4	'kr	\$	-----	3/4	nh?kLoj l fu/k%
vl Eekg' p	3/4	-----	\$	p	3/4	fol x l fu/k%
l p r kDrkuke~	3/4	-----	\$	-----	3/4	xqkl fu/k%
l o k dj . kki rke~	3/4	l o l \$	-----	\$	-----	3/4
l houkfkz~	3/4	-----	\$	-----	3/4	-----



rn/khulfr ¾ ----- \$ ----- ¾ 0; at ul ð/k%
 rnaÙke- ¾ ----- \$ nÙke- ¾ -----

1/2 i ekl k& I eLrinmYy[k] I ekl foxg% I ekl ukeYy[k% ok ; FkkufnZVa
 fØ; rke-

; Fkk&exi {kh. kke~ ¾ exk. kka p i {kh. kka p ¾ }U}%
 ----- ¾ i kf. kuka e[kfu ¾ rRi # "k%
 fpdfRI ktud% ¾ ----- ¾ rRi # "k%
 ----- ¾ vkj k& ; L; ¾ -----
 vfxunkge~ ¾ vfxuuk nkge~ ¾ -----
 ----- ¾ egku-p vl kson; % ¾ -----
 /kekFkdkeek[k. kke~ ¾ -----rSkke- ¾ }U}%
 egRi q; e- ¾ ----- ¾ deZkkj ; %
 KkukFk% ¾ Kkuk; v; e- ¾ -----

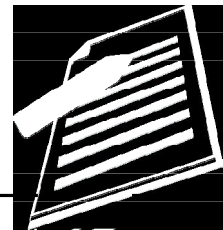
1/2 i R; ; k& tkufUr , o Hkour%; r-i R; ; kuka l a ksx u urukfu i nkfu fueh; UrA
 ; Fkk& /kkrl& xRok] xrorh] xPNr} xE; % xUr0; %----- bR; kn; %A v/kqk
 o; a tkue% r0; r~vuh; j~p i R; ; k&

/kr% \$ i R; ; %	ine~	iz ks%
xe-\$ r0; r~	xUr0; e~	Ro; k xga xUr0; eA
xe-\$ vuh; j~	xeuh; e~	Ro; k d# xeuh; e\
Ñ \$ r0; r~	dÙk0; e~	vLekfHk% n\$ kl ðk dÙk0; kA
Ñ \$ vuh; j~	dj . kh; e~	, rr~dk; ± ' kh?kz dj . kh; eA
nk \$ vuh; j~	nkuh; e~	fHk{kpk; nkuh; eA
gu-\$ r0; r~	glUr0; e~	u dksfi tu% glUr0; %A
fy[k-\$ vuh; j~	ys[kuh; e~	e; k , dk dfork ys[kuh; kA

vflEu i kBs ^r#* /kkrl% iz ks% i kl; rA vr% dSkkf xpr~rqlfnx. kh; /kkruka : i kf. k
 v= nh; UrA

^ep* /kr% ^mlk; i n# ijLeS ns

	yVydj%			yVydj%		
	, dopue~	f)opue~	cgppue~	, dopue~	f)opue~	cgppue~
i0 i0	eqpfr	eqpr%	eqpflr	ekç; fr	ekç; r%	ekç; flr
e0 i0	eqpfl	eqpFk%	eqpFk	ekç; fl	ekç; Fk%	ekç; Fk
m0 i0	eqpkfe	eqpko%	eqpke%	ekç; kfe	ekç; ko%	ekç; ke%



	y³ydkj%			yl/ydkj%	
iD iQ	veqpr-	veqprke-	veqpu-	eqprq	eqprke- eqplrq
e0 iQ	veqp%	veqpre-	veqpr	eqp	eqpre- eqpr
m0 iQ	veqpe-	veqpk0	veqpk0	eqpkfu	eqpk0 eqpk0

fof/ky³-

	,dopue-	f}oupue-	cgppue-
iD iQ	eqpr-	eqprke-	eqps Ꞥ
e0 iQ	eqp%	eqpre-	eqpr
m0 iQ	eqps e-	eqp0	eqp0

b"K- /krꞤ i jLEKs nh

	yVydj%		yVydj%			
	,dopue-	f}opue-	cgppue-	,dopue-	f}opue-	cgppue-
iD iQ	bPNfr	bPNr%	bPNfUr	, f"K"; fr	, f"K"; r%	, f"K"; fUr
e0 iQ	bPNfI	bPNFK%	bPNFK	, f"K"; fI	, f"K"; FK%	, f"K"; FK
m0 iQ	bPNkfe	bPNko%	bPNke%	, f"K"; kfe	, f"K"; ko%	, f"K"; ke%

	y³ydkj%		yl/ydkj%		
iD iQ	, BNr-	, BNrke-	, BNU-	bPNrq	bPNrke- bPNUrq
e0 iQ	, Bn%	, Bnre-	, Bnr	bPN	bPNre- bPNr
m0 iQ	, BNe-	, Bnko	, Bnke	bPNkfu	bPNko bPNke

fof/ky³-

iD iQ	bPNr-	bPNrke-	bPNs Ꞥ
e0 iQ	bPN%	bPNre-	bPNr
m0 iQ	bPNs e-	bPN0	bPN0

funꞤ k% i PN- /krk% : i kf.k b"K- /krq or- HkofUrA vr% i PN- /krk% vfi ijLeš ns
i pydkjškq : i kf.k Lo; afy[krA



i kBxrc'uk%21-2

- 1- 'KY; fpfdRI d% oz kl houkFk±fda iz q; r\
- 2- I q|BKL; v | ru[; kfr% dš dkj.kš vflr\
- 3- i# "kkFk±r qV; afde\
- 4- vkjkk; 'kkyk dFk0/kk dkj; r\
- 5- __.k=; k.kka ukekfufy[krA
- 6- dš inÜks i# "kkFk±r qV; e-, o nÜka Hkor\
- 7- LokLF; inkua {k; of t±ra deZ dFka L; kr\



21-4 fde~vf/kxre~

- fpdfRI kfoKkuL; }s foHkks & ¼½ vks/kfpfdRI k ¼i½ 'KY; fpdfRI k Lr%
- I pqr% ikphure% 'KY; fpdfRI d% rL; xdk% 'l pqrI fgrk'A
- 'KY; fpdfRI k; ka ; U='kL={kkj&vfXuif.k/kkukfu bfr pRokfj 'KY; fo/kkukfu of.k~kfuA
- 'KY; fpdfRI dL; y{k.kkfu&
¼½ 'kj%HkofrA ¼i½ dk; kē.k 'k?kaI Ei kn; fra ¼ii½ rL; 'kL=kf.k rhç.kkfu HkofUr ¼v½ 'KY; deŭ"i knus rL; gLrSvdEi ekusHkor% ¼½ eul k fLFkj% HkofrA
- 'KY; dekē.k 'krkf/kdkfu ; U=kf.k iz q; r; ; Fk
 - LofLrdkÑfr; U=kf.k & 24
 - I Unak; U=kf.k & 2
 - rky; U=kf.k & 2
 - ukMh; U=kf.k & 20
 - mi ; U=kf.k & 25
- I pqrL; [; kfr%ukl ki fr"Bki usvLrA I pE; 'kL=fpdfRLk , o 'lykLVd&l tjh* bfr dF; rA vr , o I pqr%lykLVd&l tjh foKkuL; vfi tud%
- vkjkk; nkua iq; dk; E~HkofrA



21-5 ;k; rfoLrkj%

Hkjro"k vk; pñL; i j j k vfr ikphuk fon; rA I pqr% xkf/ki=L; fo'okfe=L; i q%fnoknl &/kJoUrj%f'k"; %vkl hrA rL; iz khraxBFka'l pqrI fgrk** bfr dF; rA ukxktu su okXHKVsu p vL; xBFkL; I a knua Ñre&bfr vfi el; Urs fo}ka %

i phukula dSkāpr~vk; pñkpk; kZ kke~ukekfu Lejr

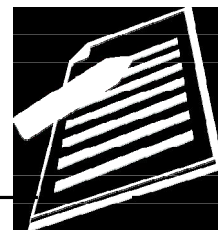
bUn% /kJoUrfj% pjd% I pqr% HkkLdj% /kou% Hkx% ukxktu% okXHKV% gkjhr% trd.k% bR; kn; %



21-6 i kBWrc'uk%

1- , dokD; su mUkj r

¼d½ 'kL=i f.k/kkus dfrfo/kkfu 'kL=kf.k I pqr% of.k~kfu\



¼ [k½ 'kY; deZ fda

¼x½ 'kL=def.k i zkkure% d%

¼k½ I φqL; v | ru [; kfr% dfLeu-def.k orZs

¼³½ vk/kfudl φE; 'kL=fpfdRI ktud% d% dF; rš

2- vkjkk; 'kkyk dhñ' kh Hkor\

3- vkjksx; 'kkykfuekZ kL; i q; a Qya fda Hkofr\

4- vkjkk; i nkusu i φ"kkfkprqV; a dFka I Eik | rš

5- 'kL=defpfdRI dL; i z kLrkfu y{k.kkfu dkfu I flur\

6- i 'kφ[kkñfrI n'kkuka i f{kp pñ n'kkuka p LofLrd; U=k. kka ukekfu fy [krA

7- I φqru vkjC/kkuka 'kY; fpfdRI k; ka dhñ' kh i xfr% Ñrk\ LofufeZri pokD; Skq o.kZ rA

8- v/kkfyf [krkuka r0; r i R; ; kUri nkuke~vuh; j i R; ; kUri nkuka p LookD; Skq i z, ksa dφr

¼½ LerD; e- ¼ii½ xUr0; e- ¼ii½ gUr0; % ¼v½ dj . kh; e- ¼v½ ysq kuh; k

9- Loi kBr~fpRok n'kDri R; ; kUri nkfu fy [krA

10- I fU/kPNna ÑRok I fU/kukekfu fy [kr

¼½ ukekVys [k% ¼ii½ vI Eekg' p] ¼ii½ rn/khukfu ¼v½ mfVyf [krk% ¼v½ vkfo"Ñrk ¼v½ vr, o ¼ii½ i gLÑre~

11-; Fkkfunž ke-mi ; φr%/kkrq i % fjDrLFkkukfu ij; r

¼½ vk [k/d% exSkq' kj ku~-----A ¼ep&y³ydkj%½

¼ii½ , rk% dFke~vJfi.k -----A ¼ep&yVydj%½

¼ii½ vga vkenykr~dFka Jkrφ-----A ¼b" k&yVydj%½

¼v½ I %; kxe; a thoue-----A ¼b" k&y³ydkj%½

¼v½ Hkoku~, da i z ua-----A ¼i PN&yVydj%½

¼v½ o; e~fdf pr~vfi u -----A ¼i PN&yVydj%½

¼ii½ df' pr~tfVy% ri Loh ri koue-----A ¼o' k&y³ydkj%½

¼iii½ I ož tuk% Loš a ri koua-----A ¼o' k&fof/kfy³~ydkj%½



21-7 mUkj kf . k

21-3 ckski z uk%

1- ¼½ [k ¼ii½ x ¼ii½ [k

2- I φq%

3- okYehd%



ikBxrižuk%

- 21-1
- 1- pjdI fgrk] I φq I fgrkA
 - 2- I φq% okYehd% i wē~vkl hrA
 - 3- ; r~'kY; or~rpf rL; fu"dki ueA
 - 4- 'kij% vk' kqØ; % rh{. k' kL=; φr% vLonoi Fk% vl Eekg' pA
 - 5- fl g; U=e~ 0; k?k; U=e~ dkd; U=e~ Økx p ; U=e~ bR; kn; %

- 21-2
- 1- I #; %
 - 2- ukl ki fr"Bki usu
 - 3- /ke&vFk&dke&ek{ke-
 - 4- egkoñ; i jLÑrk] I okā dj. kki s r k p
 - 5- nō&__ke} __f" k&__ke} fi r&__ke-
 - 6- vkj kx; nkusu
 - 7- LokLF; inkusu ekuokuka fgra HkofrA vL; i q; L; {k; a u HkofrA

21-6 ikBkrižuk%

- 1- ¼d½ 'kL=i f. k/kkus foā kfrfo/kkfu 'kL=kf. k I φq su of. k' kfuA
¼[k½ 'kY; L; fuji ua 'kY; deZ dF; rA
¼x½ 'kL=deI. k fpdfRI dL; gLr% , o i zkkure%A
¼k½ I φqL; v | ru[; kfr% ukl ki fr"Bki us vLrA
¼z½ I φq% vk/kqudi qE; 'kL=fpdfRI ktud% dF; rA
 - 2- vkj kx; 'kkyk egkoS] i jLÑrk I okā dj. kki s r k p HkorA
 - 3- vkj kx; 'kkykfueZ kL; i q; a Qya i # "kkFk p r q V; I Ei knue- vLrA
 - 4- vkj kx; a /kekFkZ keek{kk. kka I k/kua Hkofr vr% vkj kx; nkusu i # "kkFk p r q V; L; I Ei knua HkofrA
 - 5- 'kš ž} vk' kqØ; k] 'kL=r\$. ; e} vLonoi Fk% vl Eekg' p 'kL=deI fpdfRI dL; i z kLrkfu y{k. kkfu I fUrA
 - 6- i 'kēq kkÑf r l n' kkfu i f{kPk p q n' kkfu ; U=kf. k
I OkfLrd; U=kf. k
- | | |
|-----------------|----------------|
| 1- fl g; U=e~ | 1- dkd; U=e~ |
| 2- 0; k?k; U=e~ | 2- d ; U=e~ |
| 3- od; U=e~ | 3- dj j; U=e~ |
| 4- rj {kq U=e~ | 4- pk" k; U=e~ |

5- __{k; U=e-

6- }hfi ; U=e-

7- Ükxky; U=e-

8- ex; U=e-

5- ' ; u; U=e-

6- 'k' k?kkV; U=e-

7- x/k; U=e-

8- ØkSp; U=e-

9- v tfyd.kz U=e-

7- Lo; a d#rA

8- ¼½ e; k eU=a LeRkD; eA ¼½ ru xga xUr0; eA ¼½ dks fi tu%u glr0; %
¼½ dk; ± 'kh?ka dj .kh; eA ¼½ e; k , dk dfork y[kuh; kA

9- ¼½ jfpr% ¼½ of.krkfu ¼½ mfYyf[krk ¼½ inf' krk ¼½ vkfo"Ñrk
¼½ v³hdre~¼½ mDre~¼½ i j LÑrke~¼½ mi s ke~¼½ nÙke~

10- ¼½ uke \$ mYys[k% & xqkl fu/k%

¼½ vl Eekg% \$ p & fol x] fu/k%

¼½ rr~\$ v/khufu & 0; tul fu/k%

¼½ mr~\$ fyf[krk% & 0; tul fu/k%

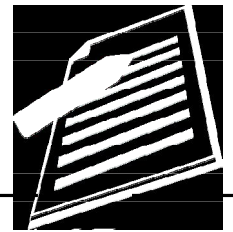
¼½ vkfo% \$ Ñrk & fol x] fu/k%

¼½ vr% \$,o & fol x] fu/k%

¼½ i j % \$ Ñre~& fol x] fu/k%

11- ¼½ veqpr~ ¼½ eqpflr ¼½ bPNkfe ¼½ , BNr~

¼½ iPNrq ¼½ i ξ; ke% ¼½ vfo' kr~ ¼½ fo' ks Ø





22

d"Vål; kl L; j{k.ke~

I ñrs l fUr vudkfu ukVd&jRukfuA r"skq ^ePNdfVde* uke ukVdafo' kSke-
 vflrA v= l k/kj.kL; tuthouL; Hkkok% fØ; k%, oafpf=rk%; r-rsv | kfi
 vLekda thoul;] orðkul; l ektL; fp=kf.k bo irh; UrA 'kmzdvL; ukVdL;
 y[kd%A ukVdspk#nÜk%uke uk; d%A rL; fe=aeš-s %uke fonlkd%A pk#nÜk%i ±
 /kfud%vkl hr~ijaHkkX; o'kkr~nfjn% tkr%A /kirk uke rL; ifrijk; .kk i RuhA , dnk
 ol Ur l uk Lo vkHkk.kkfu pk#nÜk; U; kl : isk j{kFk± l efi žorhA 'kfožyd% uke
 dksfi pkš%pk#nÜkL; xgsifo"Voku~rkfu vkHkk.kkfu p uhrokuA , rn-oÜka dFka
 'kmØsk fu#fi re~bfr vfLeu~i kBs i Bke%A



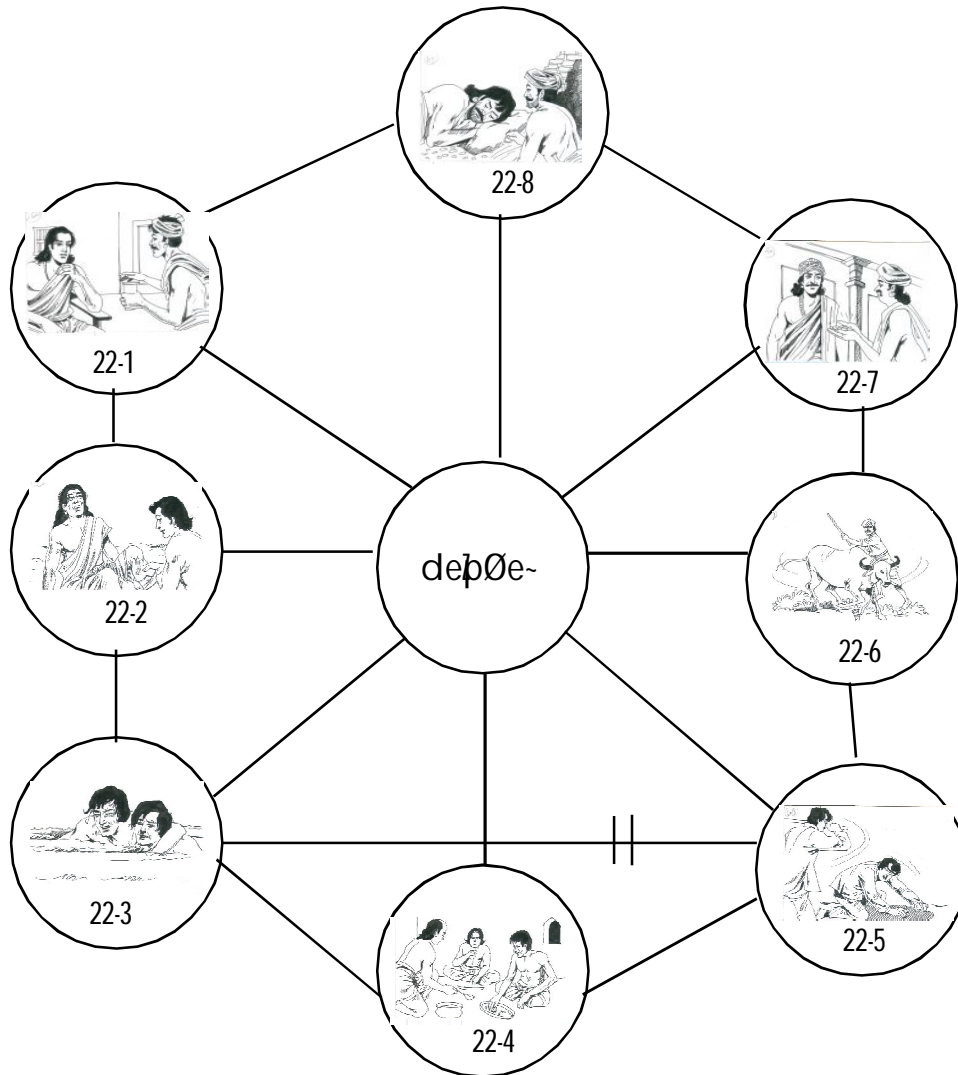
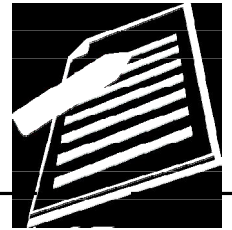
míš ; kfu

bea i kBa i fBRok Hkoku~

- ukV; ká kL; l kja dFkk: isk i Lrkšq 'k{; fr(
- pk#nÜkL; pfj=fp=.ka yš[krq 'k{; fr(
- ifl) ok | ; U=k.kka ukekfuf l fp=a i Lrkš; fr(
- ykš/ydkjs iz Ørkfu okD; kfu y³ydkjs ifjorí; "; fr(
- LofLr] vye} Ñrs bR; knhuka ; kšxsmi i nfoHkfDriž kxa dfj"; fr(
- uh] Hkt} ; kp} yHk} l š~/kkrq i k.kka iz kxa dfj"; frA



fØ; kdyki %



mi fjnØkfu fp=kf.k n"Vøk dkfu I Rdekř.k dkfu p nØdekř.k bfr fy[kr

I Rdekř.k

nØdekř.k

I RdeZÑRok ujl; ; 'k%o/kř-A v=ki pk#nØk%uk; d%I o±nkuaÑRok nfjn% tkr%
I %Lo; 'kl %fo"k; s dFka fpfØrr% bfr i Bke%



22-1 ey i kB%

d"ValU; kl L; j {k.ke~

I e; % & v/kj kf=; nk dnk dhVkuke-myndkuka/ofu%
Jw rA ohF; ka i ni pyu/ofu% Øe' k% fudVe-
vk; kfrA rr% i fo' kr% pk#nÜk% fonikd% pA

pk: nÜk% fe=eš; ! I xhrxkšB; ka cgpkya 0; rhreA

fonikd% & Hks , fg , fgA vki .kkUrjjF; k foHkxSkq I q ka
d@djk% vfi I qrk% Rkn-xga xPNko%A

pk: nÜk% I E; d~vkg HkokuA

fonikd% & Hk% bne-vLekdaxgeA o) ž kud! mn?kkV;
}kj deA

½kj kn?kkV u/ofu%

o) ž kud% vkxPNrke- vk; kA v= foLrh.kš vki us
vkl; rkeA

fonikd% & o) ž kud! jnfudka 'kCnkik; i knkS/kkforpA

pk#nÜk% vya I qrtua izkšf; rēA Lo; a i žkky; ko%A

o) ž kud% vk; I eš; ! , rr~ro I φ.kžkk.MeA

fonikd% & ee I φ.kžkk.Me! dφ% ee I φ.kžkk.Me\

o) ž kud% dFlafoleraHkor\ ol Url u; k; r-Lo.kžkk.ke-
vk; pk#nÜk; U; kl : isk nÜke-----

fonikd% & nÜka Hkor} rr-fdae; k\

o) ž kud% vk; ž k dfkre- vki hr~bna Lo.kžkk.Ma jk=kS
eš; s k fnok p o) ž kus jf{kr0; e-bfrA rn-
xgk.k , rra

fonikd% & ga gkl fde- v|kfi , rr~fr"BfrA fde-
mTtf; U; ka pkš% vfi ukfLr ; % , rafunkpkšA
I φ.kžkk.Me- vigjfrA nšg rfg] xg-kkfeA

½k=%rrh; % igj%myndL; dhVknhukap Loj%
Jw rA [kV&[kV-bfr b"Vdk&Hk×tu /ofu%A½

'kCnkFkž%

dhVkuke-¾ dhMka dh

ohF; ka¾ xyh ea

, fg ¾ vkvks

vki .kkUrjjF; kfoHkxSkq¾

cktj dschp dh xfy; ka
ea

d@djk%¾ dijks

I E; d-¾ Bhd

mn?kkV; }kj de- ¾

njoktk [kkyks

foLrh.kšvkl us¾ fcNk,

vkl u ij

'kCnki ; ¾ cgykvks

I qrtua¾ I š gg 0; fDr
dks

izkšf; rē¾ txkuk

I φ.kžkk.Me- ¾

Lo.kžkk.kkadh i š/h

U; kl : isk ¾ /kjkkj ds

: i ea

fnok ¾ fnu ea

funkpkš%¾ uhn pjkus

okyk

b"Vdk%¾ bš/a

I fu/k%fooje-¾ I š] pkšh

dsfy, nhokj ij cuk; k

x; k Nn

vH; Urje-¾ vkuUrfda

Hkxe} Hkhrj

diV'kf; re-¾ >B&eB

dk I šuk

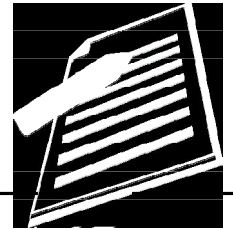
ijekFZ I qre-¾ I pep

I š gg] y{; I qre

u 'kadr%¾ 'kadkjgr

I fo'kn%¾ nh?kž]

vfrLi"V%



'kfoɔd% & 1/e/; eLojs k½ HkorA l eklrks; a l fu/kA rkor~
i fo'kkfe vH; UrjeA vjɔ i#k}; a l qreA u
tkusdi V' kferai jekFKZ qraokA rkor~ijh{kA
fu%okl ksL; u 'kf r%l qo'kn%rɔ; kUrjaorɔ}n
nF"Vxkz-fuehfyrk u fodyk ukH; Urjsp pykA
xk=aLkLr'kj hj l fu/kf' kFFkya'k; ki ek. kkf/kdeɔ
nhi pkfi u e"lz nfhkeɔkaL; KYy{; l qra; fnAA
rfgz i'; kfe fd&fda uhr0; e- vflrA v; d
dFka en³% v; a i .ko%A b; a oh. kkj , rs od kk%
veh i qrdkA dFka ukV; kpk; L; xgfunkue\
gk f/kdɔ Hkouir; ; kr~ i fo"Vks fl eA i jekFKZ
nkj nts; eA Hkorq xPNkfeA

fonkkd% & 1/olus tYifr½ Hkks o; L; ! l fu/kfjo n'; rɔ
pkj feo i'; kfeA rn~ xg: kkrq Hkoku~ bna
l q. kkk. MeA

'kfoɔd% & 1/n"Vok½ v; sl R; eo , rn~l q. kkk. MeA Hkorq
xg: kfeA vFkokj u ; qrarɔ; koLFka i hmf; rēA
rn~ xPNkfeA

fonkkd% & 1/ufnr% , o½ Hkks
o; L; ! 'kffi rks fl
; fn , rr~l q. kkk. MeA
u xg: kkl f A



22.9

'kfoɔd% & vufRø.e.kh; k Hkor%
vkKkA rn~xg: kfeA

fonkkd% & Hkks o; Lo! 'khry% rs
vxgLR%A

'kfoɔd% & 1/4 fole; e½ f/kd~ i ekn%A 1/xg: kkr½

fonkkd% & xghre\

'kfoɔd% & vkeɔ xghreA

fonkkd% & bnkutafoðhri .; bo of.kt% l qkaLoLL; kfeA

'kfoɔd% & Lofifg o"lz kreA vgefi xPNkfeA

rɔ; kUrjeorɔs ¾ 'okl
xg.ksfu"dkl usp l eku
0; o/kkuafo | rs
xk<fuHkfyrk nF"V% ¾
Hkyh Hkfr cln vkɔka
xk=e-¾ 'kjhe-
l l r & 'kj hj & l f/k &
f' kFFkye- ¾ funk; k
f' kFFkyL; 'kj hjL; l dk; %
vfi f' kFFkyk% uhn ds
dkj.k ij k 'kj hj <hyk
<kyk gA
'k; ; ki ek. kkf/kde- ¾
l qrl; tuL; 'kj hj
'k; ; k; k% i ek. kkr-fdɔpr-
nh?kz~ vflrɔ} pkj i kbZ l s
vf/kd yæk 'kj hj
u e"lz r-¾ u l gr-
vfhkeɔka nhi e- ¾
l FeɔklFkanhi deɔ l keus
flFkr nhi d
uhr0; e- ¾ pkj f; r0; eɔ
ys tkus; k; gS
en³x% i .ko%¾ cktkads
uke
od kk%¾ ckl qj; k;
Hkouir; ; kr~¾ fo'kkyA
xge-bfr eU; eku% cMk
?kj l e>dj
u ; qre-¾ u mfpre-
rɔ; koLFke- ¾ l eku
flFkfr deɔ ejs l eku
flFkfr okys
i hmf; rē-¾ l rkuk
HkV fVuh ¾ vk; kɔ
l Eekuuh; k
i rɔPN ¾ xgk.kj xg.k
dlft,
dFka fpj; fl ¾ dFka
foyEcadjk"l nj D; kɔdj
jgsgks
l n'knkj l xgL; ¾
Qye-l n'kɔ vuq iɔ i Ruh



jnfudk & ¼ fo' ; I =kl e½ gk f/kd gk f/kdA vLekda xsgs I fu/ka dYi fi Rok pkj ks fu"ØkefrA eš-s a i zlkš; kfeA ¼mPpš½ vk; Zeš-s A mfÜk"B mfÜk"B vLekda xsgs I fu/ka dYi f; Rok pkj % fu"ØkUr%A

fonikd% & ¼mRFkk; I I Hkēe½ fdaHk. kfi ! vk% I fu/k%A Hkks o; L; pk#nÜk! mfÜk"B mfÜk"BA vLekda xsgs I fu/ka nÜok pkj fu"ØkUr%A

pk#nÜk% & ¼elna gl u½ HkorA Hkks vya ifjgkl sA

fonikd% & u ifjgkl %Lo; eð i škrkaHkokuA

pk#nÜk% & bg mTtf; U; h d%vLekdaxgoškoau tkukfrA rr-%Lofe=š; %fdadFkf; "; fr&l kFkškgI ņL; xga ifo' ; u e; k fdf pn~vkl kfnreA

fonikd% & ru fpŭrre~ Hkor~ egnrr~ xgeA br% I ņ. kškk. Ma fu"Økef; "; kfeA ¼pŭrf; Rok½ I ņ. kškk. Ma--! Hkks o; L; ! I ņBqe; k ņra rr~ I ņ. kškk. Ma Hkor% gLrs I ei f; RokA vU; Fkk nkL; k% i ņ-sk vi âra HkorA

pk#nÜk% & vya ifjgkl sA

fonikd% & Hkks% fde~vga ifjgkl L; kfi nškdkyau tkukfe\

pk#nÜk% & ¼nh?kefu% oL; ½ dnkfpn~, oefi L; krA ¼ g"ke½ o; L; fn"V; k fi z ars fuon; kfeA

fonikd% & rr~fdau âra I ņ. kškk. MeA

pk#nÜk% & greA

fonikd% & rFkfi fdafi z e\

pk#nÜk% & ; nI kš ņrkFkkš xr%A

fonikd% & U; kl % [kyq I % ol ņrl suk; k% ; ņen~gLrA

pk#nÜk% & dFka U; kl % Hkks% d"VeA v/kqka pfj=e~vfi nņ"kreA

fonikd% & I ek' ofl rņHkokuA vge~vi yfi "; kfe dš nÜke\ dš xghre\ dksok I k{kh\ bfrA

pk#nÜk% & vge~bnkuhe~vuire~vfHk/kkL; š

nkjkl rL; k l xgl; i klr% Qyeŭ viusLoHko Lo: i i Ruh i kusdk Qy foHkokušrkHkk; k&l Ei ņkš vupŭya ¾ dk; zlkfj. kh i Ruh oHko eaviuseu ds vupŭy dk; z djusokyh i Ruh I ņk&nņk I ņr~¾ I ņks p nņks p I eku% I [kk] I ņk&nņk ea I eku : i I sl kFk nšsokyk fe= u ifjHkVe~¾ u u"Veŭ vHkh u"V ughagŭk nŭŭke~ ¾ nņi kl; eŭ dfBukbzI sfeyrk gš vknk; ¾ ¼k\$nk\$Y; i ½ ydŭ I dk' ka¾ I ehi e~ vkReh; e~ bfr ņRok ¾ viuk I e>dj | ņrs¾ | ņrØHk; keŭ tŭk ea rL; ņrs¾ rL; fofue; ŭ ml dšcnys

1/2 r-r% ifo' kfr pV; k l g pk#nUko/k% /kurk1/2

/kurk & vf; ! l R; e-vi fj {kr% 'kjhj% vk; 1 e-%

pV/h & l R; e] fdUrq; % l % ol Ur l suk; k% U; kl : i% vy kjd% l ks i ar%A

/kurk & rnk rq l R; eD vk; 1 e-% pkfj=s k i fj {kr%A l Keire-mTtf; U; ka l ož eU=f; "; flUr& ^nfjnr; k vk; 1 e-% sk , o bh'ke- vdk; ž- vuqf"Bre* bfrA 1/4 dApr~fopk; 1/2 vk; 1 vk; žS-s a rkor~'kCnki ; A

pV/h & vk; ž eS-s ! HkVfVuh /kurk Roka 'kCnki ; frA

fontikd% & 1/2 mi l R; 1/2 LofLr HkoR; \$, "k vkrks fLeA

/kurk & vk; ž iriPN bekeA

fontikd% & fda uqbne\

/kurk & vk; žS-s ! vga [kyq jRu"K" Bhore-mi kS"krk vki eA rL; Nrs iriPN beka jRuekfydkeA 1/4 u"Økefr 1/2



22.10

fontikd% & 1/4 g"ke 1/2 LofLr HkoR; S xfe"; kfe fi ž o; L; a fuon; kfeA

pk#nUk% & eS-s A dFka fpj; fl \

fontikd% & , "kks fLe] xgk.k , rkeA

pk#nUk% & fder n\

fontikd% & rsl n'knkj l xg L; Qye-1/4 jRukoyhan'kž fr 1/2

pk#nUk% & 1/4 g"ke 1/2 v gks ukga nfjn% ; r%



22.11

foHkokuqçrk Hkk; kž l q knqç kl qn~HkokuA

l R; p u i fj Hk'Va; n~nfjn% kq ny žkeAA

eS-s ! xPN jRukoyhe- vknk; ol Ur l suk; k% l dk'ka oDr0; k p l k enepukr~ ; r- HkorŁo. kžkk. Me- vLekfHK% vkReh; e- bfr NŖok | rrs gkfjre] rL; Nrs xg; rkfe; a jRukoyhA bfrA



22-2 cks'kç'uk%

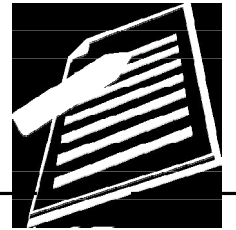
1- v; a ukV; ka k% dL; yçkdL; NŖr%

1/2 dlfynkl L;

1/4 k1/2 'knzdL;

1/2 x 1/2 Hkk l L;

1/2 k1/2 HkoHkor%





2- dLekr~ukVdkr~xghr% v; a ukV; ká k%

¼d½ pk#nÜkk~

¼x½ ePNdfVdkr~

¼[k½ 'kndkr~

¼k½ 'kdtjrykr~

3- fonlkd% d% dF; rð

¼d½ nqV% tu%

¼x½ uk; dL; foner~fe=e-

¼[k½ fo}Ttu%

¼k½ uk; dL; e[kefe=e-

4- I f. kðkk. Ma du plsjre\

¼d½ 'kfoýdu

¼x½ pV; k

¼[k½ fonlkd

¼k½ u dskfi

5- I f. kðkk. Ma dL; gLrs dL; k% U; kl e\

¼d½ fonlkdL; gLrs ol r l suk; k%

¼x½ pk#nÜkL; gLrs ol r l suk; k%

¼[k½ fonlkdL; gLrs /kurk; k%

¼k½ pk#nÜkL; gLrs pV; k%

6- dFka fo/kk Hkk; kZ Hkfo% ngvðkk\

¼d½ ifrfi z k

¼x½ fonlkh

¼[k½ : iorh

¼k½ folkokuqrk



22-3 v/kqk voxPNke%

i Fke%vák%

jkf=% r`rh; % igj% ----- fonlkd% plj% fu"ØkUr%A

v/kqk , rr~ukV; ká kL; i ðkZ) ð~ l ko/kkur; k i Bke%A

pk#nÜk% rL; fe=a fonlkd% p l æhrxkSB; k% jk=ks vfrfpjkr~ xge~ vkxPNfUrA o) ðkud%fonlkdadFk; fr&, rr~ro l f. kðkk. MeA , rlfu Lo. kZ vkHkk. klfu ol Ur l suk; k j {kkFkð~ vk; pk#nÜk; nÜkfuA , rðkka j {kke~ vga fnus dj kfeA j k=ks rq HkokuA vr% xg; rke~ bneA

vflEu~vák pk#nÜkL; xgs l f. kðkk. Ma dFka plsjre~ tkre~bfr v= ckskke%A

i Fkea dSkk pu i k=k. kke~ i fjp; a KkL; ke%A

'kfoýd% v= plj; i sk vxkr%A l % xgSkq l fu/ka nÜok plj def. k fui qk%A

fonlkd% pk#nÜkL; fe=eA vL; okLrfoda uke eS-s % vflrA fonlkd% l ð.Nr ukVdSkq fo' kski k=a HkofrA l % gkL; fi z % i ja fonoku~HkofrA

jnfudk pk#nÜkL; xÿs dkfi l focklj psh bfrA

pk#nÜk% dFkk; k% uk; d% l % i Fkea /kfud% vkl hrA HkkX; o' kkr~ rL; /kua u"Ve-
nfjn% l u~vfi l % pfj=oku~vflrA

v/kuk dFkka tkue% i Fkea j³e ps 'kfoÿd% pkj: isk vlxPNfrA xgL; fhÜkks
l fu/kaÑRok vH; Urjaifo' kfrA r= }kStuksl qrkA dksrks vke~vke}, d%pk#nÜk%
vijp ešs %A pkjL; ušq; ai'; UrA l % ijhf{kre~bPNfr ; r~rks l R; eo id qrkS
vFlok diVu 'kf; re~ukV; r% v= ixk<l qrl; dkfufpn~y{k.kkfu 0; Drkfu(
rkfu 'ykds i Bke%

fu%okl ksL; u 'kf r% l qo'kn% rÿ; kUrjaorž}
nf"Vxk<fuehfyrk u fodyk ukt; UrjSp pykA
xk=aL=Lr'kj hj l fu/kf' kFkya 'k; ; ki ek.kk/kde}
nhi pkfi u e"kz nfhkeq[kaL; kVy{kl qra; fnAA

i nPNn% fu'okl %vL; u 'kf r% l qo'kn% rÿ; kUrje-orž}
nf"V% xk<fuehfyrk u fodyk u vH; UrjSp pykA
xk=e- l Lr'kj hj l fu/kf' kFkye~ 'k; ; ki ek.kf/kde-
nhi e-p vfi u e"kz r~vfHkeq[ke~L; kr~y{kl qre~; fnAA

vlo; % vL; ¼tuL; ½ fu'okl % 'kf r% uA ¼fu'okl % l qo'kn% rÿ; kUrje-orž}A
¼vL; ½ nf"V% xk<fuehfyrk} u fodyk} u p pykA ¼vL; ½ xk=e- l Lr'kj hj l fu/k
f' kFkye~ 'k; ; ki ek.kkr~vf/kde~p }orž}A ; fn ¼v; e~tu% y{kl qre~L; kr~rnk
vfHkeq[ke~nhi e~p vfi u e"kz rA 'ykdKuq kja ixk<l qra diV'kf; ra ok bfr
mHk; k% tu; k% e/; sfo'kSkUrjaLi "VeA rRdFke~i' ; ke%

ixk<Lkr% tu%

diV'ker% tu%

y{k.kkfu

fu%okl %

& v'kf r%
& l qo'kn%
& fu'okl ; k%e/; svUrjaI eaHkofr

'kf r%

vYi %

nf"V%

& xk<afuehfyrk Hkofr
& fodyk u Hkofr
& xkydkUrjSp pyk u

vUrjaI ekuahkofr
xk<afuehfyrk u Hkofr
fodyk@p pyk Hkofr
xkydkUrjSp pyk Hkofr

xk=e-

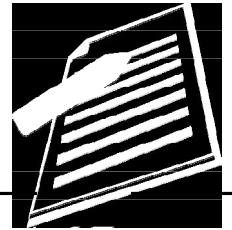
& f'kFkykæ~
& f'kFkyRokr~'k; ; ki ek.kkr~
vf/kde~n'; rs

vf'kFkykæ~
l ko/kkuRokr~'k; ; ki ek.kahkon~, oA

vfHkeq[knhi e-

& ixk<l qra tuanhi idk'k%
u ck/krs

diV'kf; r% idk'kau l grsvr%
nhi ae"kz r~





pk#nük vlg ml dk fe= fonlkd l æhr xlsBh eaHkkx ydij jkr dksnj l s?kj vkrs
 gA o) Žekud fonlkd dks l ø. kèkk. M nsk gA ; g ogh ik= gSft l eaol Ur l suk ds
 l kusdsxgushkjsgg gðvlg ol Ur l suk uspk#nük dksbl dh j {kk dsfy, fn; k FkA
 ?kj vkdj fQj l Hkh l ks tkrsgA 'kfozyd usn[kk fd l ks gg ykx xk<h uhm ea
 gðD; kðd mudh yæh l kj 'kækjfgr gkdj , d xfr l spy jgh gð vk[k dh
 i rfy; kj vPNh rjg cm gð bl fy, nfv ea u p pyr k gSu 0; kdgyrkj 'kjhj ds
 vak tk/la l sLokHkkfod : i l sf' kFky gðvlg osbruh xk<h uhm ea gðfd 'kjhj
 [kkV l sHkh ckj fudy vk; k gA nhi ty jgk gð ij ml dh Hkh mluga fpurk ugha
 gA

tkufur , o Hkollr% 'kfozyd% r= fdefkè- vkxr% plj deZ l Ei knuk; A rfgZ l %
 i'; fr fda fda r= plj .kh; e-vfLrA r= l fda i'; fr\

oh. kkj i .ko% oðkk%i l rdkfuA , rlfu olrfu dL; fpr~/kfudL; xgsu Hkos øA , rn-
 xgau /kfudL; ijadL; fprn-ukV; kpk; L; f'k{k dL; ok HkosA l fo' kkyaxigan"Vok
 v= l % /kukfè- vkxr% vkl hr~ ija v= rqu /kueA dL; fpr~ egknfjnL; xge-
 bneA rfgZ xlrø~ bPNfrA

& rlfu~, o l e; sfonlkd% Lotus dFk; fr&
 Hkks o; L; bfrA
 fonlkdL; fda uke\
 eS-s %A

& l % Loo; L; a ¾ fe=e-fda dFk; fr\
 l fu/k% n'; rs plj feo i'; kfeA rn~ xg; rka l ø. kèkk. MeA

& fda rr~ l ø. kèkk. Me\
 rr~vkHkk. ki k=e-vfLrA ol Ur l su; k ; kfu vkHkk. kfu pk#nükL; gLrsvfi r kfu
 rlfu rlfu~Hkk. Ms l fUrA

& rr~Jok 'kfozyd% fda djkr\
 l Hkk. Ms l R; eð l ø. kè; kfu vkHkk. kfu i'; frA

v= ukVdl ækVus , dka fofp=rka i'; UrA eS-s % l Eckðk; fr& ^Hkks o; L; !** bfrA
 dLeS, rr~l ækðkue\ pk#nük i fr] ija' kfozyd% voxPNfr ; r~, "k l q r% tu% rLeS
 ¼ kfozydk; ½ Hkks o; L; ** bfr dFk; fr rfgZ eS-s L; vujkka Lohdrø~ bPNu~ l
 dFk; fr& ^Hkorj xg~kfeA* ; nk l %, rr~deZ u ; øre~bfr eRok fojefr rnd
 fonlkd% dFk; fr& ^Hkks o; L; ! 'kfi rksfl ; fn , rr~ l ø. kèkk. Ma u xg~kfl A**

vkKke- i fjiky; u- 'kfozyd% l ø. kèkk. Me- xg~kfrA , oa døU~ rL; 'khyra gLra
 fonlkdL; gLraLi" kfrA

I φ .k \ddot{a} kk. Ma n \ddot{u} ok fon \ddot{t} kd% dFk; fr& v/k μ pk fo \ddot{O} hri .; bo of.kt% I \ddot{c} ka Loll; kfeA fde= dkj.ke\

v/k \ddot{t} ufnrkoLFkk; ka fon \ddot{t} kd% Lolus pk#n \ddot{u} ksu I g tYira ijr \ddot{r} q r= 'kfo \ddot{y} d% , o tkxr%u r \ddot{q} pk#n \ddot{u} ksu fon \ddot{t} kd% I φ .k \ddot{a} kk. Ma pk#n \ddot{u} kk; vi \ddot{t} ; r \ddot{e} -bPNfrA 'kfo \ddot{y} d% ra xg-kkfrA , rr~ fufnrk; fon \ddot{t} kdk; u \ddot{b} Li"Va tkreA e;k pk#n \ddot{u} kk; , o I φ .k \ddot{a} kk. Me~vfi \ddot{t} e~bfr I el; r \ddot{a} vr, o dFk; fr&

I φ .k \ddot{a} kk. Me~vi \ddot{t} ; Rok v/k μ pk vga fu' 'k % tkr%

; nk i .; I kexhafo \ddot{O} h; of.kt% I \ddot{c} ksu Lofifr rn \ddot{b} pk#n \ddot{u} kk; I φ .k \ddot{a} kk. Ma vi \ddot{t} ; Rok vgefi I \ddot{c} ksu Loll; kfeA

, r \ddot{f} Leu~vol jsjnfudk uke I fodk r= vkxPNfrA I k I fu/kan"V \ddot{e} k mPp%onfr I \ddot{r} a tuap i \ddot{c} ksk; frA i \ddot{c} q \ddot{A} % e \ddot{s} - \ddot{s} % v/k μ pk pk#n \ddot{u} ka i \ddot{c} ksk; frA

0; kdj .kfclno%

I fu/k% Hkonf \ddot{t} ik% nh? \ddot{k} l U/k% fu; ek% i \ddot{w} l kB \ddot{s} q i fBrk% rnu \ddot{q} kje~ , o v= v \ddot{h} ; kl % vi f \ddot{c} kr%

ukV; kpk; % $\frac{3}{4}$ ukV; \$ -----

i \ddot{e} k. kkf/kde~ $\frac{3}{4}$ ----- \$ vf/kde~

dhVkn \ddot{h} uke~ $\frac{3}{4}$ ----- \$ -----

uk \ddot{h} ; Urjs $\frac{3}{4}$ ----- \$ v \ddot{h} ; Urjs

i \ddot{j} ekF \ddot{k} % $\frac{3}{4}$ ----- \$ -----

fol x \ddot{k} z kka i ' pkr~; fn v Loj% Hkofr rnk fol xLFkkus v \ddot{k} sHkofr v LFkkusp voxg% $\frac{1}{4}$ $\frac{1}{2}$ nh; r \ddot{a} ; Fkk

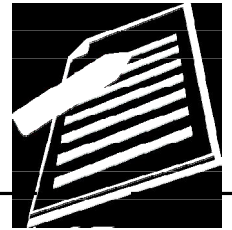
'okl % \$ vL; $\frac{3}{4}$ 'okl ksL;

i fo"V0; % \$ vfLe $\frac{3}{4}$ i fo"V0; ks fLe

'kkfir% \$ vfl $\frac{3}{4}$ -----

----- \$ ----- $\frac{3}{4}$ nfjnts; e~

Hkou \ddot{r} -%/; kusu i ' ; Urqv= i \ddot{w} l i l fu/k% HkofrA



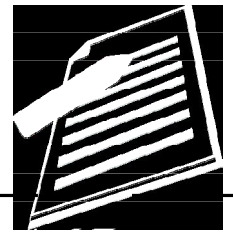


ikBxrç'uk%22-1

- 1- ¼d½ 'kfožyd% ; nk xgkH; Urjs ifo'kfr rnk r= dks i' ; fr\
 - ¼k½ ijekFkđ qrl; tul; y{k.k}; afy[krA
 - ¼x½ 'kfožyd% dLekr~iR; ; kr~pk#nùkL; xgs I fu/ka ÑRok ifo"V% vkl hr\
 - ¼k½ 'ijekFkđ nfjnks ; e* bfr dFka ru fu.khre\
 - ¼¾ eš-s L; i' ož I p.kkk.Ma dqr%
 - ¼p½ eš-s %foØhri .; bo of.kt% I q[ka Loll; kfe* bfr fdefk±dFk; fr\
- 2- jnfudk; k% =kl L; dkj.ke~fdefLr
 - ¼d½ I fu/ka dYif; Rok pkš%fu"ØkefrA
 - ¼k½ I fu/ka n"Vek fonllkd% mfÜk"BfrA
 - ¼x½ fonllkd% rka rkm; frA
 - ¼k½ pk#nùk% rka dql; frA
- 3- 'kfožyd% f/kd~iækne* bfr dFk; frA
 - r= d%iækn%
 - ¼d½ I p.kkk.Mxg.ke~
 - ¼k½ I p.kkk.MR; kxe~
 - ¼x½ 'khryu gLru eš-s L; Li'k%
 - ¼k½ 'khryu gLru ik=Li'kè~

f}rh; %vdk%

- pk#nùk% vèlha gl u½ ----- jRukoyh bfr ¼ ekfiri ; Dre½
bnkaha iz ukšikj ek/; esu f}rh; e~váka cks'kke%A
- & pk#nùk% fonllkdL; dFkue~'ifjgkl % bfr dFka el; r\
- pk#nùk%i jenfjn%A nfjnL; xgsdksfi pkš% I fu/kadYif; Rok xr%bfr dFkue~
rL; Ñrs ifjgkl boA
- & pkš% dFke~vkxr% Hkor\
- ru fpflrra Hkor~; r~egnr~xgeA ^br% I p.kkk.Ma fu"Økfe"; kfeA** bfr
fuf' pra ÑRok pkš% vkxr% HkorA
- & I p.kkk.Ma LeRok fonllkd% dka?kVuka Lejfr\



i 10±e; k l φ. kkk. Ma pk#nùkk; l efi 7e7 vU; Fkk pk§sk vi gre~bfrA
 & fda ifjgkl L; kfi nskdkya u tkukfe\ bfr ešš % fdeFkē~dFk; fr\
 pk§% l fu/ka ÑRok xr% bfr l ošfofLerka ešš sk Lotus l φ. kkk. Ma pk§k; nùka
 i ja l % fo' ofl fr ; r~ru pk#nùkk; nùka u rqpksk; A pk#nùkk% ešš opue~
 ifjgkl e~bfr eu; rA rnk ešš % dFk; fr bna LFkua l e; a ok ifjgkl k; u
 ; φre~bfr vge~tkukfeA

& ârsfi l φ. kkk. Ms pk#nùkk% dFka â"V%
 pk§% nfjn pk#nùkkL; xgs i fo'; l φ. k2kVgLR% xr% u rqfj DrgLR% bfr eRok
 pk#nùkk% i l lu% vkl hrA

& ^v/kqk pkfj=e~vfi nqVež vL; d% vfHki k; %
 nfjn% vfi pk#nùkk% l Ppfj=oku~tu% pk§sk ; r~grarr~ol Url suk; k%U; kl %
 vkl hrA v/kqk tuk% reo pkjaerok dFk; "; flur ; r~vuuš bh'ke~vdk; ž~
 vuq"BreA

& /kirk ešš a fdeFkē~vkge; fr\
 l k cgeV; h LojRukoyha nùok ol Url suk; k%U; kl L; i R; koržue~dke; rA

& ^l n'knkj l xgā fde\ fda rL; Qye\
 i Ruh Loi R; φfoi fùkl e; srL; l kqk; ; adjkfrA rL; l qk&nq[k%Lo l qk&nq[k%
 bfr eu; rA , ofo/kk nkjk ¼ Ruh½ i kfr%, o ^l n'knkj l xg% bfrA rL; Qye~
 d"Vh; % l Vh; % i R; φefDr%A

& v/kqk pk#nùkkL; 'ykda okjedai BURq
 foHkokuqrk Hkk; kZ l qknq[kl qn~HkokuA
 l R; p u ifjHkzVa; n~nfjnškqnyBkeAA

vlo; % ; L; ½ee½ Hkk; kZ foHkokuqrk Hkoku} l qk&nq[kl qn} l R; e~p] u
 ifjHkzVe} ¼ r½ nfjnškqnyBkeA

HkokFkz& pk#nùkk% vkRekua l kkkx; 'kkyh eu; rA rRdFka rL; Hkk; kZ l Ei Ùkksoi ÙkkS
 p rL; kuqnye~ , o vkpjfrA rL; fe=a ešš % vfi u dya l qkl kkkx; dkys
 eš~hafuožfr nq[kdkysfi l fe=drD; kfu fuožfrA nfjnz uškq i k; % l R; opua u
 n'; rsija nfjn% vfi pk#nùkk% l R; aj{kfr& vr% l u nfjn% l rql kkkx; 'kkyh
 , oA

v/kqk dkufpr~iz ukfu rške~mùkj kf.k p csk; r

½d½j Rukoyhe~vknk; pk#nùkk% ešš a dē i šk; fr\
 ol Url suk; k% l dk'ka



¼ k½oDr0; k p l k enøpukr~ v= l k i na dL; Siz Ørea
 ol Ur l kkk; Å

¼x½ol Ur l suk pk#nÜkopukr~fda oDr0; k\

; ðekda l ø. kkk. Ma vLekfHk% vkReh; a ÑRok | rØhMk; ka gkfjreA rL; Ñrs b; a
 jRukoyh ið; rð rn~xg; rkeA

I kj%

jk=K' kfoÿd%uke pk§%pk#nÜkL; xgsl fu/kadYif; Rok ifo'kfrA r= l cgøV; kfu
 oLrfu nð; a ok vLø"K; fr fdUr q døya en³oh.kknhfu ok | ; U=kf.k i ðrdkfu p
 i'; frA , rn~n"Vøk l %vl Ur ðV%HkofrA l %rqv= cgøV; afd pr~ur0; e~Hkos~
 bfr fpUr f; Rok vxr%fdUr qbnaxgarqdL; kfi vfrnfjnL; n'; rA l iR; korð~
 bPNfrA rnð fonkkd%LolusdFk; fr & xgk.k , rr~l ø. kkk. MeA i Fkeal l ðrtuku-
 l ø. kkk. Maxghrø~v; Øraell; rsfdUr q; nk fonkkd% ^ kfi rksfl ; fn u xg~kkfr*
 bfr dFk; fr rnk 'kfoÿd%' kki Hk; su l ø. kkk. Maxg~kkfrA fonkkd%voxPNfr ; r~
 ru Lo. kkkkk.kL; i ðVdk pk#nÜkk; l efi rka , oaerok l %fuf' pür% Lofifra

jkr ea'kfoÿd uke dk pkj pk#nÜk ds?kj ea l ðk yxkdj iðsk djrk gð ogk
 og cgøV; oLrq; [kkstrk gSfdUr qdøya enæ] oh.kk i ðrdans[k dj vl Ur ðV gk
 tkrk gð og rksdherh l keku yus dsfy, vk; k Fkk fdUr q; g rksfdl h vR; Ur
 xjhc dk ?kj fudykA vr%og ykS/uk pkgrk gð oð sgh fonkkd Lolu ea dgrk
 gSfd ; g l ø. kkk. M ysykA igysrksog fdl h l k§ gq 0; fDr l sl ø. kkk. M ysuk
 vufpr l e>rk gSfdUr qfonkkd Lo. kkk. M dh i ð/h Lohdkj u djustij ml s'kki
 nusdh ckr dgrk gð 'kki dsMj l s'kfoÿd ml sysyrk gð fonkkd l e>rk gS
 fd ml usLo. kkkkk.k dh i ð/h pk#nÜk dks l kð nh gð , ð k ekudj og fuf' pür
 gkdj l ðki ðð l ks tkrk gð

0; kdj .kfclno%

¼d½ ykVydj% ¼/kKk&vFk½

¼½ xg~kkrq

¼i½ Lofifg

¼ii½ mfÜk"B

¼v½ i §; rke~

¼i½ i r h{k

¼ii½ xgk.k

¼iii½ xg; rke~

y³ydj% ¼kkrdky½

vxg~kkr~

vLoi%

mnfr"B%

vi §; rke~

vir h{k%

vxg.kk%

vxg; rke~

Dri R; klre~

xghre~

l ðre~

fLFkre~

i §{kre~

i r h{k}kre~

xghre~

xghre~

¼ k½ mi infoHDr; %

¼½ vye~¼ek d#½ bR; Fkð rrrh; kA

¼½ vya i fjgkl sA

¼i½ vyafooknsA

¼ii½ vya di VsA

¼v½ vye~vur sA

¼½ vye----- ¼el[kr½

¼i½ vye----- ¼vI R; ½

¼ii½ vye----- ¼oxg½

¼I½ vye~¼i ; ¼re½ bR; Fkð prfkhZ

¼½ jke% jko.kk; vyeA

¼i½ I sud% fj i os vyeA

¼ii½ v; e- i kB% Nk=¼; % vyeA

¼v½ fonøku~e¼kkZ vyeA

¼½ bna /kua----- vye~¼ kpd¼A

¼i½ bekfu i ¼i kf.k ----- vye~¼ ¼i eky¼A

¼ii½ , "k%eYy%----- vye~¼rn¼A

¼II½ LofLr ¼dY; k.ka Hkor¼ ; kx&prfkhZ HkofrA

LofLr HkoR; S LofLr f'k"; k;

LofLr jkKs tu¼; %LofLr

LofLr i zt kh; %

¼x½ I Drk%

¼½ u ; ¼re~rY; koLFka i hMf; røA

¼½ bnkutafoØhri .; bo -----

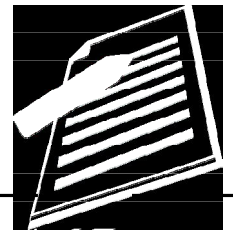
¼ii½ ukganfjn% ; r%

¼v½-----

/kkrq i kf.k

uh ¼u; ½ ¼ j LEKs n½ ¼lokfnx.kr%½

	yVydkj%			yVydkj%		
	, dopue~	f}opue~	cgøpue~	, dopue~	f}opue~	cgøpue~
iD iQ	u; fr	u; r%	u; flr	u\$; fr	u\$; r%	u\$; flr
e0 iQ	u; fl	u; Fk%	u; Fk	u\$; fl	u\$; Fk%	u\$; Fk
m0 iQ	u; kfe	u; ko%	u; ke%	u\$; kfe	u\$; ko%	u\$; ke%





	y³ydkj%			yk/ydkj%		
	, dopue-	f}opue-	cgøpue-	, dopue-	f}opue-	cgøpue-
iD iQ	vu; r-	vu; rke-	vu; u-	u; rq	u; rke-	u; Urq
e0 iQ	vu; %	vu; re-	vu; r	u;	u; re-	u; r
m0 iQ	vu; e-	vu; ko	vu; ke	u; kfu	u; ko	u; ke

	fof/kfy³-		
iD iQ	u; r-	u; rke-	u; s %
e0 iQ	u; %	u; re-	u; r
m0 iQ	u; s e-	u; D	u; E

uh ¼u; ½ ¼/kReui n½

	yVydkj%			yVydkj%		
	, dopue-	f}opue-	cgøpue-	, dopue-	f}opue-	cgøpue-
iD iQ	u; rs	u; rs	u; Urs	u\$; rs	u\$; rs	u\$; Urs
e0 iQ	u; l s	u; fks	u; /os	u\$; l s	u\$; fks	u\$; /os
m0 iQ	u; s	u; kogs	u; kegs	u\$; s	u\$; kogs	u\$; kegs

	y³ydkj%			yk/ydkj%		
iD iQ	vu; r	vu; rke-	vu; Ur	u; rke-	u; rke-	u; Urke-
e0 iQ	vu; Fkk%	vu; Fkke-	vu; /oe-	u; Lo	u; Fkke-	u; /oe-
m0 iQ	vu; s	vu; kofg	vu; kefg	u; S	u; kogS	u; kegs

	fof/kfy³-		
iD iQ	u; r	u; rke-	u; ju-
e0 iQ	u; Fkk%	u; Fkke-	u; /oe-
m0 iQ	u; s	u; ofg	u; ofg

, oep Hkt-/kkr-k%vfi : ik.f.k HkofrA

ijLEKSn&

yVydkj% Hktr -----(yVydkj% Hk{; fr -----

y³ydkj% vHktr----- (yk/ydkj% Hktrq -----

fof/kfy³& Hktr-----A

vKReui n&

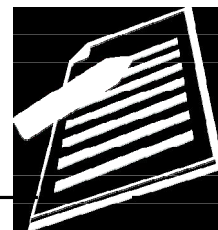
yVydkj% Hktrs -----(yVydkj% Hk{; rs -----

y³ydkj% vHktr----- (yk/ydkj% Hktrke-----

fof/kfy³& Hktr -----A

yHk- ¼okfnx.kr-% vKReui nh

	yVydkj%			yVydkj%		
	, dopue-	f}opue-	cgøpue-	, dopue-	f}opue-	cgøpue-
iD iQ	yHkrs	yHkrs	yHkUrs	yIL; rs	yIL; rs	yIL; Urs
e0 iQ	yHkl s	yHkFks	yHk/os	yIL; l s	yIL; fks	yIL; /os
m0 iQ	yHks	yHkkogs	yHkkegs	yIL; s	yIL; kogs	yIL; kegs



y³ydkj%			yk/ydkj%			
	, dopue~	f}opue~	cgøpue~	, dopue~	f}opue~	cgøpue~
i0 i0	vyHkr	vyHksrke-	vyHkr	yHkrke-	yHksrke-	yHkrke-
e0 i0	vyHkFkr%	vyHkFkrke-	vyHk/oe-	yHkLo	yHkFkrke-	yHk/oe-
m0 i0	vyHks	vyHkkoFg	vyHkkoFg	yHks	yHkkogS	yHkkoFgS

fof/kfy³-

i0 i0	yHksr	yHks krke-	yHkj u-
e0 i0	yHkFkr%	yHks kFkrke-	yHks/oe-
m0 i0	yHks	yHkkoFg	yHkkoFg

, oed | oAkrk%: i kf.k HkofUr-A

| o-Vokfnx.kr% vkReusi nh&

yVydj% | ors -----(yVydj% | fo"; rs -----

y³ydkj% vl or -----(yk/ydkj% | orke- -----

fof/kfy³& | orke- -----A

; kp~ Vokfnx.kr% mhk; i nh ijLef ns

yVydj%			yVydj%			
	, dopue~	f}opue~	cgøpue~	, dopue~	f}opue~	cgøpue~
i0 i0	; kpr	; kpr%	; kpr	; kpr"; fr	; kpr"; r%	; kpr"; flr
e0 i0	; kprl	; kprF%	; kprFk	; kpr"; fl	; kpr"; Fk%	; kpr"; Fk
m0 i0	; kprle	; kprko%	; kprke%	; kpr"; kfe	; kpr"; ko%	; kpr"; ke%

y³ydkj%			yk/ydkj%			
i0 i0	v; kpr-	v; kprke-	v; kpr	; kprq	; kprke-	; kprlq
e0 i0	v; kpr%	v; kpre-	v; kpr	; kpr	; kpre-	; kpr
m0 i0	v; kpre-	v; kprko	v; kprke	; kprku	; kprko	; kprke

fof/kfy³-

i0 i0	; kpr-	; kprke-	; kps %
e0 i0	; kpr%	; kpre-	; kpr
m0 i0	; kpre-	; kprko	; kpre

vkReusi ns

yVydj% ; kprs -----(yVydj% ; kpr"; rs -----

y³ydkj% v; kpr -----(yk/ydkj% ; kprke- -----

fof/kfy³& ; kpr -----A

Hkt~/kkrl% vfi mhk; i nhA Hkt~/kkrl%: i kf.k vfi ^; kp~/kkrl%: i kf.k bo HkofUrA døyayVydj%
fHkUrkr or'ns

ijLef ns

yVydj% Hktfr -----(yVydj% Hkt"; fr -----

y³ydkj% vHktr -----(yk/ydkj% Hktrq -----

fof/kfy³& Hktr -----A



vkReui n&
 yVydj%& Hktrs -----(yVydj%& Hk{; rs -----
 y³ydj%& vHktr -----(yk/ydj%& Hktrke-----
 fof/kfy³& Hktr -----A



i kBxrç'uk%22-2

- 1- ¼d½ pk#nÜKL; xgs pkš% fda fpUrf; Rok vkxr%
 ¼[k½ rL; pkš deZ kk pk#nÜK% dFka ^NrkFKž vHkor\
 ½x½ mTtf; U; ka d% vLekda xgoBkoa u tkufr\
 ¼k½ /kurk pk#nÜka pfj=s k i fj {kra dFka eU; rš\
 ¼³½ /kur; k l pkfj=i fj {krsu dFka jf {kr-%
- 2- pk#nÜKL; ersu nfjnšq fda nyBke~Hkofr\
 ¼d½ /kue~ ¼[k½ l R; e~ ½x½ cŋ) % ¼k½ /kš ž~
- 3- pk#nÜK% ukga nfjn% bfr fdeFk±dFk; fr\
 ¼d½ rL; foHkokuçrk Hkk; kZ i Ruh
 ¼[k½ rL; l d k nŋ k l çr~vflr
 ½x½ rL; l R; a u i fj HkZVe~
 ¼k½ rL; mi ; Dral o±fon; rs



22-4 fde~vf/kxre~

- pk#nÜK% l R; fi z % l Ppfj=% /kuykškk~foj ä% vflrA
- fonkkd% pk#nÜKL; gkL; fi z % l [kk vflrA rL; uke ešš % vflrA
- pk#nÜKL; i Ruh vk; Zkurk vflrA l k ifrork l Eekuuh; k xfg.kh vflrA
- vk; Zkurk i R; ç; 'k% j {kkFk±Lofiz e~vkhkk.k a ol Ur l šuk; S iz PNfra
- ukV; ká kL; l kje~vrho eukj tde~vflrA
- yk/ydjfØ; ki nkuka y³ydjks i fjorZua drç'kD; rA
- Loflr] vye~¼á ; kZR; Fkž in; kš; kšxs prfkh] vye~¼u"kskkFkž rrrh; k HkofrA
 ^Nrš ; kšxs rq "k"BhA
- i .ko% e³ oh.kk ok | ; U=kf.k l flrA



22-5 ; k; rkfoLrkj%

1/2 ePNdfVde& I lÑri kfgR; ukV; txfr ePNdfVde- ukVde- vU; rea orrA bna ukVde- , da idj.ka orrA idj.kL; oÙke- ykSdde- dfodfyi ra p HkofrA vL; uk; d% pk#nÙk% /khjizkkUry{k.k; Ør% e/; edyL; I keU; % tu% orrA mnkj; k nku'khyr; k p I % fu/kÙ% tk; rA ukVds pkjI ðd'kkdfVdpk.Mkyknhfu I keU; ik=kf.k I flrA ukf; dk ol UrI uk vfi , dk xf.kdk vLrA ukVddkj% vfLeu- ukVds I keU; thouL; ; FkkFkZp=.ka ÑrokuA

1/2 'kmd%ePNdfVdukVdL; jpf; rk 'kmd% , d%jktk vkl hrA I %/keZ kL=} |rdyk; k p kS ðyk; k ykdfok; ka p fu".kk% vkl hrA 'kmdL; fLFkfrdky% rrh; 'krknh eu; rA v; a ukVddkj% Hkkjrl; nf{k.kr% irh; rA

1/2 HkofoLrkj%

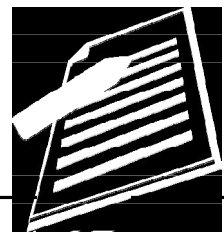
- n' ; e-ykdkDr; % I Dr; %
- 1/2 vki .kkUrjjF; k foHkkxSkq I q ka dðdj k%vfi I qrkA v/kj k=% ije-, rr-n' ; e-dðdj k% vfi I qks I qrkA fu%kCnk jkf=%A
- 1/2 vya I qrtua izckkf; rA
- 1/2 u tkus diV'kf; ra ijekFk qre-oka
- 1/2 bnkufoØhri. ; bo of.kt% I q ka LoIL; kfeA 1/2 uf' plr%
- 1/2 fde-vga ifjgkl L; kfi nskdkya u tkufeA
- 1/2 I R; p u ifjHkZVa; nafjnsqnyÙkeA
- 1/2 ifronk% uk; % nyÙkk% ykda
- 1/2 HkrÙkk; a rquk; ðk i klukr i # "k"Ùka
- 1/2 nkr0; elUafof/kor~I RÑR; u rquhy; ka 1/2 kydk.Me-93@94
- 1/2 dkykfg njfrØeA 1/2 j. ; dk.Me-68@29

Hk"kkfoLrkj%

1/2 mi i nfoHDr; %

dkjdfokHDr%& dkjde-vkJR; ; k foHkDr%Hkofr] I k dkjdfokHDr% dF; rA ; Fkk& 1/2 Roe~dyeu fy[kfI A
 1/2 oukr~d% vkxr%

v= Øe' k% dj .kdjde- vi knkudkj da pkfLrA vr% r= rrh; k i peh foHkDrh HkorA ; r% dj .kdjds rrh; k Hkofr] vi knkudkj ds 1/2 FkxkZ i peh HkofrA





mi infoHkDr% & ; nk fdefi ine- vkfJR; dkjdfoHkDr% u Hkofr] vU; k foHkDr%Hkofr] rnk mi infoHkDriz, kx% dF; rA

; Fkk& f}rh; k mi infoHkDr% ¼½ fo | kafouk Kkuau HkofrA

r rh; k mi infoHkDr% ¼½ i e-sk l g vkxr% fi rka

¼ii½ ro cyu l n' k% d% vflr\

v= 'fouk' '1 g]' '1 n' k% , rsmi inku l flrA vr%r= Øe' k% f}rh; k r rh; kfoHkDr n' ; rA

prfkhzmi infoHkDr% ¼½ xj os ue% v= ^ue% ; kxs prfkhA

¼i½ i e-k; Øq; frA v= 'Øqk' /kkrq kxs prfkhA

i peh mi infoHkDr% ¼½ fo | ky; kr~cfg% o{k% l flrA

¼i½ v' ksd% ' ; kekr~i V%
v= ^cfg% in; kxs i pehA rgyuk , dL; mRd"kkki us
p i peh HkofrA

"k" Bh mi infoHkDr% ¼½ dr~i R; ; ; kxs ¼; ¼½ "k" Bh HkofrA

d"Va U; kl L; j {k. keA

¼i½ fu/kq . k vfk "k" Bh ok l Ireh HkofrA

; Fkk ¼½ i qi k. kke@i qi Skq deya JSBe-¼k" Bh@l Irehi½

¼i½ l oNk=Skq dq ky% ¼ Irehi½

¼i½ fui qk% in; kxs fi l Ireh HkofrA

; Ø s fui qk%

v= fof' k"Ve- vo/ks e- vflr&

; = dkjd foHkDr%i klrk Hkofr] mi infoHkDr%vfi i klrk Hkofr] rnk mi infoHkDr% , o Hko"; frA

yks/ydkjL; okD; kuka y³ ydkjs ifjorueA yk/ydkj% vkKk; ka HkofrA y³-p HkardkyA Hkk"kn"V; k vL; ifjorue~egUoi wkEa

; Fkk% fi rk Nk=e- vkfn' kfr & Roe-fo | ky; a xPNA ¼yky/ydkj%

rnk Nk=%fi rjaonfr & vgafo | ky; e-vxPNeA vFkk~vkn's kkr~i wEo vkKki kyua ÑrokuA

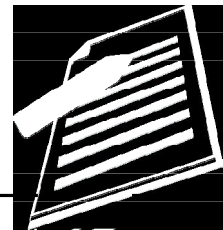


22-6 i kBlrç' uk%

1- ¼d½ pk#nUk% fe=s k l g xga foyEcu dFke- vkxroku\

¼[k½ fonkkd% l ø . kkk. Ma Lotus dLeS nUkoku\

¼x½ 'kfoyd% fda fda ok | ; U=e- pk#nUkL; xgs n"Voku\



¼k½ mTtf; U; ka l oð pk#nÜkL; fo"K; s fda tkufUr\

¼³½ pk#nÜkL; gLrs dL; k% U; kl % vkl hr\

¼p½ vk; kZkrk oLkUrI s;k; k% U; kl : is inÜkk% vydkj k% vi ârk% bfr Jðok fda dFk; fr\

2- v/kkSyf[krxqkk% dL; dL; pfj=s k l Ec) k% fy[krA

l R; okfnrkj e\$-Hkkk% R; kx' khyrkj /k\$ ž- l odku- i fr dk#.; e} l qknq[k; k% l eRoe} l fg". kqkA

¼d½ pk#nÜk% ¼i½----- ¼ii½-----

¼[k½ fonkkd% ¼iii½----- ¼iv½-----

¼x½ ' kfoýd% ¼v½----- ¼vi½-----

¼k½ /krk ¼vii½----- ¼viii½-----

3- pk#nÜkL; pfj=fp=. ka LoßN; k i p@"KV- okD; Skq fy[krA

4- ^vk; Zkrk* dhn' kh xfg. kh vflr\ prpKD; Skq fy[krA

5- dKSBdkUr' kEnSkq mi infoHkFDra iz q; fjDrLFkkui fir±d#r&

¼d½ LofLr ----- , "k vkxrks fLeA Hkkor½

¼[k½ Hkk% vya-----A ¼i fgkl ½

¼x½ rr% l % Lo ----- fdadFkf; "; fra ¼e=½

¼k½ ----- Ñrs i rHPN beka jRuekfydkeA ¼r½

¼³½ o; L; ! fn"V; k fiz a----- fuon; kfeA ¼ ðen½

6- funZV/kkrqHk% Dr i R; ; ; kxsu okD; i fir±d#r

¼d½ vki .kSkq dðdj k% l qka-----A ¼Loi~\$ Dr½

¼[k½ ----- vkl us vL; rkeA ¼fo \$ Lr` \$ Dr½

¼x½ dFka----- Hkork\ ¼fo \$ Le` \$ Dr½

¼k½ ol UrI s; k Lo. kkkkk. kkfu pk#nÜk; U; kl : isk -----A ¼nk \$ Dr½

7- funð kkuð kje-mi ; ðr% /kkrq i % fjDrLFkkufu ij; r

¼½ fi rk i qha i kB' kkyka-----A ¼uh& yVydj%½

¼i½ _"k; % tuku- l Uekxž-----A ¼uh& y³ydj%½

¼iii½ Nk=% i fj Jesk fo | ka-----A ¼Hk&fof/kfy³½

¼v½ l q k; k% fo | kFKu% i gLdkjku-----A ¼yHk&yVydj%½

¼½ RoaLojk"Vâekrör-----A ¼ o&yk/ydj%½

¼i½ o; aLofi rjKsvgfuz ka-----A ¼ o&yVydj%½



$\frac{1}{4}ii\frac{1}{2}$; kpdk% /kfudku~/kue~-----A $\frac{1}{4}$ kp&y³ydj%
 $\frac{1}{4}iii\frac{1}{2}$ Roa defi fdefi u -----A $\frac{1}{4}$ kp&yk/ydj%
 $\frac{1}{4}x\frac{1}{2}$ vflkr lre~v; % vfi eknba-----A $\frac{1}{4}kt&yVydkj\%$
 $\frac{1}{4}\frac{1}{2}$ HkDrk% i ješ oja-----A $\frac{1}{4}kt&fof/kfy^3\frac{1}{2}$



22-7 mÙkj kf .k

22-3 ckski Ź uk%

- 1- $\frac{1}{4}[k\frac{1}{2}$
- 2- $\frac{1}{4}x\frac{1}{2}$
- 3- $\frac{1}{4}x\frac{1}{2}$
- 4- $\frac{1}{4}d\frac{1}{2}$
- 5- $\frac{1}{4}x\frac{1}{2}$
- 6- $\frac{1}{4}k\frac{1}{2}$

ikBxri Ź uk%

22-1 1- $\frac{1}{4}d\frac{1}{2}$ fonllkda pk#nÙka p

$\frac{1}{4}[k\frac{1}{2}$ fu% okl % nf"Vxkz fuehfyrk

$\frac{1}{4}x\frac{1}{2}$ Hkou i R; ; kr~

$\frac{1}{4}k\frac{1}{2}$; r%pk#nÙkL; xgsok | ; U=kf.k i qrdkfu , o rsu n"Vkf u fdefi eW; oku~oLrA

$\frac{1}{4}^3\frac{1}{2}$ ešš L; i k' oš l q. kllk. Ma o/kèkudsu nÙkeA

2- d

3- x

22-2 1- $\frac{1}{4}d\frac{1}{2}$ pk\$ ± drē~

$\frac{1}{4}[k\frac{1}{2}$ i RU; k% vuplyrka n"Vek ÑrkFK% HkofrA

$\frac{1}{4}x\frac{1}{2}$ l qn±u%

$\frac{1}{4}k\frac{1}{2}$ U; kl L; j {k. kllkous

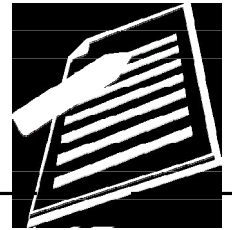
$\frac{1}{4}^3\frac{1}{2}$ l k j Rukoyh Lo veW; e~vkhkllk. ka i R; q; ; ' kks j {kkF± nÙkorhA

2- $\frac{1}{4}[k\frac{1}{2}$

3- $\frac{1}{4}k\frac{1}{2}$

22-6 iKBWriřuk%

- 1- ¼d½ pk#nÜk% I ³hr xkšB; ka Hkkxa xghRok foyEcu vkrrokuA
¼[k½ 'kfořdk;
¼x½ i .ko(en³e-oh.kk
¼k½ pk#nÜkL; xgoškoe~
¼³½ ol UrI suk; k%
¼p½ vk; Zkirk dFk; fr vk; ť ¼% pkfj=s k i fj {kr%
2- ¼d½ pk#nÜk% I R; okfnrk] I ¼kn¼[k; k% I EkRoe~ I ođku~ i fr dk: .; eA
¼[k½ fonškd% eš-Hkkk%
¼x½ 'kfořd] pkš ě~
¼k½ /kirk & R; kx'khyrk] I fg".kirk
3- LošN; k i p@"kVøkD; kfu yš[kuh; kfuA
4- LošN; k pfj=fp=.ka prpšD; škq dšrA
5- ¼d½ HkoR; S
¼[k½ i fjgkl ů
¼x½ fe=k;
¼k½ rL;
¼³½ rš; e~
6- ¼d½ I šrk% ¼[k½ foLrh.kš ¼x½ foLere~ ¼k½ nÜkfu
7- ¼½ u; fr vFkok u; rs
¼i½ vu; u-vFkok vu; Ur
¼ii½ yHkš
¼v½ yIL; Urs
¼½ I oLo
¼i½ I okegs
¼ii½ v; kpu~vFkok v; kpšr
¼iii½ ; kp vFkok ; kpLo
¼x½ Hktfr vFkok Hktrs
¼½ Hktsš ¼ vFkok Hktju~





ân; & i f j o r ù e ~

I a kjs l T t u k % v f i H k o f U r n q t Z u k ' p k f i A n q t Z u k L r q i k ; % i j i h M k ; k e - v k u l n e -
 v u t k o f U r A i j e ~ , r k n ' k k % v f i i d ³ k % m i y H ; U r s ; = l T t u k u k a e g k i # " k k . k k a
 l x k R ; k r s k k e ~ n q V k u k e ~ â n ; i f j o r ù e ~ t k r e j r s d e p k x ± R ; D R o k l R i F k x k f e u %
 v H k o u A v f L e u ^ â n ; i f j o r ù e ~ b f r u k V ; k a k s f i o ; a i B k e % ; r ~ H k x o r %
 c k s / k l ù o L ; t l e k U r j s v n H k r c f y n k u a n " V e k n q V k % j k { k l k % d F k a Ø j r k a R ; d R o k
 l â n ; k % t k r k % b f r A



m í s ' ; k f u

bea i k B a i f B R o k H k o k u ~

- ^ â n ; i f j o r ù e ~ b f r u k V ; k a k L ; v f H k u ; a d r a ' k { ; f r (
- j k K % e s c y L ; p f j = f p = . k a d f j " ; f r (
- e s c y L ; R ; k x H k k o u k ; k % m Y y s [k a d f j " ; f r (
- v f g a k ; k % e g ù o a y s [k " ; f r (
- l e L r i n k u k e ~ f o ' k s k r % c g o p h f g l e k l L ; f o x g a d f j " ; f r (
- ^ r o ; r ~ i R ; ; L ; f = " k q f y ³ s k q i z k s x a d f j " ; f r (
- n k j / k k / k k R o k % : i k f . k i z k D r q l e F k % H k f o " ; f r A



f0; kdyki %



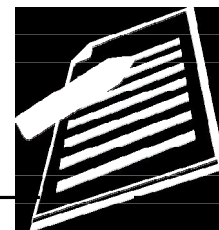
23-1



23-2



23-3



mi fjn0kkfu fp=kf.k n"Vek e t0kk; ka in0k% okD; % v/kkfyf [krka dFkka i j; r&

, d%v³fyeky uked%yqBd%vkl hrA I %uouofr%v³yhukaekyke-/kkj; fr LeA I %v³yhuka 'krda /kkjf; rā Nri frK% vkl hrA I %yqBd% , dnk xPNUra c0 e- mPp% mPpk; Z dFk; fr 1-----A ee ekyk; ka 'krek v³yh ro0 Hkfo"; frA 2----- i ja3----- bfr c0 %i PNfrA vgaHkor%I kgl an"Vek 4-----A rnk egkRek c0 %mi fn'kfr 5-----] 6-----A

t0kk

vgarqfLFkr%vfLe] fr"B vxsek xPNA Roadnk fojr%Hkfo"; fl \ i kf.ko/kaR; t] ureLrd% vfLe] vfgd k i jeks /keA



23-1 eyi kB%

ân; &i fjorUe~

I o7 Fkea i Bukr~i w0e~v= o; a ik=k.kka i fjp; a i klu0A

e0cy% &jkTk

i p; {kk%: "Vu ; {k0ojsk LojKT; kr~fu"dkfl rk% vi jkf/ku0 ctā.ko0k/kkfj .k% ; {kk%A

xki kyd% jkK% e0cyL; jkT; s , d% oā khoknd%A

eU=h &jkK% e0cyL; , d% eU=hA



bnkuhe-ewy i kBa i Bke%

1/4 Fkkue- & ?kkje- vj. ; e 1/2

1/4 e; % & i kroj k 1/2

1/4 r r % i fo' kfuR /kirckā.koskk% i p ; {kk% 1/2

i Fke% & v gks 'oki nHkfi; "Bks ; a ouins' k%
v= r qj fof dj .kk% vfi vk' kf k%
bo i fo' kfuR A

f}rh; % & l R; aonfl A v= l Ei klrk o; aLoj a
fogr i Hkfo"; ke% e s-cyL; j kT; s
r q i k.k/kkj.ke- vfi n dja tkre-
Hkkt ukHkkokr A

r}rh; % & 1/4 mPp% igl u 1/2 'kkdHkktuka e/; s
d q r k s Lekda f i f' krk' kukuka
thou&fuokj%

prqk% & vLekde- vijk/ku s # "Vu
; {k'oj sk o; aLoj kT; kr-fuokl r k%

i pe% & fda oFkk fpUruu\ v= s ous
LoBN; k fogj"; ke%
1/4 gl k oākh/ofu% xq tfr 1/2

l ož {kk% & d r k s f l e u - ? k j s f o f i u s l a h r d e \
d k s ; e - o ā k h o k n d % , r] , r
i ' ; k e % / o f u e - v u d j U r k s ; k e %

i Fke% & r d ž k f e j u k f r n j s d ' p u e j y h a
o k n ; f r A

f}rh; % & v g k ž K k ; r s / k q k ; = s k x k o s
f o p j f U r] r R l e h i s , o r u
e j y h o k n d u H k f o r 0 ; e A

r}rh; %; {k% i ' ; r] i ' ; r o V r # r y s f u " k . . k %
d f ' p n - ; p k o ā k h a / o u f r A
r e j l i k e %

'kCnkFK%

?kkje- 3/4 Hk; d j
v j . ; e 3/4 t a y
i k r o y k 3/4 l q g d k l e ;
/ k i r c k ā . k o s k % c k ā . k d k o s k / k j . k
f d , g q
' o k i n H k f i ; " B % 3/4 v u d i ' k q / k a l s
; p r
L o j e - 3/4 L o B N k i d d
f o g r i H k f o " ; k e % 3/4 f o g k j d j l d a s
n d j a t k r e - 3/4 d f B u g k s x ; k g s
i g l u - 3/4 g ā r s g q
' k d H k k t u k 3/4 l k x [k k u s o k y k a d s
f i f ' k r k ' k u k u k a 3/4 d P p k e k d [k k u s
o k y k a d k
" V u 3/4 u k j k t g q
f u o k l r i k % 3/4 f u d k y f n , x , g ā
o F k k 3/4 0 ; F k z g h
f o g j " ; k e % 3/4 f o g k j d j a s
o ā k h / o f u % 3/4 c k ā j h d h v k o k t
x q t f r 3/4 x a t r h g s
f o f i u s 3/4 t a y e a
o ā k h o k n d % 3/4 c k ā j h c t k u s o k y k
; k e % 3/4 t k r s g ā
r d ž k f e 3/4 l k p r k g w
o k n ; f r 3/4 c t k j g k g s
v / k q k 3/4 v c
K k ; r s 3/4 i r k p y k g s



f}rh; an' ; e-

¼r-r% i fo' kfr ; Fkk fufnZVdekZ xki kyd%

xki kyd% & ¼ckã .kos' kku~ ; {kku-foykD; ½

Lokxre} v= HkorkeA dqr%
I ek; krk% HkoUr%

; {kk% & vj. ; n'kZukRl pIk% o; e- bgkxrk%
Le% i jaRoe~, dkdh fopju} oá kha
p okn; u-Hkfr u vutkofi A

xki kyd% & dqr% Hkfr% Hkxofr cks/kl Ros
eS-hcys jkT; a'kkI fr I ok% izt%
fuHkZ k% I furA df' pr~ defi
i hMf; rqu i HkofrA

; {kk% & fde-jk{kl k% vfi \

xki kyd% & vFk fdeA ; fn dks gy} Jw rkeA
I oá kf .k"q/kreS-Hkkoks eS-cyks fg
ftrfUnz x.k% d#.kki fj i w kZuk%
vfgá k; kap i frf"BrksorhA eS-h
, o rL; jkk% cyeA Økska rql
tkukfr ,o uA I S; I xBue~
vlpkj j {k. kkFkæøA rL;
egkLoLR; ; usi ifjjf{kraiztktue~
vdkj .k}ski jk% ; {kj k{kl k% vfi
fgál rqu i HkofUrA enHkk"kh I %
I E; d-p i Fohai ky; frA

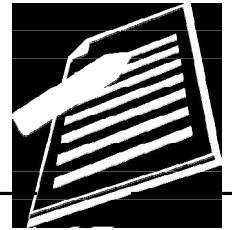
; {kk% & ; FkkFkEL; kr-Ronh; adFkueA vLrj
Roe= /ksuWpkj; } oá kha p okn;
o; exs xPNke% ¼ oá fu"ØkUr k%

r}rh; an' ; e-

¼LFkkue& jktI HkkA I e; %
vijkguoykA Hki fr% fl gkl ue&
f/kfr"Bfr]A

¼kjiky% i fo' ; ½

xko% ¼ xkS a
ejyhokndu Hkor0; e-¼ ejyh ctkus
okyk gksk
i' ; r ¼ nS kks
fu" .k% ¼ cBk gpk
; pk ¼ ukStoku
rejI i kZ% ¼ ml ds i kl tkrsgá
; FkkfufnZVdekZ ¼ tS k funðk fn; k
x; k gS oS s gh dk; Z djrs gq
I ek; krk% ¼ vk, gá
vj. ; n'kZukRl pIk% ¼ tay nS kus dh
mRl pdrk I s
, dkdh ¼ vdsys
Hkfrre-¼ Hk; dks
jkT; ákkI fr ¼ jkT; ij 'kkI u
djus ij
i hMf; rqu i Hkofr ¼ rak ugha dj
I drk
/kreS-Hkkok% ¼ fe=rk dk Hkko /kkj .k
fd, gq
Ukwrke-¼ I fu,
d#.kki fj i w kZuk% ¼ d#.kkl sftI dk
eu Hkj k gpk gS
vfgá k; ka i frf"Br% ¼ fdI h dks u
ekjus ea yxk gpk
LoLR; ; usi ¼ jkd I s
vdkj .k}ski jk% ¼ fcuk dkj .k }Sk I s
; Ør
I E; d-¼ vPNh rjg I s
; FkkFk% ¼ I p
Ronh; a ¼ rfgkj k
/ksuW ¼ xk; ka dks
fu"ØkUr k% ¼ fudy tkrsgá
vijkg-koyk ¼ nki gj dk I e;





}kjiky% & t; rgegkjkt% dpu ckā .kos kk%
i p i fFkd% HkkstuPN; k }kjns ks
fr"BfūrA

ešcy% & fde- vfrFk; % HkkstuPN; k cfg%
fr"Bfūr I knje-iōsk; A
½ ktI Hkka ifo' ; ½

,d% ckā .kk% egkjktksfot; rkeA nijkr~I Ei klrk%
o; e- {kk; k fiikl ; k p i hMrk%
Le% ; {ekdaxqkx.k[; kfre-vkšnk; ±
p fu'kE; bg I ekxr%

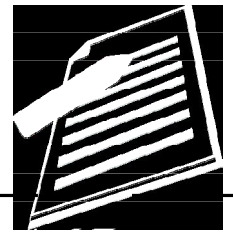
ešcy% & vfrFkhukal dk vLekda/ke% ; FkPNa
Hkkš; a i s a p yll; /oA %efu=.ka
i fr½efu=ojA , rškaHkkst ukfndL;
0; oLFkk fØ; rkeA

eU=h & ; FkkKki ; fr ns%
½u"ØE; i q% ifo' ; ½
nō! Hkkstue~vkuhrea

ckā .kk% & ½ktksprafrafo/kaHkkstuan"Vok½o; e-
ušn-Hk{kf; "; ke% o; a; {kk% ekd a
#f/kjeo vLekda fiz a HkkstueA
rnō mi uh; rkeA
¼ gl k rs nh?kkzkja fodjkyā : ia
/kkj; fūr½

jktk & vkRexrea I Ei fr fda djokf.k\
, rška Hkkst ukFk vU; ška thokuke-
fgā k Hkfo"; frA u es jkprs
thofgā kA ¼{k.ka fofpUR; ½ Hkorj
n"V%mi k; % vgaLongL; ekd u
, rku~riž; kfeA ¼ dk' ke½efu=oj!
vefu ekd kfu 'kkf.krkfu p ykdL;
fgrkFkē /krkfuA v | ; fn rške-
mi ; ks% vfrFFkŃrs Hkor~rr~rq
ee I kkkk; e- vflrA vr% vga
Lo'kjhsj vkfrF; a dūkePNkfeA

vf/kfr"Bfr ¾ cBrk gš
ifo' ; ¾ iōsk djds
iōsk; ¾ iōsk djkvks
fot; re-¾ t; gks
{kk; k ¾ Hk[k l s
fiikl ; k ¾ l; kl l s
[; kfre-¾ ifl f) dks
fu'kE; ¾ l qdj
Hkkš; e-¾ [kkus ; kk;
i s e-¾ ihus ; kk;
fu"ØE; ¾ fudydj
mi uh; rke-¾ ykb,
nh?kkzkje-¾ yEcs vkdkj okys
fodjkyā : ia ¾ Hk; dj : i dks
I Eifr ¾ vc
es ¾ epš
thofgā k ¾ i kf.k; ka dk fouk'k
{k.ke-¾ FkkMh nj
fofpUR; ¾ l kpdj
riž kfe ¾ rlr djrk gū
vefu ¾ ; s
'kkf.krkfu ¾ jDr
/krkfu ¾ /kkj.k fd, x, gš
vkfrF; e-¾ vfrFFk l Rdkj
vuos{kre-¾ mi {kk djus ds fy,
inkug"kkf'k; kr-¾ nku nus ds
fy, g"kkfjrd ea ¼R; f/kd [kkh
ek l Ńo | ekue-¾ oLrq ds ekšm
jgus ij] foLi "Ve-¾ l kQ l kQ
; kfrp% ¾ ekus ij
fl jk% ¾ ukfM+ kē /kefu; ka
ekpf; rē-¾ gVkus ds fy,
fuf'kre-¾ rh[ks
fufLa='ke-¾ 'kL=] ryokj dk
ekd PNnonukfHk% ¾ ekd dkVusdh
i hMk l } fojE; rke-¾ #d tkb,
u% ¾ gekj} {keLo ¾ {kek dja
i kf.kfgā ke-¾ i kf.k; ka ds fouk'k
dkj ijnd; ykkke-¾ ni js ds /ku
ds i fr ykyp dks
fo"kor-¾ tgj dh rjg
R; tLrq ¾ NkM+ na
i frtkuhe% ¾ i frKk djrs gš
Liž; ke% ¾ Nqaxs
vLrfgrk HkoflR ¾ fNi tkrsgš
nōŃi; k ¾ bōj dh Ńik l s
v{krng% ¾ LoLFk 'kjij oky



eU=h & ukgr n0%inkug"kr'k; kr-vuj Drkuke~ iztkufgrkfgre-vuos{krpA
vfi p i pkuke~ , r'skka Nrs txr~ vuFkzLUK; e- bfr dks ; a
/ke2kxk2 n0L; A

jktk & Jw rke~

I fio | ekua ukLrhfr cw knLef } /k% dFkeA
u nkl; ketR; I R; a ok foLi "Vefi ; kfprAA1AA

rUu ekaokjf; r0gUR; = Hkour% oS| k%vkgw Urke-i pfl jk%ekpf; r0pA
%oS| % rFkk Nrs I fr jktk Lo; a fuf'kra fufL=akknk; Loekd kfu
fNUok r0; % iz PNfr1/2

; {kk% & %/kRexre1/2 vgs fofp=ks ; a ui% eka PNnonukfHk% vdEi eku%
iz Uuonu% fojkt rA 1/4i xdk'ke1/2 vyeya n0 fojE; rke~
Lo'kjhi hMki d ak rA ; | fi rok; eq| e% ykdfgrk; S rFkfi
vKkuo'kr-Lofgrefi vi' ; nfhk% ; n~vLekfHk% , oa i hfMr% Hkoku-
rnFk± {keLo u% vij/keA 1/4 kK% i kn; k% i rfuR1/2

jktk% & ; fn Hkour% vLefRiz; fePNfUr rfgz vLekr~ {k.kkr~ i kf.kfgd ke}
ijn0; yk0ke} e | i kuafufUnropukfu p fo"kor-R; tUrA

; {kk% & ifrtkuhe% o; eA u iu% dnkfi eka e~ Li{; ke% 1/4 {kk% iz kE;
inf{k.kka p NRok vUrfgz k% HkofUr1/2
%kdk' k%ntn0Hk/ofuuk i jir% i qi of"V% HkofrA n0Ni ; k eS-cy%
jktk v{krng% fojkt rA



23-2 ck'k' uk'

1- okD; ka kku~ esy; r

[k.M% ^d*

1/4d1/2 d rks fLeu~?kkjs

1/4[k1/2 Hkxofr ck6/kl Uos eS-cys jkT; a 'kkI fr

1/4x1/2 'oki nHki; "Bks ; e-

1/4k1/2 ; tekda xqkx.k[; kfre~

1/431/2 eka PNnonukfHk%

[k.M% ^[k*

1/41/2 oui ns k%

1/4i1/2 vk0k; ±p fu'kE; bg

1/4ii1/2 vdEi eku% i d Uuonu%

1/4v1/2 I ok% iz k% fuhkz; k% I fur

1/41/2 fofi us I xhrde-



2- i kBa i fBRok fjDrLFkkukfu i j; r

v= r q j f o f d j . k k % v f i ¼½ ----- bo i fo' k f U r A R o e d k d h ¼i½ ----- o á k h a p
o k n ; u ~ ¼i i ½ ----- u k u t k o f l A ¼v½ ----- l o k v l e k d a / k e % o s j k % ¼v½ -----
f l j k % e k p f ; r e A u i u % d n k f i e k d a ¼v i ½ -----

3- , r s k k a d F k u k u k a d % d % o D r k \

¼d½ v l e k d a v i j k / k u d # " V s u ; { k s o j s k o ; a l o j k t ; k r ~ f u o k t l r k % A

¼[k ½ r d z k f e] u k f r n j s d ' p u e j y h a o k n ; f r A

¼x½ l o k x r e } v = H k o r k e A d r % l e k ; k r k % H k o U r %

¼q k ½ f d a j k { k l k % v f i \

¼³½ v f r F k h u k a l o k v l e k d a / k e % A



23-3 v/kqk voxPNke%

i Fke%vák%

LFkkue~ ?kge~ vj . ; e~ ----- rejl iké%A

bnkua tkue% p ; r~ d f k a o u s i p ; { k k % c k ā . k o s k s H k e f U r } , d a o á k h o k n d a p
i ' ; f U r A

f d a H k o U r % t k u f U r ; r ~ e g k R e u % c q L ; ^ c k s / k l ù o % b f r v i j a u k e v f i v f L r \ v k e -
c k s / k l ù o % b f r u k e r q r L ; c k s l U ; k f l u % H k o f r ; % i w k k u L ; m i y C / k % e k x z
v x d j % o r z A l % i w k z c q R o a i k l ; t l e & e j . k & n q k c u / k u k r ~ e q D r a v e k s k z i k l u k r A

c k s / k l ù o L ; i w z t l e u k e ~ v u d k % d F k k % f o | U r A c k s / k l ù o % ^ e g k R e k c q % b f r u k E u k
i f l) k s H k o r A r L ; i w z t l e u k a d F k k % v f i H k o n F k k % J q k % i f B r k % v f i A r k % d F k k %
^ t k r d d F k k * b f r d F ; U r A , r k l k a d F k k u k a l x g % ^ t k r d e k y k * b f r x s k s v f L r A

c k s / k l ù o % ^ e s - c y * b f r u k E u k i f l) % u i % v k l h r A r L ; v f g d k H k k o s u ; { k k . k k a
ân ; i f j o r z u a t k r e A r s u p ; { k k % f g d H k k o a R ; D R k o U r % A

¼½ v g k s ' o k i n H k i ; " B k s ; a o u i n s k %

; { k k % n o ; k s u f o ' k s k L ; i k f . k u % H k o f U r A r s / k u & l á ù k e i H k k % d q j L ; l o d k % l f U r
r L ; d k s k a p j { k f U r A

H k o f o % J q e ~ ; r ~ ; { k k . k k a f u o k l % x g u s f u t z s o u i n s k s H k o f r A b n a o u e - b ; r - l ? k u e ~
v f L r ; = l w f d j . k k u k a i o s k % v f i d k f B U ; s u H k o f r A v = o U ; i ' k u u k a O ; k ? k n h u k a
c g y r k o r z A ; { k k . k k a H k k s t u e ~ v f i e k d a ' k k s . k r k f n d a , o H k o f r A r s i p l e ; k d k %
; { k k % r = f u t z u a o u a i k l ; v f r e k n U r A r s r = l o p N ; k H k f e r o k f d e f i v H k k " V a

ekā kfndap fgā ; k i klrqī HkofūrA vr , o v= ^vgkd bfr 'kCn%rŠkal k'p; ȳ Ą kHkkoā
| kr; frA

1/2 ȳ I oā kf.k'kq/kreŠ-Hkks ----- p i frf"Brks orġs

xkī kyd%eŠ-cyL; xqkku-o.kġ u~; {kku~ifr dFk; fr ; r-eŠ-cyū bflūz Škqfot; %
i klrA nhutuku~ifr rL; ân; sd#.kk; k%Hkko%vflrA rL; eufl opfl deġ.k
p thofgā k; k%Hkko%l oFkk ukflr] vr%rL; thousvfgā k i frf"Brk orġA vU; sfi
cgo%vfgā dk%jktku%egki # "kk%i fl) k%l fūrA fclarŠkkafo"k; sHkofö%i fBre~Jre-
ok\ vkeġ ; Fkk f'kfo v'kkcl% egkRekxkdkh vkn; %

1/2 vLekda vi jk/ks ----- Lojkt; kr~ fuokġl rk%

ous , d% ; {k% vU; ku~; {kku~ifr onfr ; r~vLekfHk% tukuke~vkst kāl gūġ~
vij k/k% Ńr% ; u vLekda ; {kkf/ki fr% dġj # "V% tkr%A I p vLeku~n.M: isk
jkt; kr~cfg%fu"dkfl rokuA bnarql oġofnra; r~fgā dkukaŃrsv | kfi n.MO; oLFkk
vflrA i kphudkys jkt; kr~fu"dkl ue~nML; , d%i dġj%vkl hrA v | Rosfgā dkuka
Ńrs dhn'kk% nMk% l fūr\ bfr fopkj; UrA

I kj%

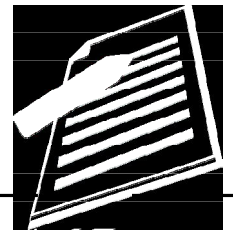
ctā.koš k/kkj.k%i p ; {kk% cġkq(kr%fi i kfl rk%p eŠ-cyukEu%jkK%jkt; sfopj fūrA
rŠkq , d% Lokxeudkj.ke~vij k/ks Ńrs ; {kkf/ki fruk jkt; fu% kj .ka dFk; frA r=š
ousrsdukfi xkī kydsu okfnraoākh/ofue~Ĳk.ofūrA l ehi s , o xko%fopj fūr Le rsu
r% vufjera ; r~oākhoknd% xoka l ehi s , o HkosA fdġpr~dkykullrja rġh; % ; {k%
l oku~vkge; fr i' ; r] i' ; r] oVo{KL; eysdksfi ; ġk oākhaokn; frA rRi k' oš , o
pyke%

ctā.k dk ošk /kkj.k fd, gq i kġka ; {k Hkq[ksl; kl seŠ-cy ds jkt; ea?kne jgsgA
mueal s , d viusvkus dk dkj.k vij k/k fd, tkus ij ; {kkf/ki fr }kj k jkt; I s
ckgj fudkyk tkuk crkrk gA ogħaou eamġgafdl h Xokys }kj k ct kbZxbZ oākh dh
/ofu l ġkbZnrh gA ogk; xkš a?kne jgh gġ ftul sosvuġku yxkrsgġfd oākh oknd
xk; ka dsvkl i kl gksuk pġfg, A FkkMġ nj ckn rhl jk ; {k l Hkh dkscy/krk g& nš kġ
nš kġ oV ošk ds uhps dkbZ ; ġd cākh ctk jgk gġ pyks ml h ds i kl pyrs gA

0; kdj .kfclno%

v/k% jš kġdrinškq cġpġgl ekl L; rRi # "kl ekl L; p foxga /; kusu i' ; UrA

1/2 /krckā.koš kk% ; {kk% i fo' kflr&/kr% ctā.kL; oš k% ; Š rs 1/4 {KL; fo' kšk.keġ





¼i½ dŕks Lekdafi f' krk' kukuka t'houfuokz%& fi f' kre~v' kue~; 'ške} r'ske~¼/Lekde-
bR; L; fo'k%½

¼ii½ Hkkst ukHkkokr~ ik.k/kkj.kefi nŕdjja tkrEk&Hkkst uL; vHkkokrA

¼v½oá kh/ofu% xq tfrA oá ; k%?ofu%

v= o; a i ' ; ke% ; r~cgŕfŕgl ekl svll; inL; izkkurk vflr rLeSp vFkkZuđ kje~
ŕr~ l oZuke iz ŕ; rA ; Fkk i Fkes mnkgj .ks ŕš l oZuke ; {kh; % iz ŕreA rRi # "k
l ekl s p mŭkj ina izkkua HkofrA ; Fkk Hkkst uL; vHkkokr~ bR; = vHkkokr~ bR; L;
izkkurk vflrA

r0; r&iR; ; L; iz ks%

(i) rŕ ejyhokndŕ Hkfor0; eA

r0; r& iR; ; s drŕ na rŕh; kfoHkDrks deŕ na i FkekfoHkDr% fŕ; k p deklZuđ kja
HkofrA ; fn okD; s deZukflr ¼; Fkk mi fj nŭks mnkgj .ks vflr½ rnk fŕ; k l nk
ui ŕ dfyas , dopus vkxPNfrA ¼; Fkk v= Hfor0; e~bfr , dopus vflrKA½

(ii) Ro; k fur; a i kB% Lerŕ; %A

(iii) vLekfHk%fur; e~i kr% xhrk i fBr0; kA

, rŕ Hkofö% fda Kkre\ vke~r0; r i R; ; %/kkrk% HkofrA r0; r~iR; ; kŭra i nafo' kSk. ka
HkofrA

drŕ ns	i ŕfyas	ui ŕ dfyas	L=hfyas : i kf.k
	nŕor~	Qyor~	yrkor~
	¼ fBr0; %½	¼ fBr0; e½	¼ fBr0; k½

fofo/kiR; ; k% mil xk% p & v= Dr] rŕŕ~ 'kr` iR; ; kuka iz ks% vflrA , r'skka
iR; ; kuka iz ksL; fo"k; s Hkofö% iŕi kBsŕq i fBreA v= iŕfr iR; ; & iz ksL;
vH; kl a deŕA

I Eiklrk%	I e- \$ iz	\$ vki~\$ Dr iR; ; %
fogrŕ~	fo \$ vâ	\$ rŕŕ~iR; ; % ¼v0; -½
igl u~	iz \$ vgl ~	\$ 'kr` iR; ; % ¼ ŕ½
fuokŕl r%	fuj~ \$ vfol ~	\$ f.kp~\$ Dr iR; ; % ¼ ŕ½
vuđ jŭr%	vuq \$ vŕl`	\$ 'kr` iR; ; % ¼ ŕ½
fu" .k%	fu \$ vŕl n~	\$ Dr iR; ; % ¼ ŕ½



i k B x r ç ' u k % 23 - 1

1- , d i n s u m ù k j r -

¼ d ½ ; { k k % d h n ' k o s k k % v k l u \

¼ [k ½ v ; e - o u i n s k % d h n ' k %

¼ x ½ d k l k e - l e h i e - e j y h o k n d s u H k f o r 0 ; e \

¼ 2 k ½ d e f u " k . . k % ; ø k o á k h a o k n ; f r L e \

¼ 3 ½ d s k k e - e / ; s f i f ' k r k ' k u k u k a t h o u f u o k j % d f B u % t k r %

2- f o ' k s k . k & f o ' k s ; L ; e s y u a f Ø ; r k e -

¼ d ½ ? k k j e -

¼ ½ o u i n s k %

¼ [k ½ # " V s u

¼ i ½ f o f i u s

¼ x ½ v ; e -

¼ i i ½ e j y h o k n d s u

¼ 2 k ½ ? k k j s

¼ v ½ ; { k s o j s k

¼ 3 ½ r s u

¼ v ½ v j . ; e -

3- v = i n k u k e - l R ; e - v F k e - ¼ ¼ ½ b f r f p g u s u] v l R ; a r q ¼ x ½ b f r f p g u s u
L i " V h d # r

¼ d ½ v j . ; e - ¾ f o f i u e @ L o j e -

¼ [k ½ x k o % ¾ x k i k y d k % @ / k s u o %

¼ x ½ j f o % ¾ ; { k % @ l w %

¼ 2 k ½ n ð d j e - ¾ d f B u e @ l ø d j e -

¼ 3 ½ H k f i ; " B % ¾ f l F k j % @ c g o %

¼ p ½ o s y k ¾ l e ; % @ f o Y o o { k %

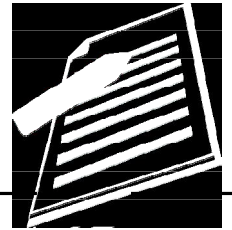
f } r h ; % v á k %

r r % i f o ' k f r ; F k k f u f n z V d e k z ----- o ; e x s x P N k e % l o z f u " Ø k u r k a

v / k u k u k V d L ; f } r h ; k á k a c k s k k e % t k u h e % p d f k e - x k i k y d % o u s L o f u H k h z d r k a ; { k k u -
i f r o . k z f r &

¼ ½ d e f r k s H k f r % H x o f r c k s / k l ù o s ----- f u H k z k % l f ù r

; { k % o á k h a o k n ; U r a ; ø k u a i P N f r ; r - l % / k k j s v j . ; s , d k d h f o p j u - o á k h a p o k n ; u -
d f k a u f o H k f r \ r n k x k i k y d % o n f r ~ v = i m z t l e f u c j % v f l e u - t l e f u e s - c y %
j k t k ' k k l u a d j k s r A l % / k r e s - h k k o % v f g á k ; k a p i f r " B r % Ø k s k e - d n k f i u





/kekFkZkeekfkk.kkekjkk; a
 I k/kua; r%
 rLeknkjkk; nkuu
 rnaÜk L; kPprqV; eA

djksRkA I % enHkk"kh jktk I E; d- iFoha icy; frA v= rq I ok% iztK% fuHkz, k%
 fopjflUrA Hk; L; LFkkueo u vflr v=A

½ eSh , o rL; jkk% cye- ----- I E; d- iFoha icy; frA

xki kyd% jkK% eS-cyL; xqkku-; {kk. kka I e{ka o. kZ fr ^fe=rk rL; jkK% ey' kDr%
 vr, o rL; I kfkZda uke vfi eS-cy% bfrA I % I E; d- tkukfr ; r- Økskk- , o
 fouk' k% tk; rs vr% I % Økskghu% fuHkz, % pkfLrA

I % iFoha I E; d- icy; frA I Ø; a rq jkT; O; ogkj kfkZeoA I % dnkfi dBkj opua u
 onfrA bRFka rL; pfj=e-vk' p; È; j ykdkskj xqk; Øra pA , ofo/kL; jkk% jkT; s
 o; a iztktuk% I q[ku% fuHkz, k% p Le% rL; eS-Hkkocykr- jkT; s jk{kl k% vfi
 vfgd dk% tkrk%

½ i; FkFk L; kr- Ronh; a dFkue- ----- o; exs xPNke%

xki kydL; eq'kk- jkk% eS-cyL; xqkku- Jqok vfi ; {kk% r} puSkq fo' okl a u
 dØflUrA I Hkor% rsjkK% 'khyai jhf{krø-bPNflUrA vr , o rsxki kydai fr mi {kHkkoa
 n' kZ Ur% dFk; flUr] ^Roe= fuf' plr% I u- /kuw pkj; oá kha p okn;] o; e- rq vxs
 xPNke%

0; kdj .kfclno%

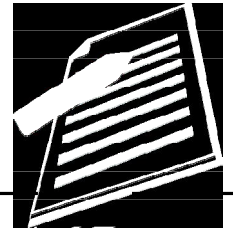
v= inÜkl U/khuka fo" k; s i wá kBšq i fBreoA rškke-v= i q% vH; kl a dØ%

I fu/kPN%

- Lokxre- ¾ I q \$ vkxre} v \$ vk ¾ o&; .k- I fu/k%
- vj.; n' kZukRl dk% ¾ vj.; n' kZ \$ mRl qk% v \$ m ¾ vks xqkl fu/k%
- bgxrk% ¾ bg \$ vkxrk% v \$ vk ¾ vkj nh?kl fu/k%
- /kuw pkj; ¾ /kuw \$ pkj; ¼ k½ pkj; fol x% ' pñol á/k% p

I eLri nkuka foxg% HkonfHk% cgøhfg&rRi # "kl ekl ; k% fo" k; s i Fkeka ks i fBreA
 bnkuha rška i q% vH; kl a dØ%

- /kreS-Hkkko% ¾ /kr% eS-Hkkko% ; s I % cgøhfg%
- fuHkz, k% ¾ fuxZra Hk; e- ; H; % rš cgøhfg%
- ftršUnz, x. k% ¾ ftrk% bfUnz, k. kka x. kk% ; s I % cgøhfg%
- d#. kki fj i wkZeu% ¾ d#. k; k i fj i wkZeu% ; L; I % cgøhfg%
- I Ø; I ðkVue~ ¾ I Ø; kuke~ I ðkVue} "k" Bh rRi # "k%
- I oá kf. k" kq ¾ I ošq i kf. k" kq deZkkj ; %
- eS-cy% ¾ eS-L; cye- ; fLeu- I % cgøhfg%



iR; ; iz kx% i d fBr ÑriR; ; kuke-v= i u% vH; kl a d eZA

foykD; ¾ fo \$ ykd-\$ Y; i~iR; ; %

ifjff{kre~¾ ifj \$ j{k-\$ Dr iR; ; %

fgál r e~ ¾ fgá ~\$ r e u~iR; ; %

fu"Økirk% ¾ ful ~\$ Øe-\$ Dr

fopju- ¾ fo \$ pj-\$ 'kr` iR; ; % ¼ ½

okn; u- ¾ on- \$ f.kp-\$ 'kr` iR; ; % ¼ ½

Hkfr%¾ Hkh \$ fDru~iR; ; % ¼ r ½ Hkkos vFk/krk% fDru~iR; ; ks HkofrA ^fDru~ iz kxcs
l fr 'kCn% fuR; L=hfy³% HkofRkA

I kj%

; nk futZusous xki kyd% ctã .koSkk.kke~; {kk.kke~Lokxre~djkr rnk rsous rL;
fuHkhZrk; k% dkj .ka i PNfUrA l % dFk; fr ; r~jkfK ckf/kl ÜoseS=hcysjKT; a'kkl frj
l oZ tuk% fuHkz k% l fUrA iztktue~ vdkj .ka }ski jk% jk{kl k% vfi fgál r e~ u
i HkofUrA jkK% xqkku~JRok rs vxS xPNfUrA

Xokyk ctã .k oS/kkjh ; {kka dks n[kdj mudk Lokxr djrk gS rc os vdsys ?kærs
gq pjokgs l s ^cã h ctkrs gq rFkk taxy ea vdsys ?kærs gq D; k r e s Mj ugha
yxrK** ; {k , d k iz u i Nrs gA Xokyk dgrk gSfd] ^tc l s Hkxoku ckf/kl Üo
jktk eS=cy ds: i ea'kkl u dj jgsg r Hkh l sl kjh iztk fuMj gS rFkk dkbZfd l h
dks i hfMf ugha djrkA eS=cy jktk ftr fUnz; gS n; kyqrFkk vfgá d i d fÜk dk gA
eS=h gh ml dk cy gS og enHk"kh gS ØkK ugha djrkA ml ds jKT; ea ; {k&jk{kl
Hkh fgá k ugha djrkA og Hkyh izdkj i Foh dk Hkj .k&i kSk.k djrk gA** ; {k ml dh
ckr dk fo'okl ugha djrs vS ogk l s pys tkrs gA



i k Bxrc'uk%23-2

1- j[k f r i n k f u v k / k R ; i z u f u e k z k a d e # r A

; Fkk ¼ d ½ eS=h , o r L ; j k K % c y e A
eS=h , o d L ; j k K % c y e A

¼ [k ½ l o Z k f . k " k q / k r e S = H k k o k s e S = c y k s v f g á k ; k a i f r f " B r % o r r A

¼ x ½ ; F k k F k ± L ; k r ~ R o n h ; a d F k u e A

¼ k ½ R o e = o á k h a o k n ; A

¼ ³ ½ ; f n d r g y a r n k ; ð e k f H k % J w r k e A



2- l eLrlnkfu jp; rA

¼d½ /kr% eš-hHko% ; u l %A

¼[k½ fuxra Hk; a ; H; % rA

¼x½ ftrk% bfUnz k. kka x. kk% ; u l %A

¼K½ eš-h , o cya ; L; l %A

3- dKSBdkr~mfpra i nafpRok okD; kfu ij; rA

¼d½ jkK% ----- eš-h , o vkl hrA ¼ku½ cy½

¼[k½ Roe----- okn; u-Hkhfrau vuHkofl A ¼oá k½ oh. k½

¼x½ ----- L; kr~Ronh; a dFkueA ¼ FkFk½ feF; k½

¼K½ ----- mRl qk%o; e-bgkxrK%A ¼uxjn'k½;] vj. ; n'k½; ½

¼³½ eš-cysjkt; a'kl fr l ok% i zt k% -----A ¼Hk; Hkhrk½ fuHkz k½

r`rh; %vák%

LFkue& jktLHk ----- v{krng% fojkt rA

bnkuha ukVdL; vflures váks i Bke% ; r~ckf/kl úo% dFka Lo'kjhs k vkfrF; a dÚk~bPNfrA

¼½ ; qekda xqkx.k[; kfre- vlnk; ± p fu'kE; bg l ekxrK%A

{kqkfi i kl ki hfMrk% ckä. koš kk% ; {kk% Hkkt ua i kFkz ekuk% jkt kua onfUr ; r~vLekfHk% Hkor% nku'khyrk&mnkj rk&d#.kk&vügl knxqkkuka fo" k; s ykcll; % JqEA vr, o o; e-v= HkktuBN; k vkxrk%Le%A dL; kfi tuL; xqkfo'kška Jqok rL; k n'k½BNk Hkofr , oA

¼½ vfrFkuka l ok vLekda /keZA

eš-cy% ; {kk. kka i kFkZuka Jqok dFk; fr ; r~HkktuBN; k i klrk% ; w e-ee vfrFk; %A o; e-vfrFkuka l oka i je/kež- el; kegA vr% v= bPNkuq kje~ ; w a Hkkt ua i š & i nkFkZu-p i kL; FkA vusu eš-hcyL; vfrfkl od: iL; ifjp; a i kl; rA

¼½ ^vge- LongL; ekl u , rku- riž kfeA**

vdLeKr-ckä.kku~vfrFku~/kr; {k: i ku~n"Vok ršska ekl HkktuBNka p Jqok ui% fdÚk; foew% tk; rA l %vfgd d% vflr vr%vU; ku~thoku-gRok dFkege~, ršska dkeuka ij; š e-bfr fpUr; frA l gl k rL; euf l fopkj %LQjfr&^vgafut'kjhl;

ekl ajDrap nùok , rku~vfrFku~rkSk; kfe ; r%u es jkprs thofgd kA iz kd uh; %
rL; vfrfFkl òkHkko% vfgd kHkko% pA

**¼½ vfi p i pkuke~, rSkkaÑrs txr~vuFkhiÑr0; e~bfr dks ; a/kežekž
nòL; A**

el=h jkKsfuon; fr ; r~, rSkka i pkuke~; {kk.kke-ÑrsHkor%'kjhl; jDrekd nkusu
i k.kgkfu% I EHkko; rA , rkn'ksu ÑR; su I dyjkt; L; egrh gkfu%{kfr%p Hkfo"; frA
vr% ; {kk.kke~rkSk.kL; , rkn'k% fopkj% R; Dr0; %A

**¼½ ; {kk% ¼krExre½ vgd fofp=ks ; a ui % onUkfh% vdEi eku% i d lu&
onu% fojkt rA**

; nk ešcy% Nijid; k Lo'kjhl; držua djkr ; {kk% rL; /kš ž~l kgl ap foykD;
fofLer% HkofUrA rsfpUr; flUr dhn' kks ; aegkl ūo%A 'kjhlPNnsfi onu; k 0; kdy%
u HkofrA vfi rqvL; eqks iz ūurk fojkt rA uuē~v; e~dksfi egki #"% , oA

¼i½ 'ykd%

I ūo | ekua ukLrhfr cū knLef }/k% dFkeA
u nkL; ketR; I R; a ok foLi "Vefi ; kfpr%A

i nPNn% I ūf | ekue~u vflr bfr cū kr~vLenfo/k% dFke-
u nkL; kfe bfr vl R; e-ok foLi "Ve~vfi ; kfpr%A

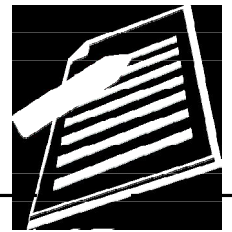
vlo; % I ūo | ekua u vflr bfr vLefnø/k% dFka cū kr~ foLi "Ve~vfi ; kfpr% u
nkL; kfe bfr ok vl R; a ok dFke~cū kr~

0; k[; k

jktk efU=.ka ifr dFk; fr ; r~vLekn'k% I R; fiz% tu% oLrqu fo | ekusfi ee
I ehi sukflr bfr dFkaons~ vFkz~; fn fdefi oLrql R; okfnu%ujL; ik' ošvflr
rfgz u vLrhfr vl R; a oDrē~l % u 'kDukrA ; r% I R; oDrk vl R; a u Hkk"krA
nku' khy%uj% ; kfpr% I u~nkuadjkr , oA vFkz~fdefi d"VaL; kr{ dki gkfu%
L; kr{ i k.kk% iz k"Vk% Hkoš % i ja Lonku' khyrkankuh u R; tfrA

I kj%

}kji ky% jktkua l p; fr ; r~}kjs i p i fFkd% HkktuPN; k fr"BflrA jktk efU=.ka
rñ; %Hkktu0; oLFka dūē~vkn' kfrA fdUrjktk sprafoko/kaHkktue~n"Vøk rs, rr~
u Hk{k; flrA dōyaekd #f/kjeo rSkke-HkktueA I gl k rsnh?kzdkjafodjkya: ie~
/kkj; flrA jkKs thofgd k u jkprA vr% Lk%Lo'kjhljk vkfrF; adūēPNfrA oSj ku~





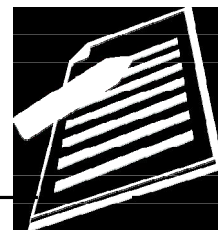
vkgy ui%Lo; afuf'krsv VL=s k Loekd kfu fNRok ; {kH; %i z PNfrA ; {kk%fpUr; flur
 ; r~dFkafofp=ks; au i % ; %ekd PNnonukfHK% vfi i d Uue[k% vLrA rs {kek; kpuka
 dφZUr] jkK% i kn; k%p i rfuRA jktk dFk; fr ; r~; fn rsjkK%fiz e~bPNfUr rfgZ
 i kf.kfgd k] i jnD; ykkk e | i kue} fulnkopukfu p fo"kor~R; tUrA ; {kk% l g"ke~, oa
 dUkē~ ifrtkufuRA jktkue~ izkH; rL; inf{k.kka p NRok vUrfgz k% HkofuRA
 nDNi; k e~cy% jktk vfi i wbr~v{krng% tkr%

}kjiky jktk e~cy dks l fpr djrk gSfd ctā.k ošk/kkj h i kp ; k=h Hkstu dh
 bPNk l sckgj [kM+gA jktk mlgal knj vlnj cykrk gSvkš ell=h dks mudsfy,
 Hkstu ykusdk vknš k nrk gA jktkšpr Hkstu ns[kdj os i koka ; {k mB [kM+gkrs
 gšvkš dgrsgš ^ge , d k Hkstu ugha [kk, xA ekd vkš #f/kj gh gekjk fiz Hkstu
 gA gekjsfy, ogh yk, A** ml h l e; osjk{k l ka dh Hkkār viuk fodjky : i /kkj.k
 dj yrs gA rHkh jktk e~cy] ft l s thofgd k fcYdy i l Un ughā vius'kj hj dk
 ekd ndj mlgarir djusdk fu.kz yrs gA ell=h ml scgr l e>krsgšfd osdN
 /ku ndj mlga fonk dj nā yfdu jktk os] ka dks cykusdk vknš k nrk gSoS] ka ds
 vkrsg h jktk Lo; arh[k s 'kL= l sviuk ekd dkVdj [kkusdsfy, mlgaijkd rk gA
 rHkh ; {kka dh ifrfØ; k gSfd ; g jktk fdruk fofp= gA osjtk dks ekd dkVus
 dsfy, euk djrs gA mudk ān; cny tkrk gš osn; k l snohHkur gks tkrsgA
 jktk ds i k i j fxjdj {kek; kpuk djrs gA jktk dk mul s dFku gSfd ; fn os
 ge l c dk fiz djuk pkgrsgārks i kf.k; ka dh fgd k] e | i ku vkš fuflnr opu tš s
 dpeZfo" k dh Hkfr NkM+nA rHkh osjtk dks opu nrsgšfd fQj dHkh ekd dks
 Nq x s Hkh ughā fQj ; {k] jktk dks iz kke dj] inf{k.kk dj dš vUr/; kZ gks tkrsgA
 vkdk' k ea uxkM+ctrsgA Qnyka dh of"V gkrh gA bZoj dh Nīk l sjtk e~cy
 dk 'kj hj i wkr; k LoLFk gks tkrk gA

0; kdj .kfclno%

i R; ; i z, kx%& HkonfHK% Y; i &Dr DRok i R; ; kuka iz, kx% i wZkkBšq i fBr% , oa v=
 rnuđ R; i Nīfri R; ; %A ; kxL; vH; kl a dēA

- ifo'; ¾ iz \$ fo'k-\$ Y; i~iR; ; %
- fu'kE; ¾ fu \$ 'ke-\$ Y; i~iR; ; %
- fu"ØE; ¾ ful ~\$ Øe-\$ Y; i~iR; ; %
- n"Vok ¾ n'k-\$ DRok i R; ; %
- fofpUR; ¾ fo \$ fpUr-\$ Y; i~iR; ; %
- vknk; ¾ vk \$ nk \$ Y; i~iR; ; %



fNÙok ¾ fNn~\$ DRokk iR; ; %
 izkE; ¾ iz \$ ue~\$ Y; i~iR; ; %
 ÑRok ¾ Ñ \$ DRokk iR; ; %
 I ekxrK% ¾ I e~\$ vk \$ xe~\$ Dr iR; ; % i q i Fkek cgøpueA
 vkuhre~ ¾ vk \$ uh \$ Dr iR; ; % ui q i Fkek , dopueA
 n"V% ¾ n'k~\$ Dr iR; ; % i q i Fkek , dopue~
 vujDrkuke~¾ vuq\$ j t~\$ Dr iR; ; % i q "k"Bh cgøpue~
 ; kfr% ¾ ; kp~\$ Dr iR; ; % i q i Fkek , dopue~
 foLi"Ve~ ¾ fo \$ Li'k~\$ Dr iR; ; % ui q i Fkek , dopue~
 iñjr% ¾ iñj~\$ Dr iR; ; % i q i Fkek , dopue~

I eLr i nkuka foxg%

vi' ; fnHk%	¾ u i' ; nñHk%	u¥~rRi#%"k%
vuof{krø~	¾ u vos{krø}	u¥~rRi#%"k%
ikf.kfgd ke~	¾ ikf.kuke~fgd k rke}	"k"Bh rRi#%"k%
fuflnropukfu	¾ fuflnrkfu opukfu]	deZkkj ; %
v{krng%	¾ v{kra nga ; L; I %	cgøpñfg%
ešcy%	¾ eše~ , c cye~ ; L; I %	cgøpñfg%
egkjkt%	¾ egku~vl ksjktk]	deZkkj ; %
ipi fFkdK%	¾ i p i fFkdK%	deZkkj ; %
vfrFk ; %	¾ u frfFk% ; škke~rš	cgøpñfg%
; FkøNe~	¾ bPNke~vufrØE ;]	v0 ; ; hHkko%

v0 ; ; iz ; ksx% ; % 'kCn% l nk , d: is , o fr"Bfr vFkkñ~ ; fLeu~ 'kCns
foHkfDr&fy³&opu n"V ; k fdefi iñjorZau tk ; rs l % 'kCn% v0 ; ; e~df ; rA

(i) vr% vge~Lo'kjñjsk vkfrF ; a dÙkø~bPNkfeA

¼i½ fu"ØE ; iñ% i fo' ; A

¼ii½ fde~vfrFk ; % cfg% fr"Bflur\

¼v½ nñkr~ l Ei ñlrK% o ; eA

¼v½ ; ðekda vkñk ; ± fu'kE ; bg vkxrK%A

¼vi½ ; Fkk vkKki ; fr nš%A



¼iii½ eka #f/kje~ ,o vLekda fi z e~Hkkst ueA

¼iii½ I Eifr fde~djokf.kA

¼x½ {k.ke~ fofpUR; A

¼½ v| ; fn rŠkke~mi ; kx% Hkor~rr~ r_q ee I kŠkkx; eA

¼i½ vfi_p , rŠka Ńrs txr~vuFkždÜk; e~bfr dks ; a/kežkxkž nOL; A

¼ii½ oS| s rFkk Ńrs I fra

¼iii½ vglđ fofp=ks ; e~ui %A

¼iv½ ; |fi rok; eq| e% ykđfgrk; Š rFkfi Hkor% i hMk ukšprkA

¼v½ ; fn Hkour% vLefRi z e~bPNfur rfgZp thofgd kafo"kor~R; tra

¼vi½ u iψ%fdefi eka aLiž; ke%A

/kkrq i kf.k

nk ¼t qk&; kfnx.kr%½ mHk; i nh

i jLEš ns

		yVydkj%		yVydkj%		
	, dopue~	f}opue~	cgppue~	, dopue~	f}opue~	cgppue~
iD iQ	nnkfr	nÜk%	nnfr	nkL; fr	nkL; r%	nkL; flr
e0 iQ	nnkfl	nRFk%	nRFk	nkL; fl	nkL; Fk%	nkL; Fk
m0 iQ	nnkfe	n}%	nne%	nkL; kfe	nkL; ko%	nkL; ke%

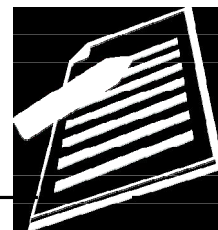
	y ³ vydkj%		y ³ vydkj%			
	vnnkr~	vnÜkke~	vnnk%	nnkrq	nÜkke~	nnrq
iD iQ	vnnkr~	vnÜkke~	vnnk%	nnkrq	nÜkke~	nnrq
e0 iQ	vnnk%	vnÜke~	vnÜk	nfg	nÜke~	nÜk
m0 iQ	vnnke~	vn}	vnö	nnkfu	nnko	nnke

fof/kfy³~

	, dopue~	f}opue~	cgppue~
iD iQ	n kr~	n krke~	n k%
e0 iQ	n k%	n kre~	n kr
m0 iQ	n ke~	n ko	n ke

nk&vkReuš ns

	yVydkj%		yVydkj%			
	, dopue~	f}opue~	cgppue~	, dopue~	f}opue~	cgppue~
iD iQ	nÜks	nnkrs	nnrs	nkL; rs	nkL; rs	nkL; Urs
e0 iQ	nRl s	n/kkrs	nn/os	nkL; l s	nkL; šls	nkL; /os
m0 iQ	nns	n}gs	nögs	nkL; s	nkL; kogs	nkL; kegs



	y³ydkj%			yk/ydkj%		
	, dopue~	f}opue~	cgøpue~	, dopue~	f}opue~	cgøpue~
iD iQ	vnÜk	vnnkrke-	vnnr	nÜkke-	nnkrke-	nnrke-
e0 iQ	vnRFkk%	vnnkFkke-	vnn/oe-	nRLo	nnkFkke-	nn/oe-
m0 iQ	vnfn	vn}fg	vnøfg	nnS	nnkogS	nnkegS

fof/ky³-

	, dopue~	f}opue~	cgøpue~
iD iQ	nnhr	nnh; krke-	nnhju-
e0 iQ	nnh; k%	nnh; kFkke-	nnh/oe-
m0 iQ	nnh;	nnhofg	nnhefg

/kk ¼t gkR; kfnx.kr% mlk; i nh

ijLeis ns

	yVydkj%			yVydkj%		
	, dopue~	f}opue~	cgøpue~	, dopue~	f}opue~	cgøpue~
iD iQ	n/kfr	/kÜk%	n/kfr	/kkL; fr	/kkL; r%	/kkL; fUr
e0 iQ	n/kfl	/RrFk%	/RrFk	/kkL; fl	/kkL; Fk%	/kkL; Fk
m0 iQ	n/kfe	n/o%	n/e%	/kkL; kfe	/kkL; ko%	/kkL; ke%

	y³ydkj%			yk/ydkj%		
iD iQ	vn/kkr-	v/kÜkke-	vn/kkø	n/kkrq	/kÜkke-	n/krq
e0 iQ	vn/kk%	v/kÜke-	v/kÜk	/kfg	/kÜke-	/kÜk
m0 iQ	vn/kke-	vn/e	vn/e	n/kkfu	n/kko	n/kke

fof/ky³-

	, dopue~	f}opue~	cgøpue~
iD iQ	n/; kr-	n/; krke-	n/; kø
e0 iQ	n/; k%	n/; kre-	n/; kr
m0 iQ	n/; ke-	n/; ko	n/; ke

/kk vkReuis ns

	yVydkj%			yVydkj%		
	, dopue~	f}opue~	cgøpue~	, dopue~	f}opue~	cgøpue~
iD iQ	/kÜks	n/kkrs	n/krs	/kkL; rs	/kkL; rs	/kkL; Urs
e0 iQ	/RrI s	n/kkFks	nn/os	/kkL; I s	/kkL; Fks	/kkL; /os
m0 iQ	n/ks	n/ogs	n/egs	/kkL; s	/kkL; kogs	/kkL; kegs

	y³ydkj%			yk/ydkj%		
iD iQ	v/kÜk	vn/krke-	vn/kr	/kÜkke-	n/kkrke-	n/krke-
e0 iQ	v/RrFk%	vn/kkFkke-	v/kn/oe-	/RrLo	n/kkFkke-	/kn/oe-
m0 iQ	vnf/k	vn/ofg	vn/efg	n/kS	n/kkogS	n/kkegS



		fof/ky ³ -	
iD iQ	, dopue-	f}opue-	cgppue-
e0 iQ	n/khr	n/kh; krke-	n/khju-
m0 iQ	n/kfkk%	n/kh; kfkk-	n/kh/oe-
	n/kh;	n/khofg	n/khefg



i k B x r i z u k % 23-3

1- v/kksyf[kr'skq dFku'skq; r-dFkua l R; a rr- $\frac{1}{4}$ / $\frac{1}{2}$ bfr fpau ; r-v l R; a $\frac{1}{4}$ / $\frac{1}{2}$ bfr fpau p fufnZ krA

$\frac{1}{4}$ d $\frac{1}{2}$ ckã .kk% 'kkdkgkj a Hkkst ue~bPNfUr LEkA

$\frac{1}{4}$ [k $\frac{1}{2}$ l gl k ; {kckã .kk% fodjkya : ia /kkj; fUrA

$\frac{1}{4}$ x $\frac{1}{2}$ ekd PNnukr~jktk dEi eku%f[kluonu% tkr%A

$\frac{1}{4}$ k $\frac{1}{2}$; {kk% eS-cya i kf. kfgã ka R; Drq dFk; fUrA

$\frac{1}{4}$ ³ $\frac{1}{2}$ u i u% dnkfi ekd aLi{; ke% bfr ; {kk% jktkua ifrtkufUrA

2- v/kksyf[kri Drh% d% da i fr dFk; fr

d% dFk; fr

dai fr p dFk; fr

$\frac{1}{4}$ d $\frac{1}{2}$ Hkoku~rnFk±{keLo u% vij/keA

$\frac{1}{4}$ [k $\frac{1}{2}$; fn Hkour% vLefRi z e~bPNfUrA

$\frac{1}{4}$ x $\frac{1}{2}$ u es jkprs thofgd kA

$\frac{1}{4}$ k $\frac{1}{2}$ vefu ekd kfu 'kks.krkfu p ykdL;

fgrkFkëoko/krkfuA

$\frac{1}{4}$ ³ $\frac{1}{2}$ ukgr no% i nkug"kkz" k; kr~i ztkuke~

vuos{kraq fgrkfgreA

3- dksBds nükfunž kkuq kje~mükj r

$\frac{1}{4}$ d $\frac{1}{2}$ fgrkfgre~vuos{kre~ $\frac{1}{4}$ re~i R; ; kUra ne~fde\mathbf{\frac{1}{2}}

$\frac{1}{4}$ [k $\frac{1}{2}$ okjf; re~vgfUr v=Hkour% $\frac{1}{4}$ s kkdri ns ey/kkr% d% $\frac{1}{2}$

$\frac{1}{4}$ x $\frac{1}{2}$ l Ei fr fda djokf.k\ $\frac{1}{4}$ s kkdri nL; i; k; ine~fde\mathbf{\frac{1}{2}}

$\frac{1}{4}$ k $\frac{1}{2}$ Hkorke~vksk; ±fu'kE; bg l exrk%A $\frac{1}{4}$ s kkdri ns d% i R; ; % $\frac{1}{2}$

$\frac{1}{4}$ ³ $\frac{1}{2}$ vfrFk; % Hkkst uPN; k cfg% fr"BfUrA $\frac{1}{4}$ s kkdri ns dk foHkDr\mathbf{\frac{1}{2}}

$\frac{1}{4}$ p $\frac{1}{2}$ fu"ØE;] i osk;] i os;] fu'kE; $\frac{1}{4}$ d fLeu~ins Y; i~i R; ; % ukfLr\mathbf{\frac{1}{2}}



23-4 fde~vf/kxre~

- jk tk eš-cy% cks/kl ùo% vkl hrA
- eš-cy% vfgd kfi z % d# . kki j% ijfgrjr% vfrfFkl òd% p vkl hrA
- ; {kk% cã . koš k/kkfj . k% jk{kli k% vkl uA
- eš-cyL; egrk R; kxsu rška ân; e- ijofrreA
- rs eš-cya eka Hk{k.k&i fjR; kxL; i frKka dphÛrA
- cgphfgl ekl svL; inL; izkkurk Hkofr rLEKSp vFkkZdq kje-^rr~ bfr l oZuke iz q; rA
- ^r0; r~ iR; ; % /kkrapk l g ; q; rA vL; iz kxs drTj rrrh; k deT.k i Fkek HkofrA vL; : i kf . k f="kfjy³Skq HkofUrA



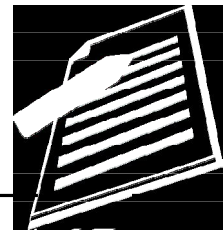
23-5 ; kx; rkfoLrkj%

½ dfo&xlfki fjp; %

ân; ijorÛe~ ukEu%, dkdudkVdL; , "kk dFkk eš-hcytkrdkr~xghrk l Ei kfnrk pA vL; tkrdL; jpf; rk egkdfo% vk; Z kji% ; L; l e; % rrrh; k job"VkcNh fu.kh; rsfo}nffkA eyi qrdsoesk , rkfu , dkn'ktkrdkfu 3] 4] 8] 10] 12] 14] 15] 16] 19] 31 l flurA vL; epz.ke- 1891 bZ oh; o"ka vesjdks kkrxZ&gkoMZ fo'ofokiy; }kjk vHkorA v= mi fuc) k% l ok% dFkk% i k; sk i kfyHkk"kk; ke-fyf[kr& fiVdxDFk; % tkrdxDFk; % p l æ°; vk; Z kjsk l ùNrkHk"kk; ke-vufnrk% l flurA b; atrdekyk i pra-kfnor-mi ns ki ZkkudFkkOkLr@kfVr% i cU/kxorA pEi wdk0; or- , "kk vfi jpuk x | & i | e; h vflrA ije-vL; k% Hkk"kk l j l k l jyk eukgfj . kh p orA

¼ k½ HkfoLrkj%

, rkl qtkrddFkkl qckf/kl ùokL; mnkjrk&ohjrk&vfgd k&nkufnxqkkuke-dFkk: i sk eukgja ijda p o.kua fo | rA l ok% dFkk% cks/kl ùoL; ršq tUekUrjsq ra raykdk djoÙka Jko; flur l eqfn'kfur p ekuoku- fo' kškr% ckydku- l Rdez kka l nkpki'khyrk; k% pA eš-hcytkrds eš-cyL; eš-Hkkouk; k% bh' k% i fj . kkeks Hkor} ; su ; {kk% jk{kli k% vfi ršq vkÙe.ka dÙk~ l eFkk% ukl uA vfi rq rL; jkK% R; kxHkkoukan"Vok rškk ; {kk.kke~vfi ân; ijorÛe~vHkorA ; flEu-jk"V} l ekt} i fjokj} ok l kEul; al nHkkouk p fojkt rsr= l qk' k'kfUr% l ef) % p foyl flurA





¼½ ykdkuj tu@ykd dY; k.ke-

Lugan; kap l kjo; ap ; fn ok tkudhefi A

¼i½ i jki dkj %

vkjk/kuk; ykdL; eqprks ukfLr es 0; Fkk ¼mÙkj jkepfj re½

¼ii½ i jki dkjk; l rñ foHkur; %A

¼d½ vfrfFknòks HkoA

¼[k½ l oBkkeh; kxrks x#%A

¼v½ vfgd k & vfgd k i jeks /keBA

Hkf"kdfoLrkj%

mi infoHfDriz ksx%

¼½ u es jkprs thofgd kA ^#p* /kkq ksxs prfkhz foHfDr% iz ksx% HkofrA vr% ^eš
br; = prfkhz foHfDr% vLrA

¼i½ nkl; kfe ^nk* ; ksxfi prfkhz foHfDr% iz q; rA

¼ii½ ^vyā ; ksxs rñh; k foHfDr% HkofrA ; Fkk fg& vya fooknu] dksykgysu]
dyguA



23-6 i kBKUrc' uk%

1- v/kkfyf[kri z ukuke-mÙkj kf.k i wkòkD; su fy[kr

¼d½ oui nš k% dhñ' k% vkl hr\

¼[k½ rñh; % ; {k% mPp% i gl u~fda dFk; fr\

¼x½ oá kha d%/oufr\

¼k½ xki kyd% eš-cyL; dku-xqkku-o.kz fr\

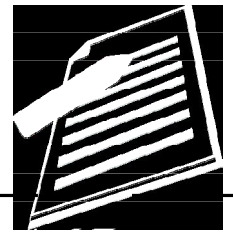
¼³½ }kj nš ks ds fr"BfUr\

¼p½ ckā .kk% jktkšpra Hkkstue~n"Vøk fda dFk; flUr\

¼N½ ; {kk. kka ān; i fjoñue~dFke~tk; rñ

2- jtkk eš-cy% fda fda R; Drq ; {kku~vdFk; rñ bfr pròkD; Škq fy[krA

3- ān; i fjoñue* ukV; ká kL; l kja i pokD; Škq fy[krA



- 4- v/kkŷyf [krokD; ká kk% dšška pkfjf=da oš' k'V; a i dV; flUr\
¼d½ i jedk#f.kd% vlLrA ; {kk.kke@uiL; eš-cyL;
¼[k½ ous LoPN; k fogjflUrA ; {kk.kke@eš-cyL;
¼x½ rs nh?kkčkj k% l flUrA ; {kk.kke@eš-cyL;
¼k½ eš-h , o rL; cyeA ; {kk.kke@eš-cyL;
¼³½ dŷks Lekda fi f' krk' kukuka thoufuokž%A ; {kk.kke@eš-cyL;
¼p½ eka #f/kj eo vLekda fi z, HkkstueA ; {kk.kke@eš-cyL;
- 5- v/k% okD; škq jš [kkidr i nkuka foxga d#r
¼d½ ; FkPNe- i š e- Hkkč; a p yll; /oA
¼[k½ jktk p v{krng% fojkt rA
¼x½ # "Vš ; {kš ojsk o; ajkT; kr-fuokžl r k%A
¼k½ rL; l š; l škVue- vkpkjj {k. kkFkžoA
¼³½ i pi fFkd k% Hkkst uPN; k }kj nš ks fr" BflUrA
¼p½ Lofgre fi vi' ; nfhk%A
- 6- v/kkŷyf [kršq okD; škq fufnzV/kkrqk l g ŷr0; r* i R; ; L; iz kxa d#r
¼d½ ; ŷekfHk% i kf. kfga k u ----- ¼Ń½
¼[k½ Ro; k ; FkPNaHkkst ua----- ¼kkq½
¼x½ i jn0; ykkk%u ----- ¼Ń½
¼k½ l nk l R; a----- ¼op½
¼³½ e; k fuR; ai kB%----- ¼e½
- 7- funž kkuq kje-mi ; ŷr% /kkrq i š fjDrLFkkukfu ij; r
¼½ /kfud% fu/kžš; %/kua----- A ¼nk&yV½
¼i½ l oš tuk% i hfMrkuka l kgk; ; kFk±/kua----- A ¼nk&fof/kfy³½
¼ii½ vga Nk=š; % i ŷrdkfu ----- A ¼nk&yV½
¼v½ jktk foKkrnkššsq n. Ma----- A ¼kk&yV½
¼w½ l i nfofue; š mHkkš jktkš jkT; } ; e----- A ¼kk&y³½



23-7 mUkj kf .k

23-3 ck'ki z' uk%

- 1- 1/2 d v] 1/4 [k 1/2 iv] 1/2 x 1/2 i] 1/2 k 1/2 ii, 1/3 1/2 iii
- 2- (i) vk' kf r% (ii) fopju~ (iii) Hkfre~ (iv) vfrFkhukEk~
(v) vkgw Urke~ (vi) Li {; ke%
- 3- 1/2 d 1/2 prfK% 1/4 [k 1/2 i Fke% 1/2 x 1/2 xki kyd% 1/2 k 1/2 ; {kk% 1/3 1/2 jktk

i k B x r i z' uk%

- 23-1
- 1- 1/2 d 1/2 ckã .kos kk% 1/4 [k 1/2 'oki nHkfr; "B% 1/2 x 1/2 /ksuuke~ 1/2 k 1/2 oVr#rys
1/3 1/2 'kkdHkktuka
 - 2- 1/2 d 1/2 v] 1/4 [k 1/2 iv] 1/2 x 1/2 i] 1/2 k 1/2 ii, 1/3 1/2 iii
 - 3- 1/2 d 1/2 fofi ue~ 1/4 [k 1/2 /ksuo% 1/2 x 1/2 l w % 1/2 k 1/2 dfBue~ 1/3 1/2 cgo% 1/2 p 1/2 l e; %

- 23-2
- 1- 1/2 d 1/2 dL; 1/4 [k 1/2 dSkq 1/2 x 1/2 fde~ 1/2 k 1/2 dke~ 1/3 1/2 d%
 - 2- 1/2 d 1/2 /kireS=Hkko% 1/4 [k 1/2 fuHkz, k% 1/2 x 1/2 ftrfUnz, x. k% 1/2 k 1/2 eS=hcyc%
 - 3- 1/2 d 1/2 cya 1/4 [k 1/2 oã kh 1/2 x 1/2 ; FkFk± 1/2 k 1/2 vj. ; n' kLuk; 1/3 1/2 fuHkz, k%

- 23-3
- 1- 1/2 d 1/2 x 1/4 [k 1/2 ✓ 1/2 x 1/2 x 1/2 k 1/2 x 1/3 1/2 ✓
 - 2- **d%** **da**

1/2 d 1/2 i p; {kk% & jtkuaeS=cyaifr
 1/4 [k 1/2 jtk eS=cyc% & i p; {kku~ifr
 1/2 x 1/2 jtk eS=cyc% & vkRekuaifr
 1/2 k 1/2 eS=cyc% & efl=.kaifr
 1/3 1/2 el=h & jtkuaifr

- 3- 1/2 d 1/2 vuof{kre~ 1/4 [k 1/2 vgz 1/2 x 1/2 v/kuk 1/2 k 1/2 Y; i~ 1/3 1/2 rRkh; k , dopue~
1/2 p 1/2 i dsk;

23-6 i k B W r i z' uk%

- 1- 1/2 d 1/2 oui ns k% 'oki nHkfr; "B% vkl hrA
 1/4 [k 1/2 r~rh; %; {k% mPp% i gl u~dFk; frk& ^ kkdHkktuka d rks Lekdafi f' krk' kukuka
 thoufuokz%A
 1/2 x 1/2 oã kh df' pr~; øk /oufrA
 1/2 k 1/2 l % jtk enHk"kh vflr] l % dnkfi Økkaudjkr] eS=h , o cyarL;] l %
 iztki kyd% bfr xqkku~o. kz fra

¼³½ }kj nš ks ; {kk% fr" BfUrA

¼p½ ckā .kk% jkt kšpra Hkkstua n"Vok dFk; fUr ; r~ekd e~ #f/kjeo ršska fi z a
Hkkstue~

¼N½ jkk% R; kxš ; {kk. kka ân; i fjo ršua HkofrA

2- LoBN; k prøKD; kfu fy[krA

3- LoBN; k i p okD; kfu fy[krA

4- ¼d½ uiL; ešcyL; ¼[k½ ; {kk. kke~ ¼x½ ; {kk. kke~

¼k½ uiL; ¼³½ ; {kk. kke~ ¼p½ ; {kk. kke~

5- i kBr~, o fy[krA

6- ¼d½ dÜKD; k

¼[k½ HkkDr0; e~

¼x½ dÜKD; %

¼k½ oDr0; e~

¼³½ LerD; %

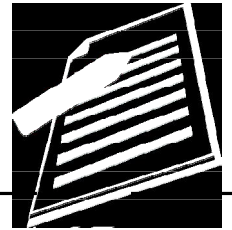
7- ¼½ nnkfr vFkok nÜks

¼i½ n | ø vFkok nnhju~

¼ii½ nkL; kfe vFkok nkL; s

¼v½ n/kfr vFkok /kÜks

¼½ v/kÜkke~ vFkok vn/krke~





24

i = fy [k%]

Hkk "kk; k%0; ogkj } ; aHkofr ek\$ [kdafyf [kr pA o; aok. ; k Lofopkj k. kke-vfHk0; fäa
 dæ% ; fn df' pr~tu% njs Hkofr rnk o; afyf [kRok , o l Uns ka çSk; ke%
 dk; kÿ; Skq l o= i=0; ogkjek/; esu , o dk; ±çorhA ; fn tyantf'kraçkl; rs rfgZ
 o; a uxjfuXeL; tyfoHkxa çfr i=a çSk; ke% , oed fofHkUl eL; kuka funkukFk
 i=L; vko' ; drk HkofrA fookgkfn' kHkkoL jSkqfyf [kRok , o fueU=.kaçS; rA v | rç
 cgfo/kl Uns ki =k. kka çpyue-vfLr&tUefnoL L; mi y{; } #X. kL; LokLF; ykHk;]
 i oL q' kHk' ka k%vf/k-R; dkMā =kf. k vki .ksyH; UrA vr%o; e-vfLeu-i kBs i=k. kka
 fofok/ka Lo: i e-vf/k-R; fopkja dfj"; ke% y\$ [kukH; kl p l k/k; ke%



mís ; kfu

bea i kBa i fBRok Hkoku-

- i =k. kka fofok/kçdkj ku~KkRok i=L; ç-R; uq kja Øee~vuq rç' kDr% Hkfo"; fr(
- i=L; vi \$ {krku~vá kku~'kq} : isk ; FkkØea iz; kDrq l eFK% Hkfo"; fr(
- i=y\$ [kus l Ecks kukuq kjaf' k"VkpjokD; kfu y\$ [krq l {ke% Hkfo"; fr(
- i=çklr% vullrja i =kHkja y\$ [krq ; kX; % Hkfo"; fr(
- fof' k"V% tu% fyf [krkuka i =k. kka@vfHkUl nui =k. kka l yuadfj"; fr(
- fof' k"Vkol jki ; çä kfu okD; kfu l ptc) kfu dfj"; frA



fØ; kdÿki %

v/kksyf [krk% 'kdk' ka k% dfLeu-dfLeu-vol js çskf; rø 'kD; Urs bfr esyua dØØrø

'kdk' ka k%

¼d½ j {kkI #a j {krø I okLUA

¼k½ nhi kfXu' kØ k' p HkøUrqykøk%

¼x½ LoLR; Lrq fpjk; j LrA

¼k½ uoo" k±uog" k±forukrø 'kdkafpjeA

¼³½ I Qyrk; S vfhkullnueA

¼p½ gksydkRI oL; 'kdkdkeuk%

¼N½ 'kdk% I Urq rs i UFku%

¼t½ I k±ra yl rø xgs xgA

vol jk%

¼½ uoo" k±

¼i½ i j h{k; ka I Qyrk

¼ii½ I k±rfnol %

¼v½ nhi kofy%

¼½ ; k=k; S 'kdkdkeuk%

¼vi½ j {kkø/kue~

¼iii½ tlefne~

¼iiii½ gksydkRI o%

, rlfu I okf.k vfhkullnui =kf.k vukS pkfjdkfu , o ; r%, rSkæç; kx% i fjfpr% vFkok I EcfU/kfhk% I g , o fØ; rA , "k% i=0; ogkj% dk; kÿ; I Ecu/kh ukfLrA vfLeu- i kBs i =k. kkafofo/kaLo: i e-vf/k-R; vf/kdaKKL; ke% i =yçkul; vH; kl efi dfj"; ke%



24-1 v/køk voxPNke%

i =afy [køe%

vfLeu~b. VjuS* i /kkusoKkfud; øsvfi i =yçkul; egLøaor rA v | kfi i =yçkua I Uns ki k.k.L; ykdfi z % ek/; e% fo | rA i k; % i =k. kkafofo/k: i a HkofrA

¼½ vukS pkfjdi =kf.k

¼i½ v/køS pkfjdi =kf.k

¼ii½ vks pkfjdi =kf.k

vFkok

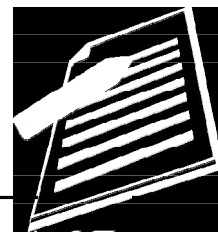
0; ol kf; di =kf.k

vFkok

dk; kÿ; h; i =kf.kA



24.1





vukš pkj di =kf.k

vLeu-, dka kso; e-vukš pkj di =k. kkafo" k; s ppk± dfj"; ke% vukš pkj di =kf.k oš fDr di =kf.k vfi dF; UrA çk; % vukš pkj di =L; , rifu çeç[kfu v³ku HkofUr &



24.2

½ i =L; çkjEH%

vukš pkj di =šq çk; % mi fj çkjEHks ekafyda i na 'krf"kdk: i sk fy [kke% ; Fkk ½ Jt% ½ vksne-½ ii½ Åj ue%f' kok;] ½ v½ Åj ue%x. ks kk;] ½ Jhx#pj .k; k% ufr-½ ½ i jekReusue½ ½ ii½ l ožk e³xyaHkorq½ ii½ okl qok; ue%vkn; % ; Fkk 'krf"kdk&^Åj* bR; kn; %

½ i =çškdL; LFkua fnuk³d' pA

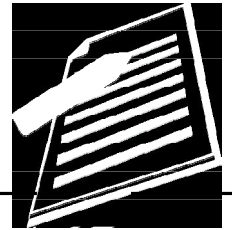
; % i =afy [kfr l % i =L; nf{k. ks dks ks Loch; ai =l rafy [kfr ; Fkk b&296] VSkj xkMz, DI] uongyhr% i =l rsfi Øe%l oçFkeaçykd l ç; k] xgl ç; k] ohfFkl ç; k] mi uxjL; uke] uxjL; uke] çnšKL; uke , rRi 'pkr~; fLeu-fnus i =afy [; rs rfíuk yç[kuh; %

½ ii½ l Ecks'kue} i =L; okelkxs ; a çfr i =a fy [kka çk; 'k% , rška l Ecks'kukue~ ç; kx% fØ; rA v/kšyf [krka rkfydka i ' ; r

x# tuku-çfr	l eknj .kh; k% @i w; k% x#o; k% @i w; k% fi rø; k%
ekrjaçfr	l eknj .kh; sekr% @i je i w; svEc!
i#ai fr @i#hifr	fiz i#% @fiz i# =! @fiz l rš
vxztaçfr	l eknj .kh; Hkkr%
vuqt açfr	fç; Hkkr% @fç; l gknj% @fç; vuqt!
vxztaçfr	l eknj .kh; svxztš @fiz; Hkxfu!
vuqt kaçfr	fç; svuqtš @fiz kuqtš
fe=açfr	fç; fe =! @fç; o; L; !@fç; l fjo! @w =h½ fç; o; L; s w =h½
f'k"; açfr	fç; oRl !@fpjat hfou-½uke½

½ v½ l Ecks'kukulr je- vfxei ³DR; ka DofpRLFkua R; äök vfhkknue@ vk' kpoa ok fy [; rs ; Fkk

x# tuku@ekrjaçfr	l knjapj .kolnue@pj .kLi 'k% @l knjaç. kke% @ueksue%
Hkkrjaçfr ½ vxztš	l knjaueLr @l knjaolnue-
Hkkrjaçfr ½ vuqtš	Lugkf' k'k% @fpjat to@' k% lR@ dY; k. keLr@' k'k% ; 'kLohHkoA
fe=açfr	l LugaeLr @ l i e ue%
i# @i#hifr	'k% k'k% @i je Lug% @ 'k% k'k% khokž%



¼½ dđkyfuonue@dđkydkeuk

i=L; fo"K; oLrµ%çkjEHksdđkyopukfu fuon; Urvfi p ; açfr i=afy[kke%
rL; dđkyrkfo"K; s dkeuka dæ% ; Fkk

- v= l ožre~dđky@ el; s Hkoku@ Hkorh vfi l dđky%@ l dđkykA
- v= l ož dđkyfu%@ r=kfi dđkyaL; kr~bfr el; A
- Hkorka dđkyrk Kkrq fpflrrksge@ fpflrrk vgeA
- vga dđkyh@ dđkyuh@ Hkolr@ Hkorhe~vfi dđkya dke; A

¼i½; fn i=L; mÜkjafy [kæ%rnk çkjEHksçk; %bñ' kfu okD; kfu ç; q; Ur&

- i=açkl; vkuln% tkr%A
- cgfoycsu i=açklreA vga fpflrr%A fpflrrk vkl eA
- i=a ifBRok fpflrk tkrkA
- 'kđkk' ka ki =a iklreA /kU; okn%A HkonH; % vfi rFkđ es 'kđkdkeuka
- mÜkjyşkus foyEc% tkr%A rfgZ —i ; k {kUr0; %@ {kUr0; k vgeA

¼ii½i =&yşkus vi şkr% fclno%

i=&yşkus dpu vi şkrfclno% /; kr0; k%&

- fda yşkuh; e~bfr Li "Va fpflruh; eA
- yşk% 'kđkku% HkorA
- i=L; okeHkxs i ; klr% vodk' k% R; ä0; %A
- i ähuka e/; sfi ; Fkđspre~LFkkuaL; krA
- i=L; çlkr%vulrja' kh?kđfr' kh?ke~mRrjaçşk.kh; eA i=s; fn dkfpr~l şpuk
vi şkrk rfgZ 'foyc% u dj.kh; %A i=çkflr l şpd@/kU; oknKki da i=e~
vLekda xkşoa o/kz frA
- Hkk"kkfo"K; d=ş; % u L; ş bfr , dokja i ş% i=a i Buh; eA

¼iii½ l eki uokD; kfu

i=L; fo"K; oLrµ%vUrs l eki uso; avxzt ku~çfr ueLdkjavuŞku~çfr Luga
fuon; ke%A dkfufpr~okD; kfu v/k% çLrµ Ur&

- ekrrj@ fi rrj@ l okU~ee ç.kkekatfya fuon; UrA
- T; ŞBđ; % l ođ; % ue% dfu" Bđ; % vk' khokñ%A
- i =kđkja çrhçkA



1/2x1/2fo"K; oLrqp% vuUrrja nf{k.ks dks ks I EcU/k% Kki uh; % ; Fkk

- Hkonh; % fç; i e~%@fç; i e~h
- Hkor%@ Hkor; k% fç; I çr@fç; I [kh
- HkoPNHkkdkk@Hkorka 'kkkkdkk{k.kh
- fç; % vuqt%@fç; k vuqt k
- fç; f'k"; %@fç; f'k"; k

1/2x1/2 rn/k% i=y[kd%Louke fy[kfr gLrk{kja ok djkrA

i =çk: i e~

fe=açfr i=e~

Hkoku-__"kHK%A Hkorkafuokl %23 thouokfVdkl i d[kkj kM] ubZfnYyh&59 e/; svfLrA
Hkorka fe=a I kS Hk% cks/knhi uxjs i kyefogkjs x#xtes fuol frA }kn'kd{k;k; ka
I l-ra i BukFkççf; rqi =çk: i eA

Jhxjos ue%

23 thouokfVdkl i d[kkj kM]
ubZfnYyhr%
frfFK%18-8-05

fç; fe= I kS Hk]

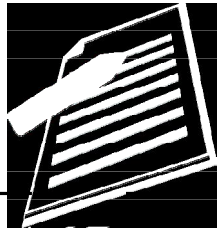
I Luga uelrA

Hkorka i =a cgfpjkr~çklreA v= I oZra ddky] Hkorkefi ddkyrka dke; A v | Ros
vga jk"V^, eçfo | ky; h; f'k{k I lFkkur% I l-rHkk"kk; ka i jh{k;k; S-rç; Ru% vflEA
vL; fo | ky; L; uohuikB; Øes cgjE; kf.k vkd"kd{k.k Kkuo/kdkfu i qrdkfu
fufekrfu I flrA vgarqrkfu i fBRok vR; f/kde-vkulne-vuqkkofeA r= 0; kdj .kefi
i kBS I g , o ç; ksek/; esu Li "Vh-reA vr% Roefi ; Fkk' kti?ka çoŞki =a i jf; Rok
i qrdkfu yHkLoA ; fn fdefi I kgk; ; e-viç; rs rfgz ee i k' oŞ vkxUr0; eA
i w; firpj. ; k% ee ç.kkek tfy% fuos| rkeA

bfr Hkorl çn-
__"kHK%

i =oSVue~

I fo/ks	<input type="checkbox"/>
Jh I kS Hk%	
cks/knhi uxjeç i kyefogkj%	
x#xte% 1/gfj ; k.kk/&1122017	



JH% i krq

ekrk i qha çfr

25@125
JHkoue-
_f"kexye}
f=obne-
fnuk %20-12-08

fç; i f=]

'kdkk' khokzn%

Hkor; k% i =a u çklre- bfr fpürk tkrA v= l oära ddkye- vflrA ro firf
LokLF; efi bnkuhal E; x-vflrA fpürk u dk; kA LoLokLF; fo"k; sl oäk tkx: drk
HkorA vkjk; a l oä çkkuka enyeA l e; s Qykfnda l ouh; eA fojkel e; s o; a l oä
'gEih' bfr LFkkuanzVq xfe"; ke% vr% dæfpr~vU; = 0; Lrk ek HkorA vkjk; e-
vuiç; ek i BrA el; s vflEu- o"kd fi çFkeJs; ke- mükh.kkz Hkfo"; fl bfr es
'kdkdkeukA

vU; r~l o±ddkyeA i =kdkja 'kh?ka çSk; rA

Hkonh; k ekrk

l dkk

l fo/ks

dæjh l UrkSk 'kekZ
d{kk xII
xækNk=kokl %
vkn' kZ l-rfo | ky; %
oUnkoue~veFkj k/281121



i kBrç' uk% 24-1

1- fj äLFkkukfu ij; r&

i=L; fo"k; oLrç% çkjEHs

¼d½ bz ojL; -i ; k -----

¼f k½ Hkorka i =a-----

¼x½ i =afpjkr~u çklre-----

¼k½ v= l o±ddkya-----

¼³½ r=fi l oä-----

i=L; fo"k; oLrç% l ekrlS

¼½ l oä; %ee -----

¼i½ vuçk; -----

¼ii½ fi rpj .k; k%-----

¼v½ i =kdkja-----

¼½ vkjk; fo"k; s-----



e tikk

v= l oş dđkfyu% dđkfyu% bfr el; } ç.kkek tfy% fuos| rke} vk' khokh% fpłrk o/kr} ç.kkek% 'kh?ka çsk; r] çkl; vkuln% tkr% r=kfi dđkyaL; kr~bfr el; } tkx: drk Hkor~

- 2- ¼d½ Hkor%fo | ky; sokf"kdh ijh{kk vflrA tudaçfr fyf[krsi =sdFka l eki ua dfj"; fr\ 'kq) e~mÜkj a fpähd#r
 ¼½ vga LoLFk%A fpłrk u dk; kA
 ¼i½ Hkorke~vk' khokh% mükeku~v ku~çklL; A
 ¼ii½ v= l oşra dđkyaA r=kfi l oş dđkfyu% bfr el; A
 ¼[k½ i=L; mükjs çkj EHks fdaokD; a l ehphue~bfr fpähd#r
 ¼½ bz ojl; -i; k v= l oş dđkfyu%A
 ¼i½ i=a i fBRok egku~g"kk% tkr%A
 ¼ii½ fpjkr~i=a u çklreA fpłrk o/krA
- 3- i=L; mi k³kfu Øesk l phc) kfu dφłrq
 ¼½ gLrk{kje~
 ¼i½ f' k"VkpjokD; e~
 ¼ii½ 'khf"kdk
 ¼v½ fnuk %
 ¼v½ i=yç[kdL; i=l r%
 ¼vi½ dđkyfuonue~
 ¼ii½ l Eckskue~
 ¼iii½ l ekflr%
 ¼x½ i=oşVusi=l a r%¼ açfr fy[; r½
- 4- çfkesLrñhks; açfr i=afy[; r} f}rh; sLrEHksp çskdL; i fjp; %nh; rA mhk; k% eyuad#r
; açfr i=afy[; rs
 ¼d½ fi rja çfr
 ¼[k½ ekrja çfr
 ¼x½ vxzt ka çfr
 ¼k½ vuqt ka çfr
 ¼³½ vuqt a çfr
 ¼p½ f' k"; a çfr
 ¼N½ x#a çfr
 ¼t½ l [kha fe=a çfr
 ¼>½ vxzt a çfr
- çskdL; i fjp; %**
 ¼½ Hkonh; k fç; l [kh
 ¼i½ Hkorke~vkKkd kj h f' k"; %
 ¼ii½ Hkonh; % vkKkd kj h i e-%
 ¼v½ Hkonh; k i e-h
 ¼v½ Hkor% 'kđkkd kđkh
 ¼i½ Hkor; k% fç; Hkkrk
 ¼ii½ Hkor; k% fç; Hkfxuh
 ¼iii½ Hkonh; % vuqt %
 ¼x½ Hkor% 'kđkkd kđk{k.kh

24-2 v/kk pkj di =kf.k

v/kk pkj di =kf.k oš fädi =š; %fkkUukfu HkofUrA dē dē Hkŋ%Hkofr bfr i'; r

- , rkf u i =kf.k ; a çfr fy[; Urs rŋ l g i fjp; % Hkofr i jUr q dk; kŷ; h; eš HkofrA
- , rškq i =škq mi fj 'khf"kd k u fy[; rA
- i =škq nf{k.k. kdks ks ; Fkor~; % i =afy[kfr rL; i =l r%fnuk %p fy[; rA
- l Eckškus ~fç; JhA -----** bfr ,oa uke fy[; rA f'k"Vkpj s ^ueks ue% ^ueLrš ok iz q; rA
- dškyfuonuL; vko'; drk ukfLrA
- i =a l š{ktra HkofrA ; r~dk; ±Hkofr rr~Li"Vr; k l šk sk fuonu h; eA
- vUrs i kfjokj d tuš; % ç.kkekat fy%bR; kfn fuonu uau HkofrA
- l eklrš ; Fkk' kh?ka dk; l Eiknuk; çkFkuk fØ; rA
- gLrk{kjkr~ i wž~ bfr Hkonh; % 'kškkdk{k' vFkok Hkonh; k 'kškkdk{k.k' bfr fy[kke%A
- rr%i =L; okeHkxs; a çfr i =afy[kke%rL; i wkLke i =l r'p fy[; rA

i =çk: ie~

Hkoku~ xkš o% v 2@46 [k.M 5] j kfg.kh* e/; s fuol frA Hkorka fe=a fnYyhi fçydi ūrdky; L; i kBdl nL; % Hkofrē~ bPNfrA Hkoku~ i ūrdky; k/; {ka tkufrA ra çfr Lofe=L; l kgk; a drē~vukš pkj di =afy[krA

v 2@86 [k.M%5] j kfg.kh
ubŋnYyhr%
fnuk %25-12-08

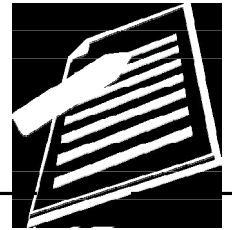
fiz Jh l gk; egkn; k%

ueLrA

i =okgd% ee fe=a l šk"k% Hkorka i ūrdky; L; ^i kBdl nL; % Hkofrē~ bPNfrA l nL; rki =kfnda nŋok rL; l kgk; a djkrA l % r q }kn'kd{k; ka l ū~ra i BfrA rL; fi rjks u Lr%A ee l ehis , o ol frA i ūrdky; L; l nL; rk rL; v/; ; uØes l gkf; dk Hkfo"; frA

/ku; okn%A

Hkonh; % 'kškkdk{k
xkš o%





Jh j ?kqkFk l gk; %
 i 4rdky; k/; {k% fnYyhi fcydi 4rdky; %
 i Vsyekx%
 ubZfnYyh&110001

Hkorh Loks uxjL; efgykl xBuL; l fpok jkeuqkA Hkor; k% mi uxjs
 fu' 'kYdfpfdRI ky; L; mn?kkVuk; cfI) aoS] aJhelra/kUolrfje-vkel=f; rafyf [kre-
 vukS pkfj da i=e-

450 , e-vkbZ th 9lyV4
 t gkxhj i gh] fnYyh&110033
 fnuk %10-8-08

l EekU; Jh/kUolrfj egkn; k%
 ueks ue%A

vLekde- mi uxjL; e?; s Jko.ki w. kZek; k% vol js , dL; fu' 'kYd&
 fpfdRI ky; L; LFkki uk Hkfo"; frA rL; mn?kkVuk; Hkor% veW; l e; kr-dkfufpr-
 {k.kkfu i klrq l eRl qk%o; e-efgykl xBuL; l ok% l nL; k%A —i; k 19 rkfjdk; ka
 i kr% n' koknus n' koka i nk; vLeku-vuqig-kUrA

l /kU; okn%A

oS] kpk; % /kUolrfj%
 179] foKkufogkj %
 fnYyh 110092

Hkonh; k n' kZkfHkykf" k.kh
 uferk

fueU= .kLoh—fri =e@vLoh—fri =e-

OS] kpk; % /kUolrfj%
 179] foKkufogkj %
 fnYyh&110092
 fnuk %12-8-08

fiz sufer}

ueLrA

fu' 'kYdfpfdRI ky; L; mn?kkVukol jkFkHkor; k i f"kre-vkel=.ki =ai kIreA
 Hkorh ; r-l okdk; ±djksr rr-uuag' ka uh; e-, oA vgarfLeu-fnus vU; = 0; Lr%
 vLeA vr% r= mi LFkrq u 'kDukfEA —i; k {kUr0; ks geA

vud' kkk' khokh l fgre-

uferk
 l fpo] efgykl xBuef
 450] , e-vkbZ th 9lyV4]
 t gkxhj i gh] fnYyh&110033

Hkor; k% ' kkkdkqkh
 %kUolrfj %



i k B x r ç ' u k % 24-2

- 1- v/kk̄ pkfj di = skq ; r~ ; r~vui f{kra rL; rL; l e{ka ½ bfr fpàhdq r& ½ d ½ ' khr''kzdk
 ¼ k ½ i = y s [kdL; i = l s %
 ½ x ½ fnuk %
 ½ k ½ l Ecks kue~
 ½ ¾ ½ f' k''Vkp kj ' kCnk %
 ½ p ½ d q kyfuosue~
 ½ N ½ i k f j o k f j d t u E ; % ç . kkefuosue~
 ½ t ½ v l r s ; a ç fr i = a f y [; r s r L ; u k e i = l s ' p
- 2- v/kk̄ pkfj di = k f . k d k u ~ ç fr f y [; U r s
 ½ d ½ f i r t u k u ~ ç fr ¼ k ½ i f j p r k u ~ f o f ' k '' V t u k u ~ ç fr
 ½ x ½ f e = k f . k ç fr ½ k ½ i = l E i k n d k u ~ ç fr

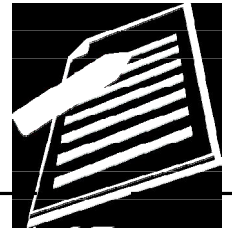
r`rh; %vdk%

24-3 v k i p k f j d i = k f . k @ 0 ; k o l k f ; d i = k f . k

, r k f u 0 ; k o l k f ; d i = k f . k ç k ; ' k % d k ; k y ; k / ; { k k u ~ ç fr } l e k p k j i = k . k k a l E i k n d k u ~ ç fr] f u ; q ä — r s f u ; k d r u ~ ç fr] 0 ; k i k f j . k % ç fr] f o Ø s r u ~ b r ; k n h u ~ ç fr f y [; U r s A

/ ; k r 0 ; k % f c l u n o %

- 1- v k i p k f j d i = s k q ' k h r '' k z d k % f ' k '' V k p k j ' k C n k % d q k y f u o s u e ~ b r ; k f n u f y [; r A
- 2- v k i p k f j d i = s k q i = l ; l U n H k z a q ; k f n u k ' p v r ; k o ' ; d % A
- 3- ; % i = a f y [k f r l % m i f j i = l a q ; k a f y f [k r o k r L ; v / k % , o f y [k r & l d k ' k k r ~ u k e] i = l s %
- 4- ; a ç fr i = a f y [; r s r L ; — r s , o a y s [k u h ; % ½ & ½ l f o / k s i n u k e] L F k k u u k e p A ; F k k l E i k n d e g k n ; % f o H k k x k / ; { k % r r % i = s % A
- 5- i = l ; f o ' k ; % ; F k k l a — r k / ; k i d L ; f u ; q ä — r s ç k f k z u k i = e A
- 6- i = l ; l U n H k z % ; f n i = e ~ m U k j s f y [; r s ; F k k H k o n h ; i = l a q ; k ----- f n u k f r % & & & & &
- 7- v l r s H k o n h ; f o ' o k l i k = e * b f r f y f [k r o k r L ; v / k % g L r k { k j e ~ r r % i w k e u k e A
- 8- o k e H k k x s L F k k u a f n u k o k v f i f y [; r A





i =çk: i e~

nijn' kZa çfr@vkdK' kok. kha çfr

i =l ç; k ----- fnuk %-----

l dk' kkr~

l fo/ks

ekU; k% funž kdk%

nijn' kZue@vkdK' kok. kh

dkhL; uke -----

ekU; k%

Hkorka ^l kfgfR; dh* dk; Øes ----- frFKS jk=KS ----- çl kfjra
'fongj uhfri kBe~ vrho Kkuçne~ mRl kgo/kZde~ p vkl hrA çfrl lrkge~, rkn' kK%
dk; Øek% i çl% i çl% çl kj. kh; k%; s; vLenç n' kuka fo | kFKZuke~ dY; k. ka HkorA
/kU; oknK%

l ç—rkuj kxh

vFkok

l fo/ks

ekU; % l çkyd%

l çkçdk' kueç

ubInYyh&27

fo"K; % yç[kçdk' kufo"K; s

ekU; k%

Hkorkaekfl di f=dk; k% fo | kof/kZuh* bR; L; k%, d%v %e; k n"V% if=dk
vrho fpÜkkdf" kZdk Nk=ki; kçxuh p orhA vga /kuknç k}kj k ----- : l; dkf. k
okf" kZda 'kY da ççk; kfeA —i; k v/kççyf [kri=l rs if=dke~ççk; rç

i wki =l ç% -----

l /kU; okn%

Hkonh; %

LFkkue~ -----

uke -----

fnuk % -----

çgLrk{kj e½



i k B x r ç ' u k % 24-3

- 1- 0; kol kf; di =Skq fda fde~vi f{kre~bfr ¼½ fpau fpahdq r
 ¼d½ d{kyfuonue~ -----
 ¼[k½ i=L; fo" k; % -----
 ¼<½ i=k{ks i=l UnHk% -----
 ¼k½ foLrrk l ekypuk -----
 ¼³½ l f{k lrfuonue~ -----
 ¼p½ ; % i=afy[kfr rL; i ½¹ fo/kš y{kuh; e~ -----
 ¼N½ ; a çfr i=afy[; rs rL; i ½¹ dk' kr~ y{kuh; e~ -----
 ¼t½ ; a çfr i=afy[; rs rL; i ½¹ =l r% -----

- 2- v/kšyf[krs i=sfj äLFkkukfu ex t ½kr%fpRok ij; r
 -----¼½

x. kš ku~

99] f}rh; e[; ekx%

fxfjuxje} c³yw %85

-----¼½

ekl; k% çkpk; k%

JhKkuof/kLhi kB' kkyk]

fouhr [k. M% xkerhuxje}

y[kuÄ] m{lkj çns k%

fo" k; % çkFfedd{kkl q l ä-rk/; ki dL; fu; çä%

-----¼½

Hkorka xrjfook jL; ^çtkok. kñ i f=dk; ka çdkf' kra foKki ua -----¼½
 vge~ bne~ vkonui =a çšk; kfeA e; k jkf"V^, eçfo | ky; h; l äFkkur% n' keh d{k
 çFkeJs; ka½½ ----- l ä-rHk"kk; kap ee fo' kškn{kkrk vflrA vr%ee çkFkLka
 ¼½½ -----; fn Hkollr% e°; e-HkoRi B' kkyk; ke~v/; ki ukol jaçnkL; flur rfgZ vga
 ¼½½ ----- l ä-rHk"kk; k% l dka dfj"; kfeA

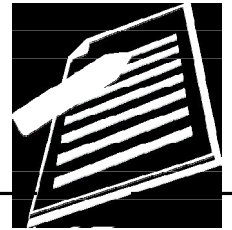
-----¼½

-----¼½

fnuk %¼½-----

extkk

¼½ l e{kh. k{ ¼½ i w{k i sk] ¼½ Loh-R;] ¼½ x. kš ku- ¼½ c³yw % ¼½ l fo/kš
 ¼½ egkn; k% ¼½ l dk' kr- ¼½ n"Vek] ¼½ Hkonh; fo' okl i k=e~





24-4 fde~ vf/kxre~

- i =kf. k f=fo/kkfu Hkoflur& oş fädckfu] v/kkš pkfj dck. k] 0; kol kf; dkfu pA
- , rška i =k. kka yş[kus i =k³ uka Øe% vuq kyuh; %A
- i =a l š{k|ra l kj xffkz-a HkorA
- i =s okeHkxs i ; klr% vodk' k% L; krA
- i =a Li "V{k|kj škq yş[kuh; eA
- i =l rs Øekuq kja xgl š; k@ohfFkl š; k] mi uxjL; uke] uxjL; çnš kL; uke p v uh; eA
- ; fn fonš kkr~ i =a fy[; rs rfgz nš kL; uke vfi vi š{krea
- i =L; Hkk"kk 'kq) k Li "Vk p HkorA



i kBlurç' uk% 24-5

1- v/kşyf [kr' kCnku~mfprš LrEHks fy [kr&

¼½ Jhx. kš kk; ue% ¼ii½ 'kškk' kholžk% ¼iii½ ueksue% ¼iv½ Hkonh; % ¼v½ fç; l f[k] ¼vi½ /k; okn% ¼vii½ Jf% ¼viii½ fç; orl !] ¼x½ ç. kkek tfy% ¼x½ pj. kLi' k% ¼xi½ pj. kolnuet] ¼xii½ Hkorkafo' okl i k=e] ¼xiii½ jk?ko% ¼xiv½ fç; fe=e] ¼xv½ x. kš k%

LrEHk%

'kř'kžk	l Ecksue~	vřkkoknue@ vk' křopue~	l ekřr%	gLrk{kje~

- 2- Hkor% vxztL; Lukrdi jh{k; k% ifj. kke% ?kš"kr%A l % i FkeJs; ke~ mÜkh. kšA rLeSo/kš ui =a fy [krA
- 3- Hkoku~ Nk=kokl s fuol frA i =sk Kkra ; r~ Hkor% ekrk vLoLFkka rL; k% LokLF; l ekpkj Kkuk; Lofi =s i =a fy [krA
- 4- Hkoku~ jk"Vh; eřrfo | ky; hf' k{kkl š FkkuL; }kn' kd{k; k% Nk=%A l šNř& i kB; i řrdL; vočškus dkfpr~ l eL; k oržA l ek/kkuk; vkpk; ± ifr i =a fy [krA
- 5- Hkork l šNřHk"kk; ke~ , dk jpuk Nřka 'l Unš k% bfr if=dk; k% l Ei knda Lojpuk; k% i žk' kuk; fuonukF± i =a fy [krA
- 6- o"kkžkys Hkor% fuokl LFkkua fud"kk tyl xgsk e'kdof) % tkrka vu; k jkxi žki L; vk' k k oržA , rka l eL; ka ifr /; kukd"žk; LokLF; kf/kdkfj. ka ifr i =a fy [krA



24-6 ;k; rkfoLrkj%

'k;k' ka k%

uoo"ke~ vf/k-R;

- Hkq kr~uuruoRI j%f'koe; % 'krfUrçn%
- I ok% vk' k% ro fe=a HkoUrA
- i'; e 'kjin% 'kreA
- vk uks Hknk Øroks ; Urqfo'or%
- fo'okfu nð I for% nðjrkfu ijkl φA
- ; n-Hkna rlu vkl φA
- I oð HkoUrq I q[ku% I oð I Urqfujke; k%
- djkrqe³ya I nk rs x. ks k%

i oknde~ vf/k-R;

- edj I ØkfuR' k;k' k; k%
- j{kkuU/kuk&I os gkfnD; % 'k;kdkuuk%
- nhi kofy% i oZ e³ye; a HkorA
- gkfydk&I oL; 'k;k' ka k%

; k=knhu~ mi y{; &

- 'k;k% rs I Urq i UFku%
- Hkonh; % I HkjEHk% fufoZu% HkorA
- I oð ekxk% ç' kLrk% HkoUrA



24-7 mUkj kf .k

i kBxri z uk% mUkj kf .k

24-1 1- i=L; fo"k; oLrq% i kjEHs

¼d½ v= I oð dðkfyu%

¼f k½ i kl; vkuln% tkr%

¼x½ fpurk o/krs

¼k½ r=kfi dðkyaL; kr~bfr el; s

¼³½ dðkfyu% bfr el; s

i=L; fo"k; oLrq% I ektrkS

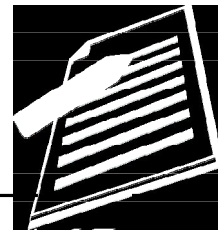
¼½ i z kkek tfy% fuos| rke~

¼i½ vk' khokn%

¼ii½ i z kkek%

¼v½ 'kh?ka i k; rq

¼½ tkx: drk Hkor~





2- d- ¼i½ [k ¼i½

3- ¼ii¼ ¼v¼ ¼vii¼ ¼i¼ ¼vi¼ ¼iii¼ ¼¼ ¼x½

4- ¼d½ ¼ii¼ ¼[¼ ¼v¼ ¼x½ ¼vi¼ ¼k½ ¼ii¼ ¼³½ ¼x¼
¼p½ ¼v¼ ¼N½ ¼i¼ ¼t½ ¼¼ ¼>½ ¼iii½

24-2 1- ¼d¼ ¼p¼ ¼t½ bfr vui f{kre~

2- ¼[¼

24-3 1- ¼[¼ ¼x½ ¼³½ ¼t½ bfr vui f{kre~

2- 1- ¼iii¼ 2- ¼vi¼ 3- ¼ii¼ 4- ¼x¼ 5- ¼¼ 6- ¼ii¼ 7- ¼i¼ 8- ¼x¼ 9- ¼v¼
10- ¼v½

24-5 i kBwrituk%

1- 'kfr"kdk% ¼¼ ¼vii½

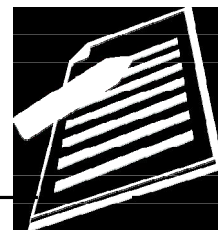
I Eckskue~& ¼v¼ ¼iii½

vfhkknue@vk' kthopue&¼i¼ ¼ii¼ ¼x¼ ¼x½ ¼xi½

I ekflr% ¼v½ ¼vi½ ¼kii½ ¼xiv½

gLrk{kj kf.k& ¼kiii¼ ¼kv½

2- Lo; a djkrq



25

i fj ; kst uk&fuekl ke~

O ; ai ' ; ke% ; r~uxjSk@mi uxjSkq LFkkus LFkkus ^i fj ; kst uk* 'kCn%fyf[kr%or~A
 v | Ros vuds f'kf{krk% ; odk% l flrA ; fn dksfi defi iPNfr ^i Ei fr* Hkoku~
 fdadjkr\ l %onfr& ^vge~, dL; ka i fj ; kst uk; kadk; ±djkeA l ekpkj i =Skqvfi
 o; a i Bke% ; r~l oðkj sk vepldk; kž ; Fkk fo | rhdj .kk; , dk i fj ; kst uk i LrqrkA
 fdaHkour% tkufur i fj ; kst uk dk Hkofr\ dFkap l k fuehž rð. vLrj vfLeu-i kBso; a
 i fj ; kst uk; k% fofHkuSkq i {kSkq fopkj ; ke% f' k{kke% p ^i fj ; kst uk* dFka fuehž rð.



mís ; kfu

bea i kBa i fBRok Hkoku&

- ^i fj ; kst uk* dk Hkofr bfr Li "Vf; rq 'k{; fr(
- i fj ; kst uk; k% egUoa o.kž; rq 'k{; fr(
- i fj ; kst uk; k% fofo/kkfu : i kf.k Kkrq 'k{; fr(
- i fj ; kst uk; k% fo' kskr% mYyS [k"; fr(
- i fj ; kst uk; k% fuekl ka drq l eFk% Hkfo"; frkA



fØ ; kdyki %

Hkofö%vo' ; eo dæfpr~^i fj ; kst uk* 'kCn%Jr% i fBr%L; krA vr%Jrkl qi fBrkl q
 ok i fj ; kst ukl q d; kf'pr~}; k% i wkLkel s%v= dk; ZA



1.

2.



25-1 v/kvk voxPNke%

i fj ; kst uk&fuekZ ke~

dkfLr i fj ; kst uk

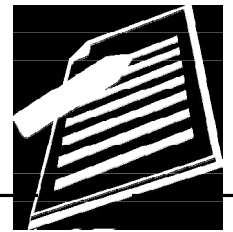
Hkoku-fo | ky; sf' k{kai klukfrA r= dntfpr~l kl.Nfrddk; Øek% dntfpr~[kydk; Øek% dntfpr~ mRI ok% dntfpr~ vodk' k% fo | ky; a xeukxeus pkfi | e; % yxfr] xgsfi ekr&fi =k% dk; }- vfrfFk | Rdkj% | Ecl/khuka xga i fr ek³fyddk; kbl js vkxeu] fe=% | g Hke. ke~bR; kn; % | e; ki f{krk% dk; Øek% HkofUr , oA , ru i Bus f' k{k. ksp ck/kk mRi Uk HkofrA vr%, r; k ck/k; k f[kUu%Hkoku-dFke-vuHkfo"; fr fda dfj"; fr p\

, oed uxjSk@egkuxjSkq; krk; krl eL; k i frfnuaHkofr , oA ekxSkqegku-tul Een% Hkofr(okgukfu vfi fofo/kkfu foi ykfu p HkofUrA vr% xeukxeual djau HkofrA dk; ky; a b"VLFkuaok | e; su iki .ke~ik; % i frfnued ntdjaHkofrA | ekpkji =Skq vfi bh'kha | eL; ka o; a i frfnua i Bke% , oA rnfo" k; s fp=kf.k vfi i' ; ke%A , RRl oE~vuHk Hkoku~vfi dkefi | efprka0; oLFkka dkjf; rE~mik; ku-fpUrf; "; fr , oA , rkn' k% fopkj k% ; nk euf | vk; kfUr] rfgz rs fopkj k% ^; kst uk* bfr 'kCns 0; ofa; UrA ; nk p , rkn' kku- fopkjku- fyf[kRok dk; Z isk ok | LrkE% rnk rs fopkj k% @mik; k% fyf[krk% ^i fj ; kst uk* bfr 'kCns dF; rA

^i fj ; kst uk* 'kCns ; kst ukr~i 0± ^i fj* mi l x% vflrA ^i fj* mi l xL; vFk% vflr ^i wkrk*A ^i fj ; kst uk* 'kCnL; vFk% vflr & ^defi fopkja 0; ofLFkr: isk i Lrphdj .ke*A vkyHkk"kk; karq i fj ; kst uk Nrs ^i kst DV* bfr 'kCn% iz q; rA vL; 'kCnL; vFk% vflr & ^izk' kue*A , oa fg i fj ; kst uk rq dL; kf' pr~ | eL; k; k% funkue~vFkok dL; kfi fo" k; L; rF; ku~izk' kf; rql d kf/kdk] , dk i wkZopkj ; kst uk HkofrA

i fj ; kst uk; k%Lo: i e~

i fj ; kst uk; k% fuekZ ka fofo/ka Hkforq' kD; rA i fr0; fDre~dk; z kkyh fofo/kk HkofrA ; Fkk okrkzyki% vkgkj% 0; ogkj% p iR; da tul; i Fkd- i Fkd- HkofrA , oed dforky[kue] dFkk&dFkue] fp=fuekZ kai Fkx0 HkofrA i ujfi i fj ; kst uk LFkoy: isk



Hkx}; s foHkDrq 'kD; rA i Fkek r& ; k% i fj; kst uk% l eL; kuka funkuk; fufeZ-k% HkofUr] vij k p&; k% dL; kfi fo" k; L; l efpPra Kkua i nkrq fuehZ UrA

l eL; ken y d& i fj; kst ukl q l ec) l eL; k; k% i R; da rF; e- vkfJR; fopkj % fØ; rs rL; k% l eL; k; k% l ek/kkuk; p ij ke' k% vfi nh; UrA , rkn' ; % i fj; kst uk% rq l oZkjsk l æBu% ok dkefi l eL; kek/kR; dk; Z kst uk& fuekZ kdkys , o fuehZ UrA , rA rL; k% l eL; k; k% foHkUui {kSkq dk; Z drq l kSo/; a tk; rA

f}rh; k i fj; kst uk rq' k{kdi fj; kst uk dF; rA , rkn' khuka i fj; kst ukuka fuekZ kdkys Hkoku-l æd/krfo" k; L; rF; ku-l æg; vud% uuru% fo" k; %Lo; eD i fjfpr% HkofrA ' k{k d& i fj; kst uk Hkx}; s foHkDrq 'kD; rs &

½d½ i kBu l Ec) i fj; kst uk% [k½ 'kD KkuL; fo" k; Skq vk/kkfjr k% i fj; kst uk%A

Hkor% i kB; i q rds *dYi ukdhrfoZt; r^ bfr i kB% ukjhtkr% xkS oe; e- bfrgkl a i LrkfrA Hkoku-HkjrL; vudkl i ohj kakukal keft d&; kxnkue-vkfJR; fo' k'VK% l kexh% l æg-kkrA i fl) kukaefgykukafp=kf.k l æ°; Øe' k% rkl kafooj .kafofy [ku- rSkka l a kst uadjkrA , oafg i kBk/kkfjr k i fj; kst uk l FTtrkA vusiZkjsk defi i kBe-vk/kR; Hkoku- i fj; kst ukfuekZ ka drq 'kDukfrA

ijadk' pu i fj; kst uk% 'kD Kkusu l Ec) k% HkofUrA , rkn' khuka i fj; kst ukuka l Ecu/k% l jyr; k i kBu l g u HkofrA i ja i kBL; l Ec) ku-fofo/kku-rF; ku-Kkrq' kDuø% A , rkn' khuka i fj; kst ukuke- mfs; e- vflr & pi Bfri kBL; rF; kRedKkua i fr tkx: d&dj .keA vfkok Hkor% vfkO; fDr dSkyl; fodkl dj .keA , oafg 'kD KkuL; i fj; kst uk rqHkork i fBri kBkuke-vockku} i kB; i q rdkr-i klrKkuL; l E; d-l o/ kZ; Hkor% vfkO; fDr&dSkyl; l o/kZus p l kgk; a djkrA

, oafg Hkork vutkræD ; r~ i fj; kst uk^ vfi , d% fØ; kdyki % , oA i je-vL; {k-a fo' kkyA HkofrA

25-2 i fj; kst uk; k% egUoe~

* i fj; kst uk^ f' k{k; k% , da egUoi wkē~ v³xe~ vflrA * i fj; kst uk; k% fuekZ ks Nk=% vkulne-vutkræA [ky/Hkkou; k ; r-f' k{k.kapyfr] rA i fj; kst uk l FTtrk HkofrA ; Fkk fg *gkshi oZ nS ksfons ksp fofo/k: isk l EekU; rA foHkUul ekpkji =Skqif=dkl q p rnfo" k; svudkfu fp=kf.k ySkfu p iZk' ; UrA rSkka l æg% vfi , dk i fj; kst ukA , rA gkshi oZ k% mRl oL; fofo/k: i arF; kfu p l gt: isk eukj x tui oZlatkuhe%

i fj; kst uk rq i kB; i q rdkrfj Dre-vfi fo' otuhua Kkua iz PNfrA , "kk rquuru& rF; kuka p; uL; fopkjL; p vol ja nnkrA , oafg HkoRI q uuru&rF; ku- i fr ftKkl k tk; r} Lofopkj.k.ka i dVu&dSkyl; p fodkl % HkofrA ySkul ædks



uuru & 'ksyhukafodkl %HkofrA , oai wZkVuk; k%orZeku?kVu; k l g l a kstuu fpuru'kDr%
vfi fodkl % tk; rA



i kBxri z uk% 25-1

inRrfodYi SkqmfprafodYi afpRok iz uku-mRrjr

1- dhn' kku-fo"k; ku~vk/kR; i fj; kst uk u fuehZ rA

1/4 1/2 Hkkouki zkkue~ 1/4 [k1/2 l kekf t de~

1/8 1/2 vkfFKde~ 1/2 k1/2 l eL; ki zkkue~

2- i fj; kst uka fuekZ r q eL; k/kkj k% ds l fur\

1/4 1/2 Hkkouk fp=kf.k p

1/4 [k1/2 rF; kfu] fp=kf.k] vfHkO; fDr% ekuk k% 1/4 kcdM1/2

1/8 1/2 dOya fp=kf.k ekuk k% 1/4 kcdM1/2

1/2 k1/2 rF; kfu Hkkouk p

3- 'kD Kkuk/kkfj r k% i fj; kst uk% r q HkofURk

1/4 1/2 i kBk/kkfj r k%

1/4 [k1/2 fp=k/kkfj r k%

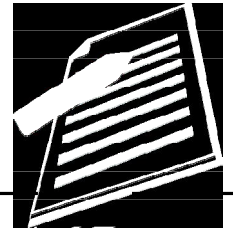
1/8 1/2 vfHkO; fDr dKskyL; l w/kZs l gkf; dk%

1/2 k1/2 i kBL; rF; rj Kkuk;

25-3 i fj; kst uk& vuB Nn; k% Hkn%

Hkoku~, oefi fpUrf; r q' kDUkR ; r~dL; kf' pr~l eL; k; k% funkuk; vuB Nn% vfi
yS [krq 'kD; rA oLr q% vuB NnyS [kus Hkoku~Lo Hkkouk% O; Drq i w k% Lora% Hkofr]
, oed vuB Nn% r qfO dV/e- i j ki dkj% l R; e- l RI xfr% fdefi i o] fdefi n'; e-
fo | k] l nkpj% bR; knhu- fo"k; ku~vk/kR; yS [krq 'kD; rs i ja i fj; kst uk yS [kus
Hkkoukuke~vfHkO; Dr% vodk' k% u HkofrA , oed dOya dksfi fo"k; % , o vi S {kr% u
Hkofr vfi r q i fj; kst uk & fuekZ kZ r~i w a r F; kuka l x g% l ekpkj i = Skq efn r kuka fp=k. kka
l dyua r s k e~ mi fj p l E; d-fo' ysk. ke~ vi S {kra HkofrA i fj; kst uk yS [kus l nD
i kekf. kdrF; kuka i L r q h d j . ke~vfuoK; a HkofrA r FkD fp=k. kka l n HkZ kka l oBkj i {kr%
foKkfi rkuka rF; kuka fopkj k. kke- mfnS; kuke~ vfi iz kx% vi S {kr% HkofrA i je-
vuB NnyS [kus, rRI o a u S ki S {kra HkofrA i ja l a N r l kfgR; kr-fdefi fo"k; e~vk/kR;
l Drhuka l dyua i fj; kst uk dk; kDr x r e~vk; kfrA

, oafg vuB NnyS [kuki S k; k * i fj; kst uk^ r qvf/kdk o S k fudh HkofrA * pnga i zkkue a h
L; ke^ , "k% fo"k; % Hkkouki zkku% a i ja l kekf t d & vkfFKd & HkS ksfy d fo"k; ku~
l eL; ki zkkufo"k; ku~vk/kR; * i fj; kst uk^ fuekZ r q 'kD; rA



25-4 i fj ; kst uk; k% fo ' kškr k%

i fj ; kst uk; k% fuEufyf [kr k% fo ' kškr k% l fur%

- i fj ; kst uk r q d L ; k v f i l e L ; k ; k% f u n k u k ; v f k o k d L ; k f i f o " k ; L ; o š ' k " V ; a r F ; k R e d a K k u a i n k r q f u f e z k H k o f r A
- ' k š { k d & i f j ; k s t u k r q [k s y H k k o u ; k f ' k { k . k s d k s k y a i k l r q l e f i p r e - v o l j a i z P N f r A
- i f j ; k s t u k e q ; r % r F ; š k q v k / k k f j r k H k o f r A
- i f j ; k s t u k ; k a L o H k k o u k u k e - v f H k O ; D r % l E H k k o u k u k i š ; r A
- i f j ; k s t u k ; k % f u e k z k k ; f o " k ; L ; p ; u L ; i w k ā L o k r l u k ; a H k o f r] r f l u e k z k k ; p i ; k l r % v o l j % f e y f r A



i k B x r i z u k % 25-2

- 1- i f j ; k s t u k f y [; r s

¼ d ½ i j h { k k H k o u s	¼ [k ½ v Y i l e ; s
¼ x ½ v / ; ; u d b n s	¼ k ½ i ; k l r s l e ; s
- 2- ' k š { k d % i f j ; k s t u k ; k % o š ' k " V ; e f L r ; n L ; k e -

¼ d ½ d Y i u k ; k % m l u f r % @ o š ' k " V ; a i L r w r s
¼ [k ½ ^ [k s y & [k s y ^ b f r : i s k f d e f i f ' k { ; r A
¼ x ½ H k k o u k % v f H k O ; D r k % H k o f U r A
¼ k ½ i e k . k & i n k u L ; v k o ' ; d r k u H k o f r
- 3- i f j ; k s t u k f u e k z k k r ~ i w k ā - v k o ' ; d e - H k o f r &

¼ d ½ d k Y i f u d f o " k ; %	¼ [k ½ l e k p k j i = k f . k
¼ x ½ l o z k j L ; l g e f r %	¼ k ½ i k e f . k d r F ; k u k a l a g %

25-5 i fj ; kst uk dFla fuekž0; k

l o ā F k e a i f j ; k s t u k a f u e k z r q f o " k ; L ; p ; u e - l E ; d - f o p k ; l , o d j . k h ; e A f o " k ; L ; p ; u a # f p i w k ā H k o r ~ ; s u r R d k ; ā d p Ź ~ v k u l n k u H k o f r % H k o r A

- i f j ; k s t u k ; k % f o " k ; L ; l E ; d - v o c k š k % L ; k r A
- l e L ; k l E c f U / k r f p = k f . k i k l r O ; k f u A



- fo" k; L; I ecf/ku% rF; k% I xkg; k%
- I ekpkj i =skq efnrk% I ekpkjk% , d=hdj . kh; k%
- ; fn fdefi xkfQde@j\$ kfkp=e-mi yC/ka Hkor~rnfi i klr0; eA
- i fj ; kst uk&fuekz kkr~i wē~, dk fof' k"Vk Hkfiedk y\$ kuh; k @ rnk/kr; i fj ; kst uk fuekz-0; kA
- ekuk³dku-¼/ka dM½ vk/kr; I eL; k; k% fofo/ki {kk. kka fo' ySk. ka drD; eA
- fo' ySk. ka I E; d- I fopkfj ra HkorA
- I eL; k@dk- fi okrkz i kelf. kdh Hkor~dufpr~ Jqk u HkorA mÜkjnkf; Roi wk% fof' k"V% tu%¼ zkkue=h j kT; i kykn; %½; fn fdefi Hk"kr~rÜkq i kelf. kddFku: i sk mYy\$ kuh; eA

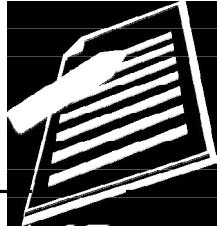
mi ; faplrusu Kk; rs ; r~^i fj ; kst uk* e\$; r% f}/kk Hkofr&i Fkek rq dL; k vfi I eL; k; k% funkuk; f}rh; k p dL; kfi fo" k; L; I efprke-voxfra i nkuk; A vLrq v= i fj ; kst uk}; L; fuekz kfo" k; s tkuhe%

¼d½ I eL; ki zkkui fj ; kst uk

Hkolu% I ekpkj i =skq@njin' kZus p n's ks [kk | & I eL; k] is ty I eL; k fo | r&vki fir I eL; k bR; knhuka fo" k; s i BfUr Ük. ofUr pA ; fn Hkoku- *is ty I eL; k* fo" k; k/kkfj rka i fj ; kst uka y\$ [krq~ bPNfr] rfgz I oñ Fkee- , rrt eL; k& I Ecfu/ku% I eLrku-fclnu~cD) ok Øesk rsfo' ySk. kh; k% rL; k% I eL; k; k% ekuk k% ¼/ka dM½ , d=hdj . kh; k%

o; a i ' ; ke% ; r~n's ks is tyl eL; k vuddkj . kkr~I tkrkA n's ks i ; kZrk o"kkz u HkofrA o"kkkkokr~unhuka tyLrj% U; u% tk; rA Hkoe% vUr% fLFkr% tyLrj% vf/kda uhp% xPNfra i kñfrdtyl krl kadii &rMkxknhuka ' kqdrka i ki . ke} tul \$; kof) % vks} k\$xdfodkl kr~egrk inñk. ks tyL; vi\$ Roe} tkx: drk; k% vHkkokr~ tu% Ñr% tyL; n#i ; ks% vi0; ; % pA , oa fg n's ks is tyl eL; kñrs vudkfu i e\$ kfu dkj . kfu I flrA

, rn~fo" kf; dha i fj ; kst uka y\$ [krq Hkoku-fda fda dfj" ; fr\ vke} vL; k% I eL; k; k% fo" k; sfofo/ki {kr% ekuk k%¼/ka dM½ , d=hdj . kh; k% , rRI eL; kI Ecfu/ku% I ekpkj i =skq i d'krk% y\$ k% I oðkjsk is ty I eL; k; k% funkuk; i nÜkkfu foKki ukfu] fp=kf. k] Hk" k. kfu i klr0; kfuA , oa fg fnYyh jktLFkku&e/; i n's k&cp\$y [k. M{ks=skq i k; % ifro" k± r= is tyl eL; k; k% fo" k; s I ekpkj i =skq i BfUr , oA I oñ; % i krq tya u feyfra uydñ; % tya u fuLl jfra tuk% LokØks ka i dV; flrA efgyk% nñjLFkkr~LFkkur-f' kjfl ?kVafuf{kl; tye~vku; flrA , rnfo" k; dkfu fp=kf. k i =& i f=dki q



Hkoku-i ' ; fr , oA l ožkjsk , rkn' ; k% l eL ; k ; k% l ek/kkuk ; dhn' kk% mi k ; k% ņr k% l ožkj } kj k l pkyri z kl škq fd ; r- l kQY ; a i klre- fd ; r- p vl kQY ; e\

Hkoku- , rRI o± foKk ; ^nšks i š tyl eL ; k* fo" k ; ef/ kņR ; i fj ; kst ukdk ; ± dj k r A vLrs Hkoku- , rRi š tyl eL ; k ; k% funkuk ; Lofoe' kēfi i Lr q a dj k r A ; Fkk o" k k z k% tyl ; Hkk. Mkj . ke- i nkk. kkr- unhukaj { k. ke } tyl k r l kal eņpr% fodkl % i š tyl ; n# i ; kxL ; vi 0 ; ; L ; p voj k k ue } tyl ; jkt dh ; l j { k. ke } l e k t s tyl j { k. ka i fr tkx : drkA , oafg l o± Őe' k% rF ; kukafu : i . ku ^ i š tyl eL ; k* l Ecfl/ kuh i fj ; kst uk l FT trk Hkfo" ; fr (Hkoku- vkulne- vfi vut kfo" ; frA

¼ k½ ' kq Kkuo) Žfo" k ; k i fj ; kst uk

Hkor% i k B ; i q r ds vu ds i k B k% l fUr ; ku- vk/ kR ; Hkoku- ' kq Kkuo) Žfo" k f ; . kha i fj ; kst ukayš [krq' kDukrA ; Fkk fg ^j ktr s [kyqdu ; k d e k j h** i k B e k/ kR ; du ; k d e k j h { k s= L ; @ LokfeoodkullnL ; l o Őo/ ka Kkuo) Ža i fj ; kst ukdk ; ± drq' kDukrA , o e Ő ^ dYi uk d h r Ő o ž t ; r š v ; ai k B % dYi ukpkoykefJR ; yš [kr% A Hkoku- bñ" khukavli ; kl ka ukjh. kka nš kk ; ; kx nkue- bfr fo" k ; e- vk/ kR ; ' kq Kkuo f) Žka i fj ; kst ukaf ofo/ kfp= k. kka l gk ; r ; k l qnj : isk i Lr k r q' kDukrA , o e Ő ^ fn tkukfl rn-on* i k B e k/ kR ; l ņr l kfgR ; kr- fofo/ k k% i gfydk% fo" k ; Őesk l ņpR ; l fp= e- ^ i gfydk d k s k% bfr : i a i fj ; kst ukdk ; ± Kkuo) Ža HkorA , o e Ő ^ yk d k ņ r h u k e- v f i l yuež i fj ; kst ukdk ; ž isk i Lr k r q l eņp r e Ő A , o e Ő d k f i n š u d ? kVuk ; k thoueW ; n" V ; k i j . kki nk d k f i o k r k z i fj ; kst uk ; k% fo" k ; % Hkfor e g ž r A vr% , rkn' ka i fj ; kst ukdk ; ± r q l k e k f t d t k x : drk q f u j u r j a f p l u r u a i fr i j ; frA , o a f g i fj ; kst uk ; k% vu ds fo" k ; k% Hkfor e q' kDuo p fUrA , rkn' k h f H k% i fj ; kst uk f H k% j k p d a Kku a i kl ; r A l eL ; ki & / kku i fj ; kst ukor- , rkn' k h " k q i fj ; kst uk l q Hkor% i j k e' k k% u š ki š { k r k% Hko fUrA

25-6 i fj ; kst uk & fue k z k & i f Ő ; k & i k : i e-

vLr q v= ^ Hk j r s g k y h i o ž fo" k ; ek/ kR ; fufe rka l FT trke- , dka i fj ; kst uke- voxPNke%

Hk j r s g k y h i o ž

Hk f e d k

Hk j r e- , d% egku- nš k% v= fofo/ k H k k " k k H k k f " k . k% fo f H k u / k e k b y f e c u % v u d l ņ r f r i z k% t u k % f u o l f u r A v= fo f H k u i o k z . k e g r k m R l k g u e k u ; UrA ; Fkk & g k y h j



25.1



nhi koyhi] j {kkCU/kue} fot ; n'keh 1/n'kgjk/ oškk [kh] fØI el e} i kxye-vknhfUA , ršsq^gksh* Hkkj rh; kukafi z ai oZvflrA bnai oZl Ei wkšHkkj rdsufpr-LFkkulhnsu l g ekU; rA

míš ; e-

gkshyioZk% fo"K; s ekU; rk·flr ; r~ ijk fgj. ; df'ki Ø , d% nR; kuka jktk vHkorA l % vkRekua bz oja el; rs LeA l % i ztki hMd%vR; kpkjh pkkorA rL; i#% i gykn% gfjHkDr% vkl hrA , rLekr~ dkj. kknØ l % ra n. Mf; rā fu'p; e~vdjkrA l %LoHkfxuhagkšyde~vkn'kr~; r~ l k i gykne~v smi oš ; vXuksfr"BrA ojnkuclj. kkr~ gkšydk vXuksu Tofy"; frA ije~bz oJñi ; k i gykn% l jf{kr% tkr% gkšydk rā nX/kk tkrkA rnk dkYr% , o bna i oZ ekU; rA bna rā QkYxuekl L; iñ. kēk; ke~ ekU; rA iñ. kēk; ka jk=š gkšydkngue~ dk"Bkfu l a kš; fØ; rA vijfleu~fnol s 'kyg. Mh* /kñyolnue~ jākRl Ro'p ekU; rA tuk% ijLiJa 'k=Hkkoa foLeR; vchj&xgkykfnfHk% fofo/ko. k% e[ka 'kj hja p j x t; flrA l oš o. kšksna 1/t kfrHknš foLeR; i. k. k g" kēk , do. k% HkofUrA



25.2

dflef' pr~ ; qsgkshy rā'uoKlUš"V* ; K% dF; rsLeA ol Ur__rK% i e[ka i oZ bneA tuk%uuru ; o&xkške&p. kdku~{k=H; %vkuh; gkšydkXuks t gēfrA , rsu uoklu; K% i kjH; rA tuk% gq' kška Hk{k; flrA tuk% fofo/K% ok | % l g 'Qkxxhre~ vfi xk; flr ur; flr pA uk; %fnusgkšydk i tu adpžUrA dēfpr~gkšydkfxuaxgekuh; LFkki ; flrA

gkshyioZk% fofo/kfu : i kf. k



25.3

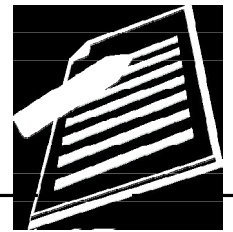
; | fi Hkkj rsgkshyioZk% míš ; e-, deo] i jafofHkU i kUršq fdefi oš'k"V; a n' ; rs , oA Hkoku~ vfi nijn'kLš l ekpkji =šq vL; kRl oL; fo"K; si' ; fr , o] i Bfr , o pA bnai oZ i k; % l oē jākRl o%uuruKlUš"V% bfr : i sk ekU; rA i ja oZ {ks= s vL; oš'k"V; e~ n' ; rA r= xkšy&unxkp oj"kkuk {ks= s uk; % ; f"VdkfHk% i# "ki {ke~ r kM; flr i# "kk% p kRej {kka

džUrA , oed d'pu i . Mkfo' kšk% gkšydkXuks% e/ ; kr~ vnX/k% fuLI jfra

fnYY; ke~ vU; i kUršq p gkshyfeyul ekjkgk% vfi vk; kš; UrA vflrA~vol jsdfoL Eesyue} mi kf/kforj . ke~



25.4



¼ fjgkl : isk½fØ; rA i atkci n's ks^glsyk* dk; Øe%l Eik | rA gfj ; k. kk{ks=sHkkrt'k; kfhk%
 vU; kfhk%p noj% | EcfU/ku% d'kk?kkrsu ; f"Vd; k ok rKM; UrA nf{k.kHkjrsbnaio±
 jak&l o: isk fof pRHknsu l g eku; rA Hksti gh' kY; karqVL; k&l oL; fo' kSk%vkuUn%
 vudkoy rA bna okl flurda ioZ fofokjxjx\$ xhr\$ vUukgfrfhk% fofok% i Doklu\$
 vkekn\$ i ækn% p l ekts , D; e- i æ; Øre- vkuune; a okrkoy .ka tu; frA bna ioZ
 fons' kSkqvfi r=R; %Hkkj rh; %g"kkZrjædsk eku; rA vfLeu- i of.k n's kL; fofHkuul ÆÑrhuka
 esyua HkofrA ekuoh; Hkkouk; k% jk"VØrk; k% mnæ% vfLeu- i of.k l oZ= n' ; rA



i k B x r i z u k % 25-3

- v/k% dFkuSkq ; r-dFkua l R; e-rr-¼½ bfr fpgeuu ; r~p vl R; e-rr-¼½
 bfr fpgeuu fpfgura d#r
 ¼d½i fj ; kst uk&fuekZ kdkys fp=i nkue- uð vko' ; deA
 ¼k½dL; kfi fo"k; L; ifj Kkua nkrq ; k ifj ; kst uk fuehZ r} rL; ka Lofoe' k%
 vi f{kr% or rA
 ¼x½ l eL; kenyd&i fj ; kst uk% dØya rF; k/kkfjrk% HkofUrA
 ¼k½gkfydkXuks tuk% dØya i DoklUa i f{ki flUrA
 ¼³½gkfyhi of.k jk"VØ; an"Vek Hkkj rh; l ÆÑr% xfjek n' ; rA
 ¼p½ i fj ; kst uk dØya dYi uk/kkfjrk HkofrA

25-7 i fj ; kst uk y f ku L ; fo "k ; k%

Hkoku-vU; k% vfi i fj ; kst uk% fuekZ r' kDukfrA i fj ; kst uk rqn' k i "Br% i pn' ki "Bi ; Øra
 HkorA Lo#fp&l qo/kkuq kjap defi fo"k; afpRok i fj ; kst uk fuekZ ks rRi j % HkorA

i fj ; kst uk y f ku l EcfU/ku% dpu i æq kfo "k ; k%

- ¼½ uxj Skq i nll. kl eL; k
- ¼i½ tul q ; kof) % thoul qo/kkl qrL; k% nqi Hkko%
- ¼ii½ jktu srd% HkZV kpkj %
- ¼v½ U; k; ky; Skq yfEcrk% fooknk% vi jk/kof) ' p
- ¼½ fhk{kkoUkks i kfrnrk% ckyk%
- ¼i½ o; Ldkuka thouj {k.ke-



'k) Kkuo) Zfo"k; I Ec) k% i fj ; kst uk%

¼½ x.krU=fnoI I ekjkg%

¼i½ Hkkjrs fot ; n'keh ¼n'kgjk½ i oZ

¼ii½ dñHki oZ k% i jEi jk

¼v½ HkkjrL; i oZk%

¼½ HkkjrL; vkfnokfi u%

¼i½ vk/kfud; q;s ; krk; krL; I k/kukfu

¼ii½ xkešq ukjh.kka fLFkr%

¼iii½ Hkkjr h; i oZ q I k.Ñfrd&, drk

¼x½ I k.Ñrok³e; s jk"VŠrk; k% I #kf.kA



25-8 fde~vf/kxre~

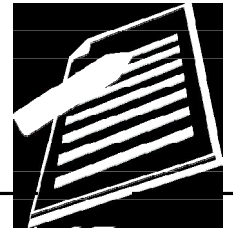
- i fj ; kst uk dL; k% vfi I eL; k; k% funkuk; vFkok dL; kfi fo"k; L; I E; d-voxfra inkre~bfr mÍs ; s fuetz rA
- i fj ; kst uk rF; k/kfjrk Hkofr] , rL; ka Hkkouk; k% u dksfi vol j%A
- i fj ; kst uk fuekZ kkr~ i o± fo"k; L; I E; d- Kku] rRI EcfU/kr&rF; kuka fp=k.kka ekuk kuke~¼k dM½ xkfOde] foKki ukuk p I xg% vko' ; d HkofrA
- LFnyr% i fj ; kst uk f}/kk fuetz r& , dk dk; i fj ; kst uk f}rh; k p 'kš{k d i fj ; kst ukA
- I eL; kemyd i fj ; kst uk; ka Hkoku~Loi jke' k± nkrq 'kDukfr] i ja dL; kfi fo"k; L; Kku&ink=h ; k i fj ; kst uk Hkofr] rL; ka Loi jke' k% uki {krA
- 'kš{k d i fj ; kst uk% rQ [kšyHkkou; k uirua ukukfo/ka f'k{k.kka f'kf{kre~ Hkorka Ñrs vol ja iz PNfUrA



25-9 i kBKJrç'uk%

- 1- i fj ; kst uk dk Hkofr\
- 2- i fj ; kst uk; k% Lo: ia Li "V; rA
- 3- i fj ; kst uk fuekZ kdkys dška fo"k; s /; kue~vko' ; de\

- 4- i fj ; kst uk; ka Hkkouk; k% fdefi egÙoa u Hkofr] Li "V; rA
- 5- i fj ; kst uk; k% egÙoe~Lo' kCnSkq i LrkS-A
- 6- i fj ; kst uk vuqNn; k% ys[kus d% Hkn% Li "V; rA
- 7- l eL; ki zkufo"k; e~vf/kÑR; 'k) Kkuo) ðafo"k; e~voyEC; p fufeh i fj ; kst u; k% d% Hkn% Hkofr\ dSkkf pr~prqkkè~mYys[k d#rA
- 8- òul j {k.ku ykHk% bfr fo"k; ek/kR; , dk i fj ; kst uk fueh; rkeA
- 9- i e[kfoHkkxkuka@l ðFkkuke~n'k vkn'kòkD; kfu ¼ Fkk&; ksx{kæa ogkÉ; ge} vgfuz ka l okeg} fo | ; ke're'urq s BR; kfnde½ vk/kR; , dk i fj ; kst uk l TthfØ; rkeA



25-10 mÙkj kf .k

ikBxrit uk%

25-1 1- ¼d½ 2- ¼[k½ 3- ¼x½

25-2 1- ¼k½ 2- ¼[k½ 3- ¼k½

25-3 1- ¼d½ ×
 ¼[k½ ×
 ¼x½ ✓
 ¼k½ ×
 ¼³½ ✓
 ¼p½ ×

25-9 ikBkirit uk%

Lo; a djkrq