# ज्ञान विज्ञान

(Teacher's Manual) Class-6 to 8

**Ultima**

## Kku foKku&6

### 1- Hkkstu osQ L=kksr

**(d)** 1- (v) 2- (c) 3- (c) 4- (c) 5- (v) 6- (v) **([k)** 1- izR;{k] vizR;{k 2- lafpr 3- tUrqvksa 4- iks"kd rÙo 5- ijthfo;ksa 6- lokZgkjh **(x)** 1- lR; 2- vlR;; 3- IR; 4- IR; 5- IR; 6- vlR;; **(?k)** 1- IHkh ltho izkf.k;ksa dks --------------- cnyrk jgrk gSA 2- xsgwaμ] iQy] vkyw] pkoy rFkk nky 3- nw/] ngh] iuhj] ek¡l rFkk v.Msa 4- xk;] HkSal rFkk cdjh 5- tkuoj tSls ------------- tkus tkrs gSAa **(Ä)** 1- 'kkdkgkjh] ekalkgkjh] lokZgkjhA IHkh tUrq Hkkstu ds fy, ------------- vkSj ijthoh gksrs gSaA 2- IHkh ltho izkf.k;ksa --------------- bR;kfn 'kkfey gSA 3- (v) os tUrq ------------------- nk¡r gksrs gSaA (c) os tUrq ---------- lgk;d gksrh gSaA (I) os tUrq ------------- txr esa vkrs gSaA

roZQ&laca/h% 1- ikS/ksa Is Hkkstu izkIr djuk rFkk tkuojksa IsaA 2- xk;] HkSal] fgju] ?kksaM+k rFkk ftjkiQA

### 2- Hkkstu osQ vo;o

(d) 1- (n) 2- (I) 3- (v) 4- (c) 5- (I) 6- (n) ([k) 1- iks"kd rRo 2- dkcksZgkbMªsaV 3- LVkpZ 4- olk 5- izksVhu 6- ilhus **(x)** 1- IR; 2- IR; 3- vlR; 4- vlR; 5- IR; 6- vlR;; **(?k)** 1- Hkkstu fofHkUu iks"kd rRoksa ---------dgrs gSaA 2- dkcksZgkbMªsV] olk] izksVhu] foVkfeu] [kfut inkFkZA 3- ge iwjs fnu ----------------- eNyh bR;kfnA 4- 'kkjhfjd fuekZ.k ds fy, ------------------------ enn djrs gSaA 5- dkcksZgkbMªsV gekjs 'kjhj osQ fy, ---------------esa ik;k tkrk gSA 6- vHkkotfur jksx 7- olk esa ?kqyu'khy foVkfeu& A, D, E rFkk K vkSj ty esa ?kqyu'khy foVkfeu& B rFkk C 8- ty gekjs 'kjhj esa --------------- ty dk iz;ksx djrs gSaA **(Ä)** 1- gekjs 'kjhj dks ------------- dgykrk gSA 2- ty gekjs 'kjhj esa ------------- ty dk iz;ksx djrs gSaA 3- foVkfeu dh deh Is gksus okys jksx csjh&csjh] LdohZ] fjosQV~l] ?ksa?kk vkfn gSa rFkk foVkfeu osQ eq[; L=kksr iQy] ICth] nw/ vkfn gSaA

roZQ laca/h% 1- D;ksafd ;g dkcksZgkbMªsV dk mPp L=kksr gSA 2- ge chekj rFkk vHkkotfur jksxksa Is xzflr gks tk,saxsA

### 3- rarq (js'ks)μgekjs oL=k

**(d)** 1- (I) 2- (I) 3- (I) 4- (n) 5-
(I) 6- (I) **([k)** 1- rarq 2- ifRr;ksa
3- o"kkZ 4- rki 5- etcwr **(x)** 1-
(iv) 2- (v) 3- (iii) 4- (i) 5- (ii)
**(?k)**1- tUrqvksa rFkk ikS/ksa
ls 2- oL=k gekjs 'kjhj dks /wy]
/wi] lnhZ] o"kkZ rFkk dhVksa ls
cpkrs gSaA 3- tyks<+ e`nk 4-
irys vkSj yEcs /kxs] tUrqvksa
vkSj ikS/ksa ls izklr fd;s tkrs
gSaA 5- Ñf=ke rUrq jklk;fud
inkFkkks± ls izklr fd;s tkrs gSa
;s ikni vFkok tUrqvksa ls izklr
ugha fd;s tkrsA izkÑfrd rUrq
xeZ gksrs gSaA

**(Ä)** 1- vfXku dh [kkst osQ i'pkr
uoik"kk.k ;qx osQ ekuo us tc
vius 'kjhj dks o`{k dh ifÙk;ksa
rFkk tkuoj dh [kky ls <duk 'kq:
fd;k rc mls vius 'kjhj dks iw.kZ :i
ls <dus osQ fy;s oL=kksa dh
v k o ' ; d r k    g q b Z A
2- izkÑfrd rarq osQ ikS/s µdikl]
twVA i'kqvksa lsµHksM+ ls Åu]
js'ke dhV ls js'keA la'ysfa"kr
j s ' k s µ j k l k ; f u d    r Ù o ]
tSlsµikWfy,LVj] uk;ku] js'ku
rFkk vkoZQfydA 3-    (v)
diklµikS/s }kjk izkkIr rarq]
t S l s µ d i k l]    : b Z A    (c)
twVµikS/ksa }kjk izkkIr js'ks]
tSlsµjLlh cukus esa] ekeVk
diM+k cukus esaA
roZkQ laca/h% 1- ;kZZlr [kkn
vkSj mPp ty /kj.k {kerk osQ
lkFk mitkmQ e`nkA 2- mQu
rFkk js'kesaA
            4- inkFkkZ dh izÑfr
**(d)**   1- (c) 2- (c) 3- (I) 4- (I) 5-

(c) **([k)** 1- leku 2- v.kq 3-
inkFkkZ 4- folfjr 5- xSl 6-
dksckZYV] fufdy
**(x)**   1- (iv) 2- (i) 3- (iii) 4- (vi)
5- (ii) 6- (v)
**(?k)** 1- gekjs pkjksa vksj dh
oLrqvksa dk Øec¼ vè;;u djus
osQ fy,A 2- ty esa foys;rk] Å"ek
dk lapkj.k] fo|qr dh pkydrk]
ikjnf'kZrk] folj.k rFkk pqEcd
osQ izfr vkd"kZ.kA 3- izR;sd
og oLrq tks LFkku ?ksjrh gS
rFkk ftlesa nzO;eku gksrk gSA
4- iw.kZ :i ls ?kqyus okys
inkFkZA 5- fofHkUu inkFkkks±
osQ d.k ,d nwljs osQ lkFk fefJr
gks tkrs gSa rFkk leku la?kVd
feJ.k cukrs gSaA **(Ä)** 1- ok;q
LFkku ?ksjrh gS vkSj mlesa
n z O ; e k u    g k s r k    g S A
2- Bkslµbudh ,d fuf'pr vkÑfr
rFkk vk;ru gksrk gSA
æoµbudh vkÑfr fuf'pr gksrh gS
ijUrq vk;ru fuf'pr ugha gksrkA
xSlµbudh u rks vkÑfr fuf'pr
gksrh gS vkSj u gh vk;ruA 3-
fdlh yksgs dh oLrq osQ ,d fljs
dks xeZ dhft, vki ns[ksaxs fd
mldk nwljk fljk Lor% gh xeZ
gks tkrk gSA blls fl¼ gks tkrk
gS fd fn;k x;k inkFkZ Å"ek dk
pkyd gSA 4- inkFkkks± esa ls
izdk'k dh fdj.ksa vklkuh ls xqtj
tkrh gSa_ tSlsµdkp¡ ] 'kq¼ ty
rFkk ok;qA 5- Bksl] tSlsµphuh]
ued] ty esa foys; gSaA oqQN
inkFkZ nzo dh fLFkfr esa ty
esa foys; gSa] tSlsµ,Ydksgy]
nw/] yseu twl bR;kfnA xSlsa

vf/dka'k ty esa foys; gSa] tSlsµ vkWDlhtu vkSj dkcZu MkbvkWDlkbM ty esa foys; gSA

**roZQ laca/h% 1-** D;ksafd lykfLVd rFkk jcM+ fo|qr rFkk m"ek osQ oqQpkyd gSaA **2-** pqEcdh; {ks=k osQ izHkko osQ dkj.kA

<u>5- gekjs pkjksa vksj gksus okys ifjorZu</u>

**(d)** 1- (l) 2- (v) 3- (v) 4- (c) 5- (c) 6- (v) 7- (l) 8- (n)

**([k)** 1- ean 2- izko`Qfrd 3- vkorhZ

4- dkj.kksa] izHkkoksa 5- u;s inkFkkZ 6- ikjLifjd fØ;k 7- lfEefyr

**(x)** 1- os ifjorZu tks yacs le; esa iw.kZ gksrs gSaA tSlsµcPps dk O;Ld gksuk] yksgs ij tax yxuk 2- os ifjorZu tks cgqr de le; esa gksrs gSaA tSlsµekfpl dk tyuk] iVk[ks dk iQVuk 3- os ifjorZu tks fu;fer le;kUrjky ij gksrs gSaA 4- dksbZ inkFkZ iqu% viuh okLrfod voLFkk esa izkIr gks tkrk gS] mRØe.kh; ifjorZu dgykrk gS] tcfd vuqRØe.kh; ifjorZu esa inkFkZ viuh voLFkk esa izkIr ugha gksrkA 5- fdlh fdlku osQ fy, o"kkZ iQly osQ fy, ,sfPNd ifjorZu gS] tcfd og O;fDr tks edku cuokrk gS mlosQ fy, vuSfPNd ifjorZu gSA 6- b±/u tykus ls mRiUu Å"ek ftls dbZ dk;ks± esa yk;k tk ldrk gS] ,sfPNd ifjorZu gS tcfd ouksa dk tyu vuSfPNd ifjorZu

gSA 7- ;g ,d vLFkkbZ ifjorZu gS ftlesa dksbZ u;k inkFkZ ugha curkA 8- ;g ,d LFkkbZ ifjorZu gS ftlesa ,d u;k inkFkZ mRiUu gksrk gSA ftlosQ xq.k fHkUu gksrs gSaA 9- vo'kks"k.kh; ifjorZuksa esa Å"ek vo'kksf"kr gksrh gS] tcfd mRltZh ifjorZuksa esa Å"ek eqDr gksrh gSA 10- cht dk ikS/s esa cnyukA **(?k)** 1- tc ge fn;klykbZ tykus osQ fy, bls ekfpl dh [kqnjh lrg ij /hjs ls jxM+rs gSa rks rhyh ty ugha ikrh rc bls tykus osQ fy, [kqnjh lrg ij ,d mfpr ?k"kZ.k djuk iM+rk gSA 2- fdlh fdlku osQ fy, o"kkZ iQly dh vko';drk osQ fy, ,sfPNd ifjorZu gS] tcfd og O;fDr tks edku cuokrk gS] osQ fy, o"kkZ dk gksuk vuSfPNd ifjorZu gSA 3- (i) HkkSfrd ifjorZu ,d vLFkkbZ ifjorZu gS ftlesa dksbZ u;k inkFkZ ugha curk] tSlsµdk¡p osQ fxykl dk VwVukA (ii) ik'P;qfjdj.k }kjk vuSfPNd fØ;kvksa dks fu;af=kr djuk] tSlsµnw/ mckyuk (iii) Å"ek'kks"kh ifjorZuA 4- oLrq esa ifjorZu mlosQ vkdkj] vkÑfr] jax rFkk fLFkfr osQ :i esa gksrk gSA ifjorZuksa osQ vè;;u ls ge ifjorZuksa }kjk gksus okys vokaNuh; izHkkoksa dks nwj dj ldrs gSa] tSlsµnw/ [kjkc gksus ls jksd ldrs gSaA 5- gk¡! fo|qr cYc dk tyukµrhoz ifjorZu] ,sfPNd ifjorZu rFkk mRØe.kh;

ifjorZuA ikS/s esa o`f¼µean
ifjorZu] vuqRØe.kh; ifjorZu]
,sfPNd ifjorZu rFkk jklk;fud
ifjorZuA

**(Ä)** 1- HkkSfrd ifjorZu 2-
HkkSfrd ifjorZu 3- jklk;fud
ifjorZu 4- HkkSfrd ifjorZu 5-
jklk;fud ifjorZu

**roZQ laca/h%** **1-** D;ksafd ;g
,d LFkk;h ifjorZu gS ftlesa
inkFkZ osQ la?kVu esa
ifjorZu ls ,d ;k vf/d inkFkZ
curs gSaA

**2-** D;ksafd ok"ihdj.k esa
inkFkZ iqu% viuh okLrfod
voLFkk esa ifjofrZr gks tkrk
gSA

   6- inkFkks± dk i`FkdDj.k
**(d)** 1- (n) 2- (v) 3- (n) 4- (v)
5- (c) 6- (c) **([k)** 1- Bksl] nzo]
xSl 2- laxkeh feJ.k] fo"kekxkxh
3- nzo] feJ.k 4- mèoZikru 5-
ok"iu 6- volknu

**(x)** 1- vlR; 2- lR; 3- lR; 4- lR;
5- lR; 6- vlR;

**(?k)** 1- 'kq¼ inkFkks± esa
lHkh v.kq leku gksrs gSaA 2-
gYosQ vo;oksa dks Hkkjh
vo;oksa ls vyx djuk vklkbZ
dgykrk gSA 3- inkFkZ dks Bksl
ls lh/s xSl voLFkk esa rFkk xSl
voLFkk dks B.Mk djosQ 'kq¼
Bksl izklr djus dh fof/ ÅèoZikru
dgykrh gSA 4- nzo esa IfEeEfyr
d.kksa okys nzo dks ,d can
ik=k esa ?kqekdj Bksl vyx djus
dh fof/ ea/u dgykrh gSA     5-
og izfØ;k ftlosQ }kjk ge nzo
dks ok"ihÑr djosQ mlesa

?kqyu'khy BksI dks i`Fkd djrs
gSaA 6- eaFku }kjk 7- lw{e
ek=kk esa mifLFkr ?kVdksa
dks i`Fkd fd;k tkrk gSA   8-
vklou }kjkA **(Ä)** 1- vuSfPNd
?kVdksa dks gVkdj 'kq¼
inkFkZ izklr djus osQ fy,   2-
fuLrkj.k µvolkfnr feJ.k dks fcuk
fgyk, nwljs ik=k esa mMyus dh
izfØ;k gSA LoaQnuµæo esa
fdlh jlk;u osQ feykus ij volknu
dh nj c<+kus dh izfØ;k gSA
3- fuL;anu D;ksafd bl fof/ osQ
nzo esa ?kqyu'khy BksI
v'kqf¼;ksa dks nwj fd;k tk ldrk
gSA 4- pqEcdh; i`FkdDj.k]
D;ksafd ge tkurs gSa fd yksgk
pqEcd }kjk vdf"kZr gksrk gSA
yksgs osQ bl fof'k"V xq.k dks
ge feJ.k ls pqEcdh; rFkk
vpqEcdh; inkFkZ dks i`Fkd
djus esa mi;ksx djrs gSaA 5-
iafdy ty esa fiQYVdjh dks /kxs ls
ck¡/dj Åij uhps dhft,A oqQN
iykksa osQ ckn iad uhps cSB
tk,xkA vc dk¡p dh jksM+ dh
lgk;rk ls 'kq¼ ty dks nwljs ik=k
esa fcuk fgyk, mMsfy,A 6- can
ik=k esa nw/ dks j[kdj e'khu
dks ?kqekus ls ;g rhoz xfr ls
?kw.kZu djrh gS ftlls Øhe
osaQnz esa ,df=kr gks tkrh gS
vkSj nw/ ls gYdh gksus osQ
dkj.k nw/ osQ Åij rSjrh gSA 7-
;g fØ;k bl fl¼kUr ij dk;Z djrh gS
fd CyksfsfVax isij }kjk fofHkUu
jaxksa osQ vo'kks"k.k dh nj ,d
nwljs ls fHkUu gksrh gSA

**roZQ laca/h% 1-** vkslkbZ fof/

}kjk **2-**vklou fof/ }kjkA

7- lthoksa dh fo'ks"krk,¡
**(d)** 1- (l) 2- (c) 3- (n) 4- (v) 5-
(c) 6- (l) 7- (n) **([k)** 1- o`f¼ 2-
mn~nhiu 3- dksf'kdk,sa 4-
izdk'k la'ys"k.k 5- vuqowQy
6- lkekU; fo'ks"krk,¡ 7-
vB~Bkjg 8- ltho **(x)** 1- vlR;
2- vlR; 3- vlR; 4- lR; 5- lR;
**(?k)** 1- (iv) 2- (vi) 3- (ii) 4- (i)
5- (iii) 6- (v)

**(Ä)** 1- lthoksa osQ vkdkj esa
gksus okyh o`f¼ gksrh gSA 2-
gjs ikS/ksa }kjk e`nk ls ty rFkk
[kfut&yo.k vo'kksf"kr djosQ
ok;qe.My esa dkcZu
MkbZvkWDlkbM izklr djrs gSa
rFkk lw;Z osQ izdk'k dh
mifLFkfr esa viuk Hkkstu
la'ysf"kr djrs gSaA 3-
DyksjksfiQy osQ dkj.k 4-
vif'k"V inkFkks± dk fu"dklu **(p)**
1- ltho oLrq,¡ xfr] o`f¼ iks"k.k.k]
'olu] iztuu vkfn fØ;kvksa dks
n'kkZrh gSa tcfd futhZo
oLrqvksa esa ;s fØ;k,¡ ugha
gksrhaA 2- tUrq Hkkstu rFkk
vkokl osQ fy, la?k"kZ rFkk
[kkst djrs gSa tcfd ikS/s viuk
Hkkstu Lo;a cukrs gSaA  3-
ltho oLrqvksa dk vius okrkoj.k
osQ vuqowQy thfor jguk rFkk
iztuu djukA mnkgj.k& phy dh
pksap uqdhyh rFkk eqM+h
gksrh gSA ftlls ;g vius f'kdkj
dks iQkM+ ldrh gS rFkk
dViQksM+os dh pksap
uqdhyh rFkk yEch gksrh gSA
ftlls ;g isM+ dh Nky esa fNnz

djosQ dhVksa dks idM+dj [kk
ldrk gSA

**roZQ laca/h% 1-** vU; lthoksa
dh rjg ikS/ksa esa Hkh fuEu
fo'ks"krk,a gksrh gSA tSls&
o`f¼] xfr] 'olu] mRltZu] iztuu]
bR;kfnA **2-** D;ksafd blesa ,d
osQUnzh; raf=kdk ra=k gksrk
gS tks bls [krjk vuqHko gksus ij
izfrfØ;k dh vuqefr nsrk gSA

8- izkÑfrd okl
**(d)** 1- (n) 2- (n) 3- (v) 4- (l)
5- (v) 6- (n) 7- (l)
**([k)** 1- izko`Qfrd okl 2-
Loiks"kh
3- ukxkiQuh 4- LFkyh; 5- tyh; 6-
izko`Qfrd okl] vuqowQyu 7-
izdk'k la'ys"k.k 8- vi?kVd **(x)** 1-
vlR; 2- lR; 3- lR; 4-vlR; 5- vlR;
6- lR; 7- lR; 8- lR; **(?k)** 1- (iv) 2-
(v) 3- (vi) 4- (i) 5- (ii) 6- (iii) **(Ä)** 1-
tks tUrq viuk Hkkstu Lo;a cukrs
gSaA 2- tks tUrq Hkkstu osQ
fy, nwljs tUrqvksa ij fuHkZj
gksrs gSaA 3- fdlh izkÑfrd okl
osQ os ?kVd ftu ij ltho vkfJr
g k s r s          g S a A
4- tSfod rFkk e`r inkFkks± dks
NksVs&NksVs v.kqvksa esa
rksM+us osQ fy,A 5- tarqvksa
esa mu xq.kksa dk fodflr gksuk
tks mUgsa okrkoj.k osQ vuqlkj
vuqowQy cukrk gSA tarq osQ
vkdkj] :i] lajpuk] jax rFkk
LoHkkoks esa ifjorZu vkfn
xq.kksa }kjk vuqowQyu gksrk
gSA **(p)** 1- m¡QV dh ihB ij ,d
owQcM+ ik;k tkrk gS ftlesa olk
lafpr jgrh gS tks olk rFkk ty dh

iwfrZ djrk gS] iw.kZ :i Is ty feyus ij ;g vf/d Is vf/d ty ih ysrk gS] ty dk ßkl 'kjhj Is de ek=kk esa gksrk gS rFkk ;g vius pkjksa vksj osQ okrkoj.k osQ vuqlkj rkieku fu;fU=kr dj ysrk gSA 2- tM+sa fodflr gksrh gSa tks e`nk Is ty vo'kks"k.k osQ fy, xgjkbZ rd tk Idrh gSa] ifÙk;k¡ dk¡Vs;qDr gksrh gSa rFkk lw;Z dh fdj.kksa dks ijkofrZr djus okyh gksrh gSa] ruk eksVk] jlhyk rFkk ty dk lapj.k djus okyk gksrk gSA 3- lw;Z Is Å"ek rFkk ÅtkZ izklr djus osQ fy,] izdk'k&la'ys"k.k dh fØ;k osQ fy, rFkk vU; fØ;kvksa osQ fy,A 4- LFkyh; vkoklµLFky ij thou O;rhr djus okys ikS/s ,oa tUrqA tyh; vkokl&ty esa thou O;rhr djus okys ikS/s rFkk tUrqA ek¡lkgkjhµtUrqvksa dk ek¡l [kkus okys tUrqA 'kkdkgkjhµikS/s rFkk ?kkl vkfn [kkus okys tUrqA 5- vkokl tSfod rFkk vtSfod ?kVdksa dk lewg gSA

**roZQ laca/h% 1-** D;ksafd ;g i;kZlr ek=kk esa ty xzg.k ugha djrkA **2-** ;k rks os thou ;kiu dk u;k rjhdk <aw< ysxsa] vU;Fkk ej tk,xsaA **3-** tyh; tUrq ty dks vo'kksf"kr djrs gS rFkk m"ek dk ßkl djrs gSaA

9- ikS/s % izdkj rFkk dk;Z
**(d)** 1- (v) 2- (n) 3- (I) 4- (I) 5- (c) 6- (c) 7- (n) **([k)** 1- tM+ 2- tM+ 3- ruk 4- iqaosQlj 5- vaMi

6- ifÙk;k¡ 7- iwQy 8- tM+ **(x)**
1- IR; 2- IR; 3- IR; 4- vIR; 5- IR;
**(?k)** 1- (v) 2- (i) 3- (ii) 4- (iv) 5- (iii) 6- (vi) 7- (viii) 8- (vii)
**(Ä)** 1- Øfed IfU/;ksa osQ chp dh yEckbZ dksA 2- iq"i dk ,d o`Ur tks rus Is tqM+k gksrk gSA 3- cht esa mifLFkr ,d uksasn~fHku ikS/ kA 4- ijkxd.kksa dk iqaosQlj Is L=khosQlj ij LFkkukUrfjr gksukA 5- ikS/ksa }kjk viuh iztkfr osQ u, ikS/ksa dks tUe nsukA 6- iq"io`Ur dk iwQyk gqvk Åijh Hkkx 7- ;g ijkxd.k rFkk fu"kspu fØ;k osQ ckn v.Mk'k; dks iQy esa fodflr djrk gSA 8- e`nk Is ty rFkk [kfut yo.kksa dk vo'kks"k.k djuk 9- Hkkstu dk laxzg.k] lgkjk iznku djuk rFkk j{k.kkA
**(p)** 1- [kk| laxzg.kµewyh] xktj] vkjksg.k osQ fy,&euhIyk.V] iku] lgkjk iznku djuk &cjxnA 2- Hkkstu dk laxzg.kµvkyw] lgkjk iznku djuk&ykSdh] vaxwjA j{k.k&µukxiQuhA 3- iq"io`Ur&o`Ur }kjk tqM+k HkkxA okÞ; ny&ckxj dk gjs jax dk HkkxA ia[kqM+h&µjaxhu HkkxA iaqosQljµuj tuukxµ eknk tuukx 4- e`nk esa uhps dh vksj o`f¼ djosQ Hkkstu laxzg.k djrk gS rFkk iztuu djrk gSA 5- tM+ rU=k=kiqikS/s dk Hkkwfexr Hkkx tks ikS/s osQ fy, ikuh rFkk [kfut&yo.kksa dk vo'kks"k.k

djrk gSA izjksg rU=kµikS/s dk
ok;oh; Hkkx tks ikS/s dks lgkjk
iznku djrk gSA 6- uj vkSj eknk
Hkkx feydj ,d uoksn~fHkn
ikS/s dks fodflr djrs gSaA
fu"kspu osQ i'pkr~ v.Mk'k; iQy
esa fodflr gksrk gSA
**roZQ laca/h% 1-** iksj **2-**
ifÙk;ksa dk ewy:i **3-** chtk.M **4-**
Lo;a dhft,A

    10- tUrq % :i rFkk dk;Z
**(d)** 1- (v) 2- (v) 3- (c) 4- (v) 5-
(n) 6- (c) 7- (v) 7- (v) **([k)** 1-
v f L F k c a / 2 - l a f / ; k 3 -
ek¡lisf'k;ksa 4- vehck 5-
if{k;ksa 6- 600 7- g¡lyh 8-
vxzikn **(x)** 1-(vi) 2-(iv) 3-(i) 4-(ii)
5-(iii)6-(v)
**(?k)** 1- dbZ vaxksa ls feydj cuk
ra=kA 'olu ra=k] ikpu ra=k]
ifjlapj.k ra=k] rfU=kdk rU=k]
mRltZu ra=kA 2- vfLFk;k¡ lfU/ ij
,d dBksj rFkk yphyh iV~Vh }kjk
tqM+h gksrh gSA 3- ?kqVus
rFkk dksguh esa 4- [kksiM+h
flj dh gM~Mh gS tks gekjs
efLr"d dh ?kkkr ls j{kk djrh gSA
5- es:jTttw efLr"d rFkk 'kjhj osQ
eè; lwpuk,¡ iznku djrk gSA **(Ä)**
tgk¡ nks ;k nks ls vf/d vfLFk ,d
lkFk tqM+rh gSaA oaQnqd
[kfYydk laf/] dksj laf/] vpy laf/]
dCtk laf/A 2- ia[k 'kjhj ls tqM+s
gksrs gSaA ckÞ; oaQdky ls
tqM+h isf'k;k¡ ia[kksa dh xfr
dks fu;fU=kr djrh gSaA 3-
eNfy;k¡ ia[k o iw¡N dh lgk;rk ls
xfr djrh gSaA
4- (i) [kksiM+hµvfLFk;ksa dk

<k¡pk gS tks efLr"d dh lqj{kk
djrk gSA vfLFk fiatjµo{k
vfLFk;k¡;¡ 'kaoqQ:ih vfLFk fiatj
dk fuekZ.k djrh gSa] tks
isQiQM+ksa o ân; dh lqj{kk
djrk gSA (ii) dksj lfU/µ?kqVus
rFkk dksguh dh lfU/A dCtk
lfU/µgkFk dh dykbZ dh lfU/A 5-
Lo;a dhft,A

roZQ laca/h% 1- D;ksafd ;g
dadky 'kjhj esa vfLFk rFkk
miflFk Is cuk gksrk gSA 2-
if{k;ksa osQ ia[k gksrs gSa tks
mUgsa mM+us esa enn djrs
gSaA if{k;ksa dh [kkks[kyh
gfM~M;k mUgsa gYds cuk;s
j[krh gSa ftudk mUgsa mM+us esa
esa vR;f/d ykHkk feyrk gSA 3-
eNyh osQ ij rFkk iw¡N 4- psgjs
dh gM~Mh

    11- ekiu rFkk xfreku oLrq,¡
**(d)** 1- (c) 2- (l) 3- (c) 4- (l) 5-
(v) 6- (v) 7- (l) 8- (v)
**([k)** 1- ekud ek=kd 2- izdk'k
o"kZ
3- le; vof/ 4- nwjh 5- {ks=kfkQy
6- Hkkj 7- rki 8- lsoQ.M **(x)** 1-
lR; 2- vlR; 3- vlR; 4- vlR; 5-
vlR; 6- lR;A **(?k)** 1- (v) 2-
(vi) 3- (i) 4- (iii) 5- (iv) 6- (ii) **(Ä)**
1- (i) vaxzsth o.kZekyk osQ
NksVs v{kjksa dk mi;ksx djrs
gSaA (ii) oSKkfudksa osQ uke
ij vk/kfjr jkf'k;ksa osQ ek=kd
o.kZekyk osQ cM+s v{kjksa }kjk
n'kkZ, tkrs gSaA (iii) ek=kd
osQ var esa iw.kZ fojke ugha
yxk;k tkrk gSA (iv) izrhd dks
cgqopu osQ :i esa ugha fy[kk

tkrkA 2- 1@299792256
ehú@lsú 3- oLrq dh fLFkfr dk
le; osQ lkFk leku cus jgukA 4-
oLrq dk fdlh v{k osQ ifjr% viuh
fLFkfr esa ifjorZu fd, fcuk
?kweukA 5- oLrq dk viuh fu;r
fLFkfr esa b/j&m/j ?kweukA
**(p)** 1- oLrq dh fojke voLFkk
esa fLFkfr oLrq dh vis{kk le;
osQ lkFk gksus okyk ifjorZuA
js[kh; xfrµgokbZ tgkt] o`Ùkh;
xfrµ?kM+h dh lqbZ] nksyuh
xfrµ>wykA 2- xfrd
voLFkkµoLrq esa le; osQ lkFk
gksus okyk ifjorZu] fojke
voLFkkµoLrq dh fLFkfr dk le;
osQ lkFk leku cus jgukA **(N)** 1-
8 8 0 0 e h ú
2- 100005 xzke
**roZQ laca/h%** 1- dkEifud xfr
**2-** D;ksafd if{k;ksa dh xfr
mQViVkax <ax ls lHkh
fn'kkvksa esa gksrh gSA

12- izdk'k] Nk;k ,oa ijkorZu
**(d)** 1- (c) 2- (c) 3- (n) 4- (l) 5-
(l) 6- (l) **([k)** 1- ijkofrZr
2- rhj 3- ekè;e 4- izPNk;k 5-
niZ.k
6- yEc 7- yEcor 8- fu;fer **(x)** 1-
(ii) 2- (i) 3- (v) 4- (iii) 5- (iv)
**(?k)** 1- oLrq,¡ tks izdk'k mRiUu
d j r h g S a A
2- oLrq dks vR;f/d xeZ djus ij
mlesa ls mRiUu gksus okyk
izdk'k 3- izdk'k osQ B.Ms
lzksarA 4- izdk'k lh/h js[kk esa
pyrk gSA 5- tc ijns rFkk izdk'k
lzksar osQ chp vikjn'khZ oLrq
j[kh tkrh gSA **(Ä)** 1- izdk'k

lh/h js[kk esa pyrk gS rFkk ,d
N k ; k m R i U u d j r k g S
dkMZcksMZ }kjkA 2- oLrqvksa
dk fp=k ysus dk midj.kA 3-
ikS/s lw;Z osQ izdk'k esa o`f¼
djrs gSa rFkk izdk'k&la'ys"k.k
fØ;k osQ }kjk Hkkstu dk
fuekZ.k djrs gSaA 4- isM+ dh
Nk;k dh yEckbZ Kkr djosQA 5-
lekUrj fdj.k&iqat&bu fdj.kksa
osQ eè; nwjh leku gksrh gSA
vfHklkjh fdj.k&iqat&fdj.ksa ,d
fcUnq ij vkdj feyrh gSaA vilkjh
fdj.k&iqat&fdj.ksa ,d fcUnq ls
fudyrh gSaA 6- ikjn'khZµizdk'k
ftu oLrqvksa ls gksdj xqtj tkrk
gSA vikjn'khZµtks oLrq,¡ vius
vanj izdk'k dks vo'kksf"kr dj
ysrh gSaA ijHkkklhµvos oLrq,¡
tks vius vanj ls izdk'k dk
vkaf'kd Hkkx gh xqtjus nsrh
g S a A
7- Lo;a dhft,A
**roZQ laca/h%** 1- izdk'k dh
vuqifLFkfr osQ dkj.k 2- nksigj
esaA

13- pqEcd rFkk pqEcdRo
**(d)** 1- (l) 2- (v) 3- (c) 4- (l) 5-
(v) **([k)** 1- pqEcd 2- /zqo
3- pqEcdh; cy 4- pqEcdh;
dEikl
5- pqEcdh; /zqo **(x)** 1- IR; 2-
vlR; 3- vlR; 4- vlR; 5- vlR; **(?k)**
1- og Bksl inkFkZ tks yksgs
dks vkdf"kZr djrk gSA 2-
pqEcd tks izÑfr esa ik;k tkrk
gSA 3- NM+ pqEcd] MEcsy
pqEcd] U vkdkj pqEcd 4- /zqo
5- izkÑfrd pqEcdµizÑfr esa

i k ; k   t k r k   g S A   Ñ f = k e
pqEcdµÑf=ke izdkj ls cuk;k
tkrk gSA 6- D;ksafd gekjh
i`Foh ,d pqEcd dh Hkkafr dk;Z
djrh gSA **(Ä)** 1- os inkFkZ tks
pqEcd }kjk vdf"kZr gksrs
gSaA pqEcdh; inkFkZ dks
pqEcd osQ }kjk vpqEcdh;
inkFkZ ls vyx dj ldrs gSaA
2- ,d dkxt dh 'khV ij yksgs dk
cqjknk iSQykb, bl 'khV osQ Åij
,d NM+ pqEcd jf[k,,] vki
ns[ksaxs fd yksgs dk cqjknk
vf/drj pqEcd osQ fljksa ij fpidrk
g           S           A
3- Lo;a dhft,A 4- Lo;a dhft,A

**roZQ laca/h% 1-** ge pqEcd dh
fn'kk dks ugha [kkst ldrs
D;ksafd ;g ges'kk mRrj&nf{k.k
fn'kk dks gh funsZf'kr djrk gSA
**2-** D;ksafd i`Foh Lo;a ,d cM+h
NM+ pqEcd dh Hkk¡fr O;ogkj
djrh gSA bl izdkj tc pqEcd dks
Lora=k :i ls yVdk;k tkrk gS rks
mldk nf{k.kh /zqo i`Foh osQ
mRrjh /zqo osQ izfr vdf"kZr
gksrk gSA **3-** ,d yksSg NM+
rFkk NM+ pqEcd ysA yksSg
NM+ dks ,d est ij j[ks rFkk NM+
pqEcd dk ,d fljk yksSg NM+ ij
jxM+sA NM+ pqEcd dks fcuk
gVk;s yksSg NM+ osQ ,d fljs ls
nwljs fljs rd ys tk,saA nwljs fljs
ij igq¡pus osQ ckn NM+ pqEcd
dks mBk, rFkk yksSg NM+ osQ
mlh fljs rd ys tk,saA bl fof/ dks
yxHkx 30&40 ckj nksgjk,, A
yksSg NM+ pqEcdh; gks tk,xh
vkSj vki ,d Ñf=ke pqEcd cuk

ysaxsA

14- fo|qr /kjk rFkk fo|qr ifjiFk
**(d)** 1- (v) 2- (l) 3- (v) 4- (c) 5-
(l) **([k)** 1- fo|qr ifjiFk 2- fLop 3-
Ý;wt cYc 4- ,Eih;j 5- fo|qr
jks/d

**(x)** 1- vlR; 2- lR; 3- vlR;
4- vlR; 5- vlR; **(?k)** 1- (iv) 2- (vi)
3- (ii) 4- (v) 5- (i) 6- (iii)

**(Ä)** 1- nks vFkok vf/d lsyksa dk
la;kstu 2- /kjk izokg osQ fy,
i w . k Z            i f j i F k
3- lsyµjklk;fud vfHkfØ;k }kjk
fn"V /kjk mRiUu djrk gSA
cSVjhµnks vFkok vf/d lsyksa
dk la;kstu 4- lw;Z osQ izdk'k
}kjk fo|qr mRiUu djus okys lsy
lkSj lsy dgykrs gSaA budk
mi;ksx ?kfM++;ksa rFkk
osQyoqoQysVj esa fd;k tkrk
gSA 5- jklk;fud vfHkfØ;k }kjk
fo|qr mRiUu djus okys lsy dks
fo|qr lsy dgrs gSaA 6- cYc ,d
fo|qr la?kkVd gS ftldk mi;ksx
izdk'k osQ fy, fd;k tkrk gSA 7-
fo|qr la?kkVdksa osQ ,d fljs ls
nwljs fljs rd fo|qr izokg osQ
iw.kZiQk dks fo|qr ifjiFk dgrs
gSaA **(p)** 1- Lo;a dhft,A 2-
izdk'k mRiUu djus osQ fy,
cuk;k x;k ;a=kA lsy dk /ukRed
fljk cYc osQ chp osQ Hkkx ls
Li'kZ gksuk pkfg, rFkk lsy dk
½.kkRed fljk ckWMh osQl ls
Li'kZ gksuk pkfg,A

**roZQ laca/h% 1-** fo|qr lsy **2-**
Lo;a dhft,A **3-** D;ksafd ;g
jklk;fud vfHkfØ;k }kjk fn"V /kjk
mRiUu djrk gS tks fd ,d fn'kk

esa cgrh gSA

15- tyµ,d izkkÑfrd lalk/u
**(d)** 1- (n) 2- (c) 3- (v) 4- (v)
5- (n) 6- (l) 7- (c) 8- (n)
**([k)** 1- Bksl] nzo] xSl 2- ty 3- rki
4- ty 5- fctyh 6- ukbVªkstu 7-
f       u       x       e
8- la?kuu **(x)** 1- (vi) 2- (ii) 3-(v)
4-(viii) 5- (iii) 6- (vii) 7- (i) 8-(iv)
**(?k)** 1- ty] tks Hkwfe osQ vUnj
ik;k tkrk gSA 2- ciZQ] ty]
tyok"iA 3- i`Foh ij fufgr ty dk
Lor% pØ.kA 4- D;ksafd ty osQ
}kjk tUrqvksa ,oa ekuo osQ
'kjhj esa tSfod fØ;k,¡ gksrh
gSaA 5- vkstksu dk fuekZ.k o
e`nk esa ukbVªkstu dh ek=kk
esa o`f¼A **(Ä)** 1- Lo;a dhft,A 2-
vkos'k dh ek=kk vR;f/d gksus
osQ dkj.k ok;q dh oqQpkydrk
VwV tkrh gS rFkk cknyksa dh
fupyh lrg ij fLFkr /ukos'k i`Foh ij
ok;q dh l¡djh /kjk osQ :i esa vk
tkrk gSA 3- (i) iQlysa u mx
<mark>ikukA</mark> (ii) ok;q }kjk feV~Vh dk
vijnu gks tkukA (iii) jksx o
egkekjh dk iSQyukA lw[ks ij
f    u    ;    U=k    .    k    µ
(i) o`{kkjksi.k (ii) iQlyksa dks
tM+ osQ Åij ls dkVuk (iii)
ty&pØ dk mi;ksx djuk (iv)
oqQ,¡ [kksnuk 4- (i) o"kkZ dk
T;knk le; rd gksuk (ii) ufn;ksa
o  s  Q    ?  k  q  e  k  o  n  k  j    o
Vs<+s&es<+s ekxZ (iii)
ufn;ksa dk fdukjs ij ls VwVuk
(iv) unh osQ eqDr izokg esa
ekxZ dk vo#¼ gksukA 5- (i)
izÑfr esa mifLFkr lEink,¡A (ii)

iqupZfØr ,oa iqu% LFkkfir dj
ldus okys lalk/u (iii) iqu%
LFkkfir ugha gksus okys
lalk/uA

**roZQ laca/h% 1-** ml {ks=k esa
ck<+ vk tk;sxh rFkk tu&/u dh
gkfu gksxhA **2-** Lo;a dhft,A **3-**
lrg dh xehZ lA 4- yxHkx 60 ls
80 izfr'krA

16- gekjs pkjksa vksj dh ok;q
**(d)** 1- (c) 2- (v) 3- (l)
**([k)** 1- ok;q 2- jU/z 3- lw;Z
osQ izdk'k     4-
dkcZu&MkbZvkWDlkbM 5-
ikS/ksa

**(x)** 1- (iv) 2- (iii) 3- (v) 4- (i)
5- (ii) **(?k)** 1- 78-03% 2-
ifÙk;ksa osQ fupyh lrg ij ik,
tkus okys fNnzA 3- xSlksa dk
feJ.kA ;g rkieku dks fu;fU=kr
djrh] o"kkZ ykrh gS vkSj 'olu
fØ;k esa lgk;d gSA     4- thou
j{kd xSl gS 'olu fØ;k esa
iz;qDrA 5- LVksesVk osQ
}kjkA 6- isQiQM+ksa o ukd
osQ }kjkA

**(Ä)** 1- i`Foh osQ pkjksa vksj
ik;k tkus okyk ok;q dk vkoj.k
tks rkieku dks fu;fU=kr djrk gS
rFkk o"kkZ esa lgk;d gSA 2-
Lo;a dhft,A 3- tUrq 'olu fØ;k
esa dkcZu MkbZvkWDlkbM
xSl NksM+rs gSa tks ikS/ksa
esa izdk'k&la'ys"k.k.k fØ;k osQ
}kjk Hkkstu cukus esa lgk;d
gksrh gSA bl fØ;k esa ikS/s
vkWDlhtu xSl NksM+rs gSa
tks tho&tUrqvksa dh 'olu fØ;k
esa lgk;d gksrh gSA

**roZQ laca/h% 1-** ge lk¡l ugha ys ikrsA

**2-** tSls gh ge mQ¡pkbZ ij tkrs gSa rks ok;q dk ?kuRo de gksus yxrk gS ftlls gesa lk¡l ysus esa dfBukbZ gksrh gSA

**3-** ty dks xeZ djus ls] ge ns[ksaxs dh xSlksa osQ ?kqyus ls ok;q osQ cqycqys cu jgs gS] tks ;g n'kkZrk gS fd ty esa xSlsa ?kqyu'khy gksrh gSA 4- Lo;a dhft,A

17- vif'k"V dk fuLrkj.k

**(d)** 1- (l) 2- (v) 3- (v) 4- (v) 5- (c) **([k)** 1- oxhZÑr 2- [kqys {ks=kksa esa Hkjko 3- vif'k"V izca/u 4- iqupZØ.k

5- dkcZfud **(x)** 1- lR; 2- vlR; 3- lR; 4- vlR; 5- lR; 6- lR; 7- lR;A

**(?k)** 1- (v) 2- (iv) 3- (i) 4- (ii) 5- ( i i i )

**(Ä)** 1- dkcZfud [kkn 2- vif'k"V dks Ñfe;ksa }kjk [kkn esa ifjofrZr fd;k tkrk gSA 3- tSo vi?kVdh;µos vif'k"V ftldks lw{e thoksa osQ }kjk lkekU; :i ls fo?kfVr fd;k tkrk gSA vtSo vi?kVdh; vif'k"Vµos vif'k"V inkFkkZ ftUgsa lw{e thoksa dh fØ;kvksa }kjk lw{ed.kksa esa fo?kfVr ugha fd;k tk ldrkA 4- (i) Refuse (ii) Reduce (iii) Reuse (iv) Recycle.

**(p)** 1- ÅtkZ osQ mi;ksx rFkk [knkuksa osQ vif'k"V ls gksus okys ok;q o ty dk iznw"k.k gks jgk gSA dk¡p] /krq] lykfLVd rFkk dkxt oqQN IkekU; iqupZØ.k fd, tkus okys inkFkkZ ysus gSaA

gSa tcfd IykfLVd ikWyhFkhu dk iqupZØ.k ugha fd;k tk ldrkA

2- jlk;u] vEy] rsy] flaFkFksfVd ;kSfxd] jatd] fo"kkDr xSlsa esa fd ikuh dk iznw"k.k fd;k tk ldrk gSA 4- ,d ydM+h osQ cDls esa lM+s iQy vkok vFkok iÙk fd;ks dh iÙkh osQ FkkSys jFkk dkiQh dh ifÙk;k¡ j[kdj mUgsa Åij ls diM+s dh iqjkuh pkuj ls <ddj 3&4 lIrkg rd e`nk esa nck fn;k rkrk gSA 3&4 lIrkg pkn dEiksLV rS;kj gks tkrk gSA

roZQ laca/h% 1- lykfLVd ojnku osQ :i esa ykbZ xbZ Fkh ysfdu ;g ,d vfHk'kki cu xbZA ;g feVõh osQ fy, gkfudkjd gS rFkk fo?kfVr gksrus esa dbZ Iky ys ysrh gSA 2- Lo;a dhft,A 3- tSlk fd ge tkurs gSa] vi?kVd tSo vif'k"Vksa dks dpjs esa vi?kfVr dj nsrs gSA ftuesa Is T;knkrj vif'k"V fofHkUu izdkj osQ vi?kVdksa }kjk [kk fy;k tkrk gSA bl fof/ esa e`r ikS/s rFkk thoksa dk iqupZozQ.k djosQ jklk;fud rRoksa esa cny nsrs gSaA

Kku foKku&7

1- ikS/ksa esa iks"k.k.k

**(d)** 1- (v) 2- (c) 3- (l) 4- (c) 5- (c) 6- (c) **([k)** 1- mQtkZ 2- jax] i.kZgfjr 3- jU/z 4- lgthoh 5- ' k S o k y k s a 6- ijthoh 7- ukbVªªkstu **(x)** 1- ;g

ifRr;ksa esa gjs jatd osQ :i esa mifLFkr gksrk gSA 2- os ikS/s vkSj tUrq] tks vU; tho ---------- ikS/ksa ij fuHkZj gSA 3- izdk'k la'ys"k.k og izfØ;k ------------ Lo;a cukrs gSA 4- tUrqvksa ,oa ikS/ksa osQ Hkkstu ysus dh izfØ;k ---------- iks"k.k dgykrk gSA 5- ;s ikS/s vkerkSj ij gjs ---------- dhVHk{kh ikS/s dgrs gSaA 6- i.kZ gfjr] lw;Z dk izdk'k] dkcZu MkbvkWDlkbM vkSj tyA 7- ifRr;k¡ vius fupys Hkkkx esa ---------- jU/z dgk tkrk gSA 8- buosQ iks"k.k osQ vk/kj ij ---------- lgthoh ikS/sA

**(?k)** 1- tUrqvksa ,oa ikS/ksa osQ Hkkstu ----------iks"k.k dgykrk gSA ikS/s rFkk tarq eq[; :i ls ---------------- viuk Hkkstu Lo;a cukrs gSaA 2- izdk'k la'ys"k.k dh izfØ;k gS] --------- fØ;k osQ fy, vko';d gSA 3- tUrq vkSj xSj&gjs ikS/s ------------[kk| inkFkZ iznku djrs gSaA 4- vkius i<+k gksxk fd ikS/s --------------- e`r 'kjhjksa ij dk;Z'khy gksrs gSaA **(Ä)** 1- (iv) 2- (v) 3- (ii) 4- (iii) 5- (i)

**roZQ laca/h%** 1- ugha 2- D;ksafd os ijiks"kh gSaA 3- oqQN tYnh ;k oqQN le; ckn] os ej tk,saxsA

2- tUrqvksa esa iks"k.k **(d)** 1- (l) 2- (v) 3- (c) 4- (n) 5- (l) 6- (l) **([k)** 1- izkf.kleHkkssth iks"k.k 2- eq[k xqgk] xqnk 3- vek'k;] jl] gkbMªksDyksfjd vEy 4- fiÙkk'k;; 5- thok.kq]

izksVkstksvk **(x)** 1- T;knkrj tUrqvksa }kjk iks"k.k --------- izkf.kleHkkssth iks"k.k dgrs gSaA 2- Bksl vkSj tfVy [kk| -------- ikpu dgykrh gSA 3- vkgkj uyh esa ik¡p vax gksrs gSaA 4- vek'k; ,d eksVs FkkSys osQ leku ---------- bls vEyh; cuk nsrh gSA 5- D;k vkius xk;ksa -- --------- izdkj dk vek'k; gksrk gSA 6- cM+h vk¡r ty dks -------- --------- ckgj fudkyrh gSA **(?k)** 1- izkf.kleHkkssth iks"k.k dh izfØ;k ------------ izfØ;k mRltZu dgykrh gSA 2- vehck ,d ,ddksf'kdh; tho ------------- ls ckgj fudy tkrk gSA 3- (i) vek'k; esa ikpu fØ;k osQ i'pkr ---------- Hkkstu ls vo'kksf"kr djrh gSA (ii) tuxq oqQvk Hkkstu ---------- vekW'k; igqapk;k tkrk gSA

$$H_2SO_4 + NaOH \longrightarrow NaHSO_4 + H_2O$$
IYY;wfjdksfM;e lksfM;e ty gkbMªkWDlkbM gkbMªkstu lsQ'kQisQV

**(Ä)** 1- (ii) 2- (iv) 3- (i) 4- (v) 5- (ii)

**roZQ laca/h%** 1- 'kjhj osQ Bhd izdkj ls dke djus osQ fy, rFkk LoLFk jgus osQ fy,A 2- D;ksafd ge vius nk¡rksa dks vPNk rFkk LoLFk cuk;s j[kuk pkgrs gSaA 3- D;ksafd euq";ksa esa lsY;wyksl dks ipkus osQ fy, mi;qDr ,atkbesa dk vHkko gksrk gSA

$$2SO_2 + O_2 \longrightarrow 2SO_4$$
IYiObV^akbZy IYY;wfjd vkWDlkbM IRZklkr js'ks

**(d)** 1- (n) 2- (c) 3- (c) 4- (v) 5- (r)a **([k)** 1- xeZ fodukbZ] osQSQfY'k;e vkWDlkbMhtu osQSQfY'k;e vkWDlkbM

2- 'kgrwr 3- owy ekoZQ 4- js'ke 5- esjhuks **(x)** 1- vlR; 2- vlR; 3- IR; 4- IR; 5- vlR; 6-

vlR;A **(?k)** 1- 3000 bZlk iwoZ]
phu esa 2- esjhuks HksM+ 3-
Åuh 4- HksM+ ls Åu] js'ke osQ
dhM++ksa ls js'keA 5- js'ke dk
mRiknu djus osQ fy, **(Ä)** 1- Åu
,d js'kk gS tks HksM+ ls izkM+
gksrh gSA 2- js'ke ,d izkÑfrd
izksVhu js'kk gS tks js'ke osQ
dhM+s osQ Ñfedks"k ls izkIr
fd;k tkrk gSA 3- eghu eyey]
ozsQi js'ke] Vªke] FkzkWu
flaxYl] okbYM flYdA    4- irys
js'kksa dks csyukdkj yisVdjA
5- 'ok¡l jksx] [kqtyh] Ropk
laØe.k] cq[kkj] fljnnZ rFkk dej
nnZA

**roZQ laca/h% 1-** D;ksafd bl
izfØ;k esa js'ke osQ dhM+ks
dks funZ;rkiwoZd xeZ ikuh ls
ekjk tkrk gS vkSj os budh
iztkfr dks cpkuk pkgrs gSaA
**2-** D;ksafd gesa blosQ
ckyksa ls mi;ksxh js'k izkIr
gksrs gSa tks fd mQuh diM+s
cukus esa lgk;d gksrs gSA
**3-** D;ksafd bl izfØ;k esa cM+s
Lrj ij js'ke osQ dhM+ksa dks
ekjk tkrk gSA **4-** ,d le; esa 40
ls 50 v.MsA

4- Å"ek izokg ,oa rkieku
**(d)** 1- (c) 2- (n) 3- (c) 4- (c)
5- (n) 6- (c) 7- (v) **([k)** 1-
mQtkZ 2- twy/°C 3- ikjk 4-
T;knk 5- cqjk] vPNk 6- 0°C Å"ek
0°C **(x)** 1- IR;   lksfM;e   gkbMªkstesa
2- vIR; 3- vIR; 4- vIR; 5- IR;
6- vIR; 7- IR; 8- IR; **(?k) 1-** dk'k
r   ydM+h vkWDlhtudcZu MkbbZ   u
2- fdyks oSQyksjh 3- twy   4-

(d) LiS (aq) 100 °C 6- 2260000 J/kg (7)
fdlNsf hrkFkZkO;sØksQks xsZ;edjus Mhij
vk·ksMsblM    ty          Dyksjhb84xuh jax)

rhlosQ   vkdkj   esa   o 1¼   dk
gksukA   8- fdlh inkFkkZ osQ
bdkbZ   rki vks ifjoz·kku osQ fy;e
vko';d Å"ek **(Ä)** 1- gksbZ
xsan rFkk mlh vkdkj osQ N Y*YRd
ysaA lk/kj.k rki ij xsan NYys
esa ls gksdj fudy tk,xhA vc bls
cuZj dh lgk;rk ls xeZ djsa] fiQj
xsan NYys esa Mky nsaA
xsan NYys esa ls gksdj ugha
tk,xh D;ksafd xeZ djus ij xsan
dk vkdkj c<+ x;k gSA 2-
xfeZ;ksa esa jsy dh iVjh
iSQyus osQ dkj.k iVfj;ksa osQ
chp esa [kkyh LFkku Nks M+rs
gSa ,slk u djus ij jsy dh iVjh
eqM+dj xaHkhj jsy nq?kZVuk
dk dkj.k cu ldrh gSA 3- Å"ek
/kfjrµfdlh inkFkZ dk bdkbZ rki
c<+kus osQ fy, vko';d Å"ekA
fof'k"V Å"ekµfdlh inkFkZ dh
fof'k"V Å"ek] Å"ek dh og ek=kk
gS tks ml inkFkZ osQ bdkbZ
nzO;eku dk bdkbZ rki c<+kus
osQ fy, vko';d gksrh gSA 4-
inkFkZ osQ vf/d rki okys v.kq
de rki okys fudV osQ v.kqvksa
dks Å"ek LFkkukUrfjr djrs
gSaA blesa inkFkZ osQ v.kq
xfr ugha djrsA leku rki gksus ij
Å"ek izokg :d tk,xkA 5- bl
ÝykLd dk iz;ksx yEcs le; rd xje
æo dks xje rFkk BaMs nzo dks
BaMk j[kus osQ fy, fd;k tkrk
gSA 6- D;ksafd ikjs dk vf/d rki
ifjlj] pedhyk rFkk Å"ek dk
lqpkyd gSA 7- tks Å"ek fdlh

inkFkZ }kjk fcuk rkieku cnys
viuh voLFkk ifjorZu osQ fy, ;h
tkrh gSA 8- Bkslksa esa vf/d
rki okys v.kq de rki okys fudV
osQ v.kqvksa dks Å"ek
LFkkukUrfjr djrs gSaA
**roZQ laca/h% 1-**
FkkeksZehVj }kjk **2-** 0°C ls
100°C osQ eè; **3-** D;ksafd
Nkrk lw;Z rFkk bldh gkfudkjd
ijkcSaxuh fdj.kksa ls lqj{kk
iznku djrk gSA **4-** Lo;a dhft,A
5- vEy] {kkjd rFkk yo.k

**(d)** 1- (n) 2- (n) 3- (v) 4- (c)
5- (I) **([k)** 1- {kkj 2- lksfM;e
Dyksjkbd 3- yo.k] gkbMªkstu
4- lksfM;e dkcksZusV        5-
lksfM;e 6- vEy 7- ruq 8- {kkj
(x)

1- $2KOH + H_2SO_4 \qquad K_2SO_4 + 2H_2O$

2- $P_2O_5 + 3H_2O \qquad 2H_3PO_4$

3- $Ca + 2HCl \qquad CaCl_2 + H_2$

4- $2K + 2HCl \qquad 2KCl + H_2$

5- $Mg + 2HCl \qquad MgCl_2 + H_2$

6- $Zn + H_2SO_4 \qquad ZnSO_4 + H_2$

7- $Na_2SO_4 + BaCl_2 \qquad BaSO_4 + 2NaCl$

8- $2K + 2HNO_3 \qquad 2KNO_3 + H_2$

9- $2Na + 2HNO_3 \qquad 2NaNO_3 + H_2$

10- $2Na + 2HCl \qquad 2NaCl + H_2$

11- $ZnSO_4 + 2NaOH$
$\qquad Na_2SO_4 + Zn\,(OH)_2$

12- $2NaOH + SO_2 \qquad Na_2SO_4 + H_2O$

**(?k)** 1- flfVªd vEyµuhacw]
larjk] eWfyd vEyµlsc] VkjVkfjd
vEyµ'kyte] vaxwjA 2- ftuesa
gkbMªkWDlkbM vk;u $(OH^-)$

gksrs gSa rFkk ty esa
?kqyu'khy gksrs gSa 3- oqQN
rRo fcuk tys vkWDlhtu ls
vfHkfØ;k djosQ vkWDlkbM
cukrs gSaA 4- nks ewydksa ls
cuk ,d ;kSfxd gSA 5- os inkFkZ
tks vEyksa ls vfHkfØ;k djrs
gSaA 6- vEy rFkk {kkjd dh ijLij
vfHkfØ;k mnklhuhdj.k
vfHkfØ;k dgykrh gSA 7- /krq
vk;uksa }kjk vEyh; v.kq esa
vk;fur gkbMªkstu ijek.kq dk
vkaf'kd izfrLFkkiu djosQ izkIr
yo.k dks vEyh; yo.k dgrs gSaA

8- fdlh foy;u esa mifLFkr $H^+$
vk;uksa dh la[;k 9- izkÑfrd :i ls
ik, tkus okys os tfVy inkFkZ tks
nwljs inkFkks± osQ lEioZQ
esa vkus ij mldk jax cny nsrs
gSaA
**(Ä)** 1- /krq vk;uksa }kjk vEyh;
v.kq esa vk;fur gkbMªkstu
ijek.kq dk vkaf'kd izfrLFkkiu
djosQ izkIr yo.k dks vEyh;
yo.k dgrs gSaA gk¡
2-

3-

4- Hkkstu cukus esa] lkcqu
esa] vpkj] ek¡l rFkk eNyh osQ
laj{k.k :i esaA 5- okguksa dh
cSVfj;ksa esa] vfXu'ked esa]
isVªksfy;e m|ksxksa esa
'kks/u osQ fy, iz;ksx fd, tkrs
gSaA 6- edkuksa dh iqrkbZ

esa] uhacw ikuh cukus esa]
Hkou fuekZ.k esa] ty ,oa xans
ty dks lkiQ djus esa] fojatd
pw.kZ cukus esa A 7- fuf'pr
ek=kk esa fkki dks oulifr rsy ;k
tUrq olk esa xeZ djosQ lkcqu
rFkk fXyljhu izklr gksrh gSA
ouLifr rsy $+$ {kkj   lkcqu $+$
fXyljhu

$$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 7H_2O + ÅtkZ$$
(Xyewdksk)  ykWDlhtu  dkcZu MkbZ& ty
                        ÅWDlkbM

8- lksfM;e ckbdkcksZusV
(NaHCO$_3$) dks csfoaQx lksMk
dgrs gSaA bldk mi;ksx
VªfFkax esa ,oa cz,M cukus

$$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O + ÅtkZ$$
(Xyewdkst)  ykWDlhtu   dkcZu Mkb& ty
MkbvkWDlhtu dkWMlkb(CO$_2$)

esa] vek'k; dh vEyrk dks
mnklhu djus okyh nok cukus
esa] okf'kax lksMk osQ :i esa
bR;kfn esa gksrk gSA

**roZQ laca/h% 1-** D;ksafd ;g ,d
{kkjd gS rFkk Ropk dks BaMd
iznku djrk gSA **2-** D;ksafd ogk¡
dh ok;q esa xEHkhj :i ls lYiQj
rFkk ukbVªkstu vkDlkbM
ekSTkwu gS ftldk dkj.k ikl esa
mifLFkr m|ksx gSA **3-** {kkjA

### 6- gekjs vkl&ikl gksus okys ifjorZu

**(d)**  1- (n) 2- (c) 3- (v) 4- (l) 5-
(l) **([k)** 1- foLFkkiu 2-
vkWDlhdhtu 3- fu"dklu 4- m"ek
vo'kks"kh

5- vkWDlhdj.k] vip;u **(x)** 1-
vlR; 2- lR; 3- lR; 4- vlR; 5-
vlR;

**(?k)** 1- vfHkdkdjd 2- jklk;fud
ifjorZu 3- yo.k rFkk ty curk
gSA 4- xyukadA
5-

6- xyukad c<+ tkrk gSA 7-
xyukadµftl rki ij dksbZ Bksl
inkFkZ nzo voLFkk esa ifjofrZr
gksrk gS] ml inkFkZ dk xyukad
dgykrk gSA DoFkukadµftl rki ij
dksbZ nzo mcydj ok"i esa
ifjofrZr gksrk gS] ml inkFkZ dk
DoFkukad dgykrk gSA **(Ä)**1-
,d vFkok vf/d inkFkZ curs gSa]
xSlksa dk mRltZu gksrk gS]
jax esa ifjorZu gksrk gS] vo{ksi
curk gSA  2- Bksl dks fdlh ik=k
esa xeZ djsaA ftl rki ij Bksl
inkFkZ mcyrk gSA 3- æo dks
fdlh ik=k esa xeZ djsaA ftl rki ij
nzo inkFkZ mcyrk gSA 4- Å"ek
iznk;h ,oa Å"ek vo'kks"kh
vfHkfØ;k,¡] f}foLFkkiu
vfHkfØ;k,¡ mnklhuhdj.k
vfHkfØ;k,¡A vo{ksi.k
vfHkfØ;k,¡ vkWDlhdj.k
vfHkfØ;k,¡] vip;u vfHkfØ;k,¡
rFkk vipk;d vfHkkØed
vfHkfØ;k,¡A

**(p)** 1- la;ksftr inkFkZ osQ
ifjorZu osQ ckn fHkUu xq.kksla

okys ,d vFkok vf/d inkFkZ curs gSaA 2- bu vfHkfØ;kvksa esa Å"ek vo'kksf"kr gksrh gSA 3- bu vfHkfØ;kvksa esa Å"ek dk fu"dklu gksrk gSA 4- ftlesa ,d mRikn inkFkZ v?kqya'khy gksus osQ dkj.k vo{ksfir gksdj foy;u esa ryh esa vk tk,A 5- og inkFkZ ftlesa vfHkdkjd inkFkZ ls nks ;k nks ls vf/d mRikn izkIr gksrs gSaA 6- f}foLFkkiu vfHkfØ;k osQ fy, mRikn inkFkks± esa ls de ls de ,d inkFkZ ty esa vo{ksi gksuk pkfg,A 7- inkFkZ esa vkWDlhtu dk la;kstu rFkk inkFkZ ls gkbMªkstu dk fu"dklu gksrk gSA 8- inkFkZ esa gkbMªkstu dk la;kstu rFkk inkFkZ ls vkWDlhtu dk fu"dklu gksrk gSA

**roZQ laca/h% 1-** tax yxus osQ fy, ty rFkk vkWDlhtu dh mifLFkfr vko';d gksrh gSA  **2-** tax rFkk la{kkj.k ls cpkus osQ fy,A  **3-** D;ksafd ;g jklk;fud ifjorZu gS tks fd LFkkbZ ifjorZu gksrk gSA

**7- e`nk**
**(d)**  1- (c) 2- (l) 3- (n) 4- (v) 5- (l) **([k)** 1- [kkn 2- oaQdM+ 3- VwVus   4- osaQpqvk 5- izpqj 6- dikl] xUus 7- B-laLrj  8- e`nk laj{k.k **(x)** 1- A-laLrj] B-laLrj] C-laLrjA 2- cSDVhfj;k] 'kSokyA 3- ok;q] rjaxsa] fgeunh ,oa o"kkZ vkfn izkÑfrd dkjdksa ls

pV~Vkuksa dk VwVuk vi{k;u dgykrk gSA          4- izkÑfrd vfHkdkjdksa }kjk fdlh {ks=k ls Åijh e`nk osQ dVko dh izfØ;k dks Hkwvijnu dgrs gSaA 5- e`nk dks mitkÅ cukrs gSaA 6- ;s e`nk osQ d.kksa osQ lkFkk e`r dkcZfud inkFkZ fuxy tkrs gSaA buosQ 'kjhj ls ey osQ :i esa fudyh e`nk ikS/ksa osQ fy, iks"kd rRoksa ls Hkjiwj gksrh gSA 7- pV~Vkuksa osQ VwVus lsA 8- ;g jsrhyh e`nk] e`fÙkdk e`nk rFkk áewl dk feJ.k gSA

**(?k)** 1- feV~Vh osQ ik'oZ nz'; esa feyh ijrsa e`nk laLrj dgykrh gSaA A&laLrjµe`nk dk Ikcls Åij dk Hkkx ftldk jax dkyk rFkk áewl ls Hkjiwj gksrk gSA B&laLrjµÅij ijr osQ uhps voe`nk gS tks gYosQ Hkwjs jax vFkok yky gksrh gSA C&laLrjµlcls uhps dh ijr gS tks pV~Vkuksa osQ cM+s rFkk NksaVs VqdM+ksa ls cuh gSA 2- vif'k"V inkFkks± dk <sj u yxk,¡ rFkk jklk;fud moZjdksa] dhVuk'kdksa ,oa [kjirokj uk'kdksa dk vR;f/d mi;ksx u d    j    s    a    A 3- (i) o'{kkjksi.k rFkk ?kkl osQ eSnkuksa dk laj{k.k (ii) igkM+h <kyksa ij lh<+huqek [ksr] (iii) esM+ cukuk (iv) pjkxkgksa esa vf/d i'kq pjus ij izfrcU/ yxkukA e`nk dks vkPNkfnr djukA 4- yky e`nk] dkyh e`nk] tyks<+

e`nk] jsrhyh e`nk] ioZrh; e`nk] yky nkusnkj e`nkA buesa ls ioZrh; e`nk vf/d mitkÅ gksrh g        S        A
5- [kfut d.k] vdkcZfud inkFkZ] dkcZfud inkFkZ] ltho izk.khA
6- Lo;a dhft, 7- Lo;a dhft, 8- Lo;a dhft, **(Ä)** 1- (iii) 2- (iv) 3- (ii) 4- (i) 5- (v) 6- (vii) 7- (viii) 8- (vi)

**roZQ laca/h% 1-** rks ml {ks=k dh mQijh e`nk gV tk;sxh ftlls mitkmQ e`nk esa ßkl gksxkA **2-** ;g ikS/ksa osQ fodkl dh {kerk dks izHkkfor djsxkA **3-** ugha] D;ksafd jsrhyh feV~Vh dh ty /kj.k {kerk cgqr de gSA

  8- ouLifr;ksa ,oa tUrqvksa esa 'olu

**(d)**  1- (n) 2- (c) 3- (c) 4- (v) 5- (l) **([k)** 1- vok;qthoh 2- jU/z 3- 'okluyh 4- fgeksXyksfcu 5- dkcZu MkbZvkWDlkbM 6- xyiQM+ksa **(x)** 1- vlR; 2- lR; 3- vlR; 4- vlR; 5- lR;
**(?k)** 1- okrkoj.k ls tUrqvksa }kjk vkWDlhtu dks 'kjhj esa ysus rFkk dkcZu MkbZvkWDlkbM NksM+us dh izfØ;k 'olu dgykrh gSA ok;qthoh o vok;qthoh
2-

3- ok;qthoh 'olu esa ok;q }kjk vkWDlhtu x`g.k djrs gSa] tcfd vok;qthoh 'olu esa fcuk ok;q osQ 'olu fØ;k gksrh gSA 4-isQiQM+s] ukd] xyk

**(Ä)**  1- ok;q }kjk vkWDlhtu x`g.k djukA

2- tM+ksa esa 'olu feV~Vh esa mifLFkr ok;q ls vkWDlhtu izkIr djosaQ gksrk gS rFkk ruksa esa 'olu xSlksa dk vknku&iznku folj.k fØ;k ls ljU/zksa@okrjU/zksa }kjk gksrk gSA 3- isQiQM+s] ukd] xykA 4- 'okl ljU/zksa ls ok;q 'kjhj esa izos'k dj Årdksa esa folfjr gks tkrh gSA 5- Lo;a dhft,A

roZQ laca/h% 1- ja/zksa }kjk 2- thou thuk eqf'dy gks tk;sxkA 3- ge ej ldrs gSaA

   9- ogu ,oa mRltZu

**(d)** 1- (l) 2- (c) 3- (v) 4- (l)   5- (n) **([k)** 1- tkbye] Ýyks,e 2- xSl 3- /efu;k¡] dksf'kdk,¡] f'kjk,¡ 4- pkj   5- /euh **(x)** 1- lR; 2- lR; 3- vlR;   4- vlR; 5- vlR; **(?k)** 1- ,d tSfod fØ;k ftlesa inkFkZ 'kjhj osQ vUnj ,d vax ls nwljs vax rd tkrs gSaA 2- ifÙk;ksa ls Hkkstu dk ikS/s osQ fofHkUu Hkkxksa rd tkukA 3- bl fØ;k esa ifÙk;ksa dh lrg osQ ljU/z ty dh {kfr dks fu;fU=kr djrs gSaA 4- lykfodk] yky jDr df.kdk,¡] 'osr jDr df.kdk,¡ fcEck.kqA 5- isQiQM+s] Ropk] xqnsZ] cM+h vk¡rA **(Ä)** 1- tkbye o Ýyks,e }kjkA 2- ifÙk;ksa dh lrg osQ ljU/z ty dh {kfr dks fu;fU=kr djrs gSaA 3-

i s Q i Q M + s µ d k c Z u MkbZvkWDlkbM rFkk ty ok"i d k  R ; k x  d j r s  g S a A Ropkµvif'k"V inkFkks± dk mRltZu ilhus osQ :i esa gksrk gSA cM+h vk¡rµey vkfn vif'k"V inkFkks± dk R;kx xqnk }kjk gksrk gSA xqnsZµukbVªkstu ,oa ;wfj;k tSls inkFkks± dk R;kx ew=k osQ :i esa gksrk gSA 4- tUrqvksa esa jDr dksf'kdk,¡ gksrh gSa ftuls jDr is'kh; laoqQPu tSlh rjax xfr Is vFkok cjkSuh lnz'k ewy jksiksa dh xfr Is izokfgr gksrk gSA 5-ân; dk /M+duk ân; LiUnu dgykrk gSA cPpksa dk ân; ,d feuV esa 90 ls 100 ckj /M+drk gS] tcfd O;Ld euq"; dk ân; 70 ls 72 ckj /M+drk gSA esgur dk dk;Z djus Is ân; dh /M+du c<+ tkrh gSA

**roZQ laca/h% 1-** D;ksafd ;s laØe.k ls cpkrh gS rFkk 'kjhj esa vkus okys jksxk.kqvksa dks u"V dj chekfj;ksa Is la?k"kZ djrh gSA **2-** fcEck.kq jDr dk FkDdk cukdj jDr L=kko dks jksdrh gSA ;fn vkidk 'kjhj dgha Is dV tk, vkSj fcEck.kq mifLFkr u gks rks vkiosQ 'kjhj Is jDr L=kko ejus rd gksrk jgsxkA vkidks fcEck.kqvksa dh vko';drk gksrh gS rkfd ;s jDr L=kko dks jksad losQA **3-** O;fDr LoLFk jgsxkA ;g vPNs LokLF; osQ bPNqd yksxksa osQ fy, vkn'kZ jDr ncko gSA

10- ikS/ksa esa iztuu

**(d)** 1- (c) 2- (l) 3- (n) 4- (l) 5- (Ck) 6- (c) 7- (v) 8- (l)

**([k)** 1- vySafxd 2- ,dfyaxh 3- ijkxdks'k] ofrZdkxz 4- iztuu 5- uj **(x)** 1- IR; 2- IR; 3- vIR; 4- vIR; 5- vIR;

**(?k)** 1- fo'ks"k dksf'kdkvksa }kjkA 2- gkbMªk] ew¡xk] LiatA 3- vySafxd iztuuA 4- ekrk&firk lsA 5- iaqosQlpljA 6- vaoqQdj.kA 7- tudksa }kjk thoksa dh mRifÙk dk izØe 8- fNidy] flrkjk eNyh 9- ijkxd.kksa osQ ijkxdks'k ls ofrZdkxz rd igq¡pus dh fØ;k 10- chtksa dk nwj fc[kjuk 11- ,d 'kqØ.kq.kq rFkk ,d vaMdksf'kdk dh ijLij fØ;k }kjk Hkzw.k dh izFke dksf'kdk dk cuuk 12- iztuu dh og fØ;k ftlesa tho/kjh Lo;a ,d vFkok vusd lUrku vosQys iSnk djrk gSA **(Ä)** 1- T;knkrj ikS/ksa esa ouLifr izo/Zu }kjk iztuu gksrk gSA 2- ijkxd.kksa osQ ijkxdks'k ls ofrZdkxz rd igq¡pus dh fØ;k dks ijkx.k dh fØ;k dgrs gSaA 3- vkarfjd fu"kspu eknk osQ 'kjhj osQ vanj gksrk gS tcfd okg; fu"kspu eknk osQ 'kjhj esa ugha gksrkA 4- vf/dka'k ikS/ksa osQ cht ufn;ksa] /kjkvksa ,oa leqnz esa cgdj fc[kj tkrs gSaA

**(p)** 1- (v) 2- (iv) 3- (i) 4- (iii) 5- (ii)

**roZQ laca/h% 1-** D;ksafd ijijkx.k esa fofHkkUu vkuqoaf'kd larfr;ksa esa o`f¼ gksrh gS vkSj larfr;k¡ cnyrs

i;kZoj.k osQ vuqowQfyr gksrh gSA **2-** ml ikS/s esa iztuu ijijkx.k }kjk fd;k tk,xkA **3-** fu"kspu }kjkA

11- xfr ,oa le;

**(d)** 1- (v) 2- (c) 3- (v) 4- (c) 5- (v) **([k)** 1- nksyu 2- ;kn`fPNd 3- o`Ùkh; 4- o`Ùkh; 5- ehñ@lsñ **(x)** 1- IR; 2- vIR; 3- IR; 4- IR; 5- IR;

**(?k)** 1- nksyu xfr 2- vukofrZ xfr 3- DokVZ~t fØLVy }kjk 4- fØfLV;u g~;wtsUl 5- oLrq dh fLFkfr dk le; osQ lkFk vifjofrZr jgukA 6- bl xfr esa oLrq viuh ewy fLFkfr esa b/j&m/j xfr djrh gSA

**(Ä)** 1- fdlh fLFkfj oLrq osQ lkis{k le; osQ lkFk fdlh oLrq osQ fLFkfr ifjorZu dks xfr dgrs gSa] LFkkukUrjh; xfrµdkj dh xfr] o`Ùkh; xfrµNr osQ ia[ks dh xfr] nksyu xfrµ>wyk] ledkfyd xfrµlkbfdy ifg;k] vkorhZ xfrµ?kM+h yksad] vukorhZ xfrµHkkwdEi] ;kn`fPNd xfrµeD[kh dk mM+uk 2- fojke esa oLrq dh fLFkfr le; osQ lkFk vifjorZr jgrh gS] tcfd xfr esa oLrq dh fLFkfr esa le; osQ lkFk ifjorZu gksrk gSA 3- leku xfr esa oLrq dh pky vifjorZr jgrh gS] tcfd vleku xfr esa oLrq }kjk fuf'pr le;kUrjky esa pyh nwjh leku ugha gksrhA 4- (i) 25 fdeh@?kaVk (ii) 6.9 ehñ@lsñ 5- 4 ?kaVs 6- 150 fdehú

**(p)** 1- ljy js[kh; xfr 2- ;kn`fPNd xfr 3- nksyu xfr 4-

o`Ùkh; xfr

5- vkorhZ xfr 6- ledfyd xfrA **roZQ laca/h% 1-** ugha **2-** LFkkukUrjh; xfr

**3-** izkphudky esa euq"; le; ekius osQ fy, oqQN ;U=k Hkh iz;ksx djrs FksA lw;ksZn; Is vxys lw;ksZn; osQ eè; dk le; ,d fnu rFkk ,d iw.kZpUnz fnol Is vxys iw.kZ pUnz fnol osQ eè; dk le; ,d eghuk ekurs FksA

12- fo|qr /kjk

**(d)** 1- (I) 2- (v) 3- (n) 4- (I) **([k)** 1- mRiUu 2- ,fEi;j 3- fo|qrjksa/h 4- izsfjr /kjk 5- ,eehVj **(x)** 1- IR; 2- vIR; 3- IR; 4- vIR; 5- IR; 6- IR;A

**(?k)** 1- nks 2- 1-5 oksYV 3- thú yWDykaps 4- /kjkekihA 5- pqEcdh; cy js[kk,¡ oqaaQMyh osQ Ikis{k ifjorZr gksrh gSa rks muesa fo|qr /kjk mRiUu gksrh gSA 6- vkosf'kr pqEcdh; {ks=k esa rkj pyd gksus ij mlesa fo|qr /kjk mRiUu gksrh gSA 7- pqEcdh; cy js[kkvksa osQ dkj.k cUn oqQ.Myh esa mRiUu fo|qr /kjk A 8- bdkbZ le; esa fdlh lqpkyd Is fo|qr vkos'k osQ izokg dh nj fo|qr /kjk dgykrh gSA fo|qr /kjk dk izokg /ukRed Is ½.kkRed dh vksaj gksrk gSA **(Ä)** 1- fo|qr /kjk esa bysDVªku dk izokg gksrk gS] tcfd fo|qr ifjiFk esa fo|qr /kjk lqxerk Is izokfgr gksrh gSA 2- fo|qr /kjk Is mRiUu

pqEcd dks fo|qr pqEcd dgrs gSaA fo|qr ?kaVh] fo|qr eksVj] Mk;ueksA 3- ckjEckj ifjiFk cUn gksus o [kqyus osQ dkj.k ykSg[k.M ckj&ckj pqEcfdr gksdj ykSg[k.M }kjk vkdf"kZr gksrk gS ftlls èofu lqukbZ iM+rh gSA 4- ifjufyd osQ nksuksa fljksa dks /kjkekih ls tksM+dj pqEcd osQ mÙkjh /zqo dks oqaaMyh osQ lehi ykus ij /kjkekih dh lqbZ esa fo{ksi.k gksrk gSA lqbZ dk fo{ksi.k ifjiFk esa fo|qr /kjk dks n'kkZrk gSA  5- tc pqEcdh; cy js[kk,¡ oq¡QMyh osQ lkis{k ifjofrZr gksrh gSa rks oq¡QMyh esa fo|qr /kjk mRiUu gksrh gSAiWQjkdMsA

**roZQ laca/h%** 1- blls fo|qr /kjk osQ izokg esa o`f¼ gksxhA 2- fcuk Ý;wt osQ gekjs fy, fo|qr /kjk dks fu;fU=kr djuk laHko ugha gSA

13- o"kkZ] xtZu ,oa rfM+r

**(d)**   1- (c) 2- (c) 3- (v)
**([k)** 1- mPp 2- vk¡[k 3- de 4- gfjosQu 5- LFky **(x)** 1- vlR; 2- lR; 3- lR; 4- lR; 5- vlR;A
**(?k)** 1 - L F k k u h ;  i o u ] H k w e . M y h ;  i o u 2- m¡Qps LFkkuu ij 3- rwiQku Hk;adj :i ysdj ?kw.kZok;q okys rwiQku cu tkrs gSaA 4- ok;qe.My esa rhoz ok;q dk osxA xtZu okyk rwiQku] pØokrh rwiQkuA 5- foyhfoyh]

g  f  j  o  s  Q  u 6- iouekih 7- vR;f/d xeZ {ks=k esa esaaA

**(Ä)** 1- iou xfr osQ iSekus dks C;qiQksVZ iSekuk dgrs gSaA C;qiQksVZ iSekus ij iou dh xfr 4 ls Åij lehj]] 8 ls Åij rst iou rFkk 11 ;k mlls Åij rwiQku dgykrh gSA

2- Hk;adj ,oa fo'kkydk; rwiQku ftlesa gok dh LihM 117 fdeh@?kaVk gksrh gS rFkk 100 fdeh rd osQ LFkku dks ?ksjrh gSA 3- vR;f/d xeZ {ks=kksa ls gok dk rsth ls xeZ gksdj Åij mBukA 4- iou dh fn'kk og fn'kk gksrh gS ftl vksj ls og cgrh gSA 5- Nr osQ Åij dh vis{kk Nr osQ uhps dk ok;qnkc vf/d gksrk gS ftlosQ dkj.k Nr dks cgrh gok esa Åij dh vksj /Ddk yxrk gS rFkk rwiQku esa Nr mM+ tkrh gSA

**(p)**   1- (ii) 2- (i) 3- (v) 4- (iii) 5- (iv)

**roZQ laca/h%** 1- D;ksafd izdk'k] èofu ls vf/d rsth ls ;k=kk djrk gS] D;ksafd izdk'k dks pyus osQ fy, fdlh ekè;e dh vko';drk ugha gksrh gSA 2- D;ksafd vkl&ikl dh gok dh fo{kkHk xfr'khy ok;q dh /kjk esa nkc de gksrk gSA vr% Nr osQ mQij dh fo{kkHk Nr osQ uhps dk ok;qnkc vf/d gks tkrk gS ftl dkj.k mQij dh vksj /Ddk yxrk gSA 3- D;ksafd xeZ gok xeZ gksdj mQij mB tkrh gS mQij gok /kjk cukrh gSA bl rjg ls

cgqr rsth ls ?kweus okyh gok osQ dkj.k djaV Hkh yx ldrk gSA

## 14- izdk'k
**(d)** 1- (n) 2- (c) 3- (v) 4- (c) 5- (c) 6- (l) 7- (c) **([k)** 1- tyrh gqbZ 2- vf/d 3- nwjn'kZd 4- lh/h 5- m    R    r    y 6- de **(x)** 1- IR; 2- vlR; 3- IR; 4- vlR; 5- IR; 6- IR; **(?k)** 1- vfHkHkkyyEc dh vksj 2- rkjksa dk fVefVekuk 3- lkr jaxksa osQ fofHkUu foLFkkiu osQ dkj.k 4- cSaxuh] tkequh] uhyk] gjk] ihyk] ukjaxh rFkk ykyA 5- izdk'k dk fo{ksi.k 6- cSaxuh] tkequh] uhyk] gjk] ihyk] ukjaxh rFkk yky 7- $\mu$ 8- og fcanq tgk¡ ysal IekUrj js[kkvksa dks vfHkHkkyfjr djrk gSA 9- lw{en'khZ esa] VsyhLdksi esa rFkk ckbuksoqQYyj esa 10- iQksdl nwjh osQ O;qRØe dks ehVj esa n'kkZus ij og ysal dh lkeF;Z dgykrh gSA bldk ek=kd Mk;ksIVj gSA 11- mÙky ysal eè; esa eksVk o fdukjksa ls iryk gksrk gS] tcfd vory ysal eè; ls iryk ,oa fdukjksa ij eksVk gksrk gSA 12- ty dh cw¡nksa ls izdk'k osQ viorZu osQ dkj.k fdj.ksa fo{ksfir gks tkrh gSaA

**(Ä)** 1- tc izdk'k dh fdj.ksa ,d ekè;e ls nwljs ekè;e esa izos'k djrh gSa rks nksuksa ekè;eksa dh IEioZQ lrg ij izdk'k dh fdj.ksa lh/h js[kkk ls eqM+ tkrh gSaA ,d ikuh ls Hkjs di esa flDdk Mkydj A 2- Lo;a dhft,A 3- iQksdl ls ;fn oLrq nwj gS rks mYVk o okLrfod] iQksdsl ij vuUr rFkk iQksdl o ysal osQ eè; gksus ij cM+k] lh/k rFkk vkHkklh izfrfcEc cusxkA 4- (i) oSQejs dk ckWDI (ii) ysal (iii) fiQYe (iv) iVy 5- vfHkHkkn`';d }kjk mYVk] okLrfod o NksVk izfrfcEc curk gS ftlls iqu% us=kd }kjk mYVk] vkHkklh] vkof/Zr izfrfcEc vuar ij curk gSA 6- nwj n`"V nks"k] fudV n`"V nks"kA fudV n`"V nks"kμus=k ysal dh oØrk vf/d c<+ tkus osQ dkj.k gksrk gSA blosQ fuokj.k osQ fy, fuf'pr iQksdl nwjh dk vory ysal iz;ksx djrs gSaA nwj n`f"V nks"kμus=k osQ f[kapko osQ dkj.k gksrk gSA blosQ fuokj.k osQ fy, fuf'pr iQksdl nwjh dk mÙky ysal yxk p'ek iz;ksx djrs gSaA 7- vk¡[k oSQejs osQ leku dk;Z djrh gSA jsVhuk ij oLrq dk okLrfod] mYVk o NksVk izfrfcEc curk gSA **roZQ laca/h% 1-** ge viuk psgjk niZ.k dh vksj vius ls mYVk ikrs gSaA **2-** Lo;a dhft,A

## 15- ty
**(d)** 1- (n) 2- (v) 3- (c) 4- (l) 5- (c) **([k)** 1- 4°C 2- foyk;d 3- o"kkZ 4- jklk;fud inkFkZ 5- g    Y    d    k **(x)** 1- vlR; 2- IR; 3- IR; 4- IR; 5- IR; 6- vlR; **(?k)** 1- ciZQ] ty ,oa tyok"i] nzo] egklkxj] lkxj] o"kkZZ] ufn;k¡] rkykc] >hy rFkk

ciZQ ty osQ lzksr gSaA 2- ihus esa rFkk ugkus esaA 3- vkWDlhtu 4- ?kjsyw vif'k"V] vkS|ksfxd vif'k"V rFkk Ñf"k vif'k"VA 5- 4°C **(Ä)** 1- Hkkkstu] ikpu ,oa 'kjhj osQ rkieku dks fu;fU=kr j[kus osQ fy,A 2- izÑfr esa ty dk ,d :i ls vU; :i esa yxkrkj pfØr gksukA 3- ciZQ rki dk oqQPkyd gksrk gSA blfy, ciZQ dh ;g lrg tyh; thoksa osQ fy, dEcy dk dk;Z djrh gSA 4- ciZQ osQ :i esa 0°C ij teuk] 100°C ij tyok"i osQ :i esa 5- mckydj] Nkudj o mlesa fojktd pw.kZ vFkok mlesa Dyksjhu ;kSfxdksa ls ;qDr xksfy;k¡ MkydjA 6- leqnzh thoksa dk vR;f/d B.Ms ekSle esa ty esa thfor jguk o rkieku fu;U=kd osQ :i esaA 7- dBksj ty esa lkcqu ls vklkuh ls >kx ugha vkrk tcfd e`nq ty esa lkcqu ls vklkuh ls >kx vkrk gSA

roZQ laca/h% 1- D;ksafd ikS/s rFkk vU; NksVs tho izdk'k la'ys"k.k }jkj viuk Hkkkstu cukrs gSa ftlesa ty dh vko';drk gksrh gSA 2- rks bl xzg ij mifLFkr lHkh tho ej tk,saxsA ekuo rFkk tho&tUrq leku :i ls Hkkkstu] vkokl] lalk/u rFkk vkDlhtu osQ fy, ouksa ij fuHkZj jgrs gSaA 3- D;ksafd leqnzh ty esa yo.kksa dh ek=kk vR;f/d gksrh gSA

16- iznw"k.k % ,d o`gr leL;k
**(d)** 1- (l) 2- (c) 3- (c) 4- (v)
**([k)** 1- gStk] nLr ihfy;k 2- 70 3- thok'e 4- $H_2O$ 5- jsfizQtjsVj]

vfXu'keu] ,jkslksy 6- vklqr 7- ok;q
**(x)** 1- ty iznw"k.k.k 2- ok;q iznw"k.k.k 3- $H_2O$ 4- ok;q iznw"k.k.kA 5- i;kZoj.k esa mifLFkr inkFkks± dh ek=kk ls fdlh inkFkZ dh vfrfjDr ek=kk tks fd lthoksa osQ fy, gkfudkjd g S A 6- d k c Z u MkbZvkWDlkbM] lYiQj MkbZvkWDlkbM 7- og ty tks euq"; osQ ihus ;ksX; gS rFkk LokLF; ij cqjk izHkko u MkysA 8- thou osQ fy, lcls t:jh inkFkZ 9- HkkSfrd] jklk;fud] tSfodA
**(?k)** 1- ok;q esa tyus okys b±/u 2- ikS/ksa ij oqQizHkkko iM+rk gS] izdk'k&la'ys"k.k dh fØ;k esa ck/k igq¡prh gS vkSj o;kso`¼ O;fDr jksxxxzLr gks tkrs gSaA 3- vkS|ksfxd vif'k"V osQ fo"kSys jlk;uksa dks ufn;ksa] >hyksa ,oa ty /kjkvksa esa cgkukA 4- vkU=k=k Toj] gStk] nLr] ;Ñr&'kkks/ rFkk ihfy;k jksx gks tkrs gSaA 5- o`{k mxk,¡] vkS|ksfxd vif'k"V inkFkks± dks ty esa u cgk;sa rFkk ey;qDr ty dks ty&lzksrksadsa esa u cgk,¡A **(Ä)** 1- (iii) 2- (iv) 3- (v) 4-(vi) 5- (ii) 6- (i)
**roZQ laca/h%** 1- vf/drj fodkl'khy ns'kksa esa **2-** D;ksafd tSls gh fuL;and e'khu ls gksdj ty fudyrk gS ;g ijkcSaxuh fofdj.k }jkj cSDVhfj;k u"V djosQ ty dks ihus ;ksX; rFkk LoPN cukrh gSA **3-** Lo;a dhft,A

## 17- ou

**(d)** 1- (v) 2- (l) 3- (n) 4- (c) 5- (n) **([k)** 1- IkxkSu] nsonkj 2- vkS"k/h 3- ou 4- i`Foh osQ rkieku

5- jcM+&{khj **(x)** 1- IR; 2- vlR; 3- IR; 4- IR; 5- vlR;A **(?k)** 1- Hkwfe dk 2- vkWDIhtu 3- fl;kj] fx¼ 4- mÙkjk[k.M osQ fVgjh x<+oky ftys IsA 5- ok;q iznw"k.k] ty iznw"k.k.k 6- 'kgjhdj.k rFkk vkS|ksfxdj.k osQ dkj.kA **(Ä)** 1- Hkwfe dk vijnu jksdrs gSa] ydM+h] Hkkstu] diM+k nokb;k¡ rFkk dkxt iznku djrs gSaA 2- vkS|ksfxdj.k rFkk 'kgjhdj.k osQ dkj.k ouksa dk dkVk tkukA 3- ikS/s Hkkstu] vkokl rFkk vkWDIhtu dk lzksr gSaA 4- tM+sa Hkwfe esa ty dh xfr dks /heh djrh gSaA ty dh Øfed xfr mlosQ 'kqf¼dj.k esa lgk;d gksrh gSA 5- isM+ksa osQ dVus ij fu;U=k.k.k djuk pkfg,] taxyh thoksa dh j{kk djuh pkfg,] vfrpkj.k dh vuqefr ugha nsuh pkfg, rFkk yxkrkj o`{kkjksi.k dk;ZØeksa dks izksRlkfgr djuk pkfg,A

**(p)** 1- (iii) 2- (v) 3- (i) 4- (ii) 5- (iv)

roZQ laca/h% 1- bl dkj.k IHkkh tho tUrqvksa osQ chp vlarqyu gks tk;sxk tks IkekU; :i Is izÑfr ij izHkko MkysxkA 2- tho&tUrq Hkkkstu] vkWDIhtu rFkk vkokl osQ fy, ikS/ksa ij fuHkZj jgrs

gSa rFkk ikS/s dkcZu MkbZ vkWDIhkbM] ijkx.k rFkk cht izdh.kZu osQ fy, tUrqvksa ij fuHkZkj jgrs gSaA

## 18- vif'k"V izca/u

**(d)** 1- (l) 2- (v) 3- (c) 4- (l) **([k)** 1- LokLF;; 2- tyfudklh] ukyh 3- Dyksjfjuhdj.k 4- laxzg 5- unh ; k > h y

**(x)** 1- IR; 2- IR; 3- vlR; 4- IR; 5- vlR; **(?k)** 1- nks 2- vtSfod vif'k"V 3- 'kq¼ djus osQ fy, 4- ty fudkl ?kjksa esa vkSj m|ksxksa Is vkus okyk vif'k"V ty gSA 5- vipkj.k IykaV osQ }kjk fudklh ty dh o`gr~ ek=kk dks 'kq¼ is;ty esa cnyk tkrk gSA 6- b l e s a c h e k j h o s Q jksxk.kqvksa dks u"V dj fn;k tkrk gSA vif'k"V dkys inkFkZ egÙoiw.kZ [kkn cu tkrs gSaA 7- cSDVhfj;k ty esa ?kqfyr v'kq¼rk dks gkfujfgr mRiknksa esa cny nsrs gSaA

**(Ä)** 1- vif'k"V nks izdkj osQ gksrs gSa ------------cSDVhfj;k }kjk izHkkkfor ugha gksrs gSaA 2- 'kgjksa esa ,d can ------------------- jksx mRiUu gksrs gSaA 3- fudklh ty esa lw{e tho ---------- cncwnkj xSlsa mRiUu gksrh gSA

**(p)** 1- (iv) 2- (i) 3- (ii) 4- (iii)

**roZQ laca/h%** 1- D;ksafd ;g ty iznw"k.k.k rFkk cgqr Is jksxksa dk eq[; L=kksr gSA 2- Mªsust ikbi Is ey ckgj ys tkus osQ fy,A

Kku foKku&8

1- iQlyksa dk mRiknu ,oa izca/u

**(d)** 1- (v) 2- (c) 3- (c) 4- (n) 5- (c) 6- (c) 7- (I) **([k)** 1- [ksrh 2- Hkkjr 3- ckxokuh 4- vaoqQj.k 5- tksrus 6- [ksrkssa] ulZjh 7- iQly dh fdLe] feêðh] ½rq 8- vupkgs **(x)** 1- cM+s iSekus ij ,d rjg osQ ikS/ksa dks ----------- [kk| iQlysa dgykrh gSA 2- ;s iQlysa twu ;k tqykbZ osQ ekg ----------- ew¡xiQyh bR;kfnA 3- ,d cM+s iSekus ij ikS/ksa dks ----------- iQlyksa dh [ksrh dgykrh gSA 4- ;s iQlysa vDVwcj ----------- ljlksa bR;kfnA 5- iQy] IfCt;k¡ vkSj Ikt&ITtk ----------- Ñf"k dk ,d Hkkkx gSA 6- [kkn ,d dkcZfud inkFkZ ----------- iks"kd rRo fudy tkrs gSA 7- moZjd% ;wfj;k] iksVk'k rFkk lqijiQkWLisSQV ,oa [kkkn% xk; dk xkscj] ew=k vkSj ikS/ksa osQ Hkkkx 8- gy] Ñ"kd vkSj oqQnky 9- flapkbZ ls rkRi;Z gS ----------- uyowQiksa ls izklr fd;k tkrk gSA 10- idh gqbZ iQly dh dVkbZ ----------- iQly dVkbZ dgykrk gSA 11- dhV vkSj vU; oqQN tUrq ----------- dhVuk'kh dgykrs gSaA 12- vkslkuk ,d Ñf"k fof/ ----------- vyx djus esa fd;k tkrk gSA 13- oqQN [kk| inkFkZ gesa ----------- izfØ;k i'kqikyu dgykrh gSA **(?k)** 1- og

Hkwfe tgk¡ ikS/ksa ------------ ljlksa bR;kfnA 2- ubZ vkSj vPNh iQlyksa -------------- HkkMkj.kA 3- feV~Vh rS;kj gksus osQ i'pkr ----------------- mi;ZqDr LFkkku nsrh gSA 4- idh gqbZ iQly dh dVkbZ ----------- ?kqukska dks vyx djus esa fd;k tkrk gSA 5- tc ge ckr djs gS ----------------- i'kqikyu dgykrh gSA 6- fdlku bu [kjirokjksa dks ----------- IkiQ dj ysuk pkfg,A 7- flapkbZ ls rkRi;Z ----------- lhapus osQ fy, fd;k tkrk gSA **(Ä)** 1- (v) 2- (vi) 3- (vii) 4- (ii) 5- (iv) 6- (iii) 7- (viii) 8- (i)

**roZQ laca/h%** 1- D;ksafd pkoy dh iQly c<+us osQ fy, ekulwu o"kkZ ij fuHkZj djrh gS rFkk ;s twu ;k tqykbZ osQ ekg esa cksbZ tkrh gS vkSj vDVwcj ekg esa dkVh tkrh gSA 2- gekjs ns'k dh yxHkkx 70% tula[;k bl {ks=k esa yxh gqbZ gSA

2- lw{etho% fe=k ;k 'k=kq

**(d)** 1- (c) 2- (I) 3- (v) 4- (c) 5- (n) 6- (v) 7- (c) **([k)** 1- lw{etSfodh 2- Hkkkstu] vkokl 3- gjs jaxghu] DyksjksIykLV 4- ikS/ksa] tUrqvksa 5- ySDVkscSflyl 6- efnjk] ,Ydksgy 7- ,aVhck;ksfVDl 8- dhVksa

**(x)** 1- IR; 2- vlR; 3- IR; 4- vLkR;

5- IR; 6- IR; 7- IR; 8- IR; **(?k)** 1-
,sls cgqr&ls lw{etho -----------
jksxk.kqvksa osQ uke ls Hkh
tkuk tkrk gSA 2- thok.kq] dod]
izksVkstksvk] 'kSoky rFkk
fo"kk.kq 3- lw{ethoksa --------
--- lw{etSfodh dgykrk gSA 4-
oqQN thok.kq -----------
dkyksuh dgrs gSA 5- thok.kq
,ddksf'kdh; tho ------------ iqjkus
thok.kq gSA 6-iSjkehf'k;e]
vehck] ,.Vvehck 7- 'koZQjk
osQ ,Ydksgy -------------- fd.ou
dgykrh gSA 8- cSDVhfj;k
ySDVksccSSfflyl] ihLV] dod   9-
fo"kk.kq] gkfudjd thok.kq tSls
flVjl dadj ,oa gkfudjd
izksVkstksvk tSls lyklkfsfM;e
10- [kk| fo"kkDrrk oqQN
lw{ethoksa -------------- gksus
ls cpkuk pkfg,A 11- lw{etho
gekjs Hkkstu dks ----------- [kk|
laj{k.k fd;k tkrk gSA
**(Ä)** 1- gekjs pkjksa vksj cgqr
ls ----------- inkFkks± dk {k;
gksrk gSA] jksxk.kq gekjs
'kjhj esa ----------- tks egkekjh
dk dkj.k curs gSA 2- lw{etho
gekjs Hkkstu dks -----------
ikS/ksa }kjk mi;ksx fd;k tk ldrk
gSA
**(p)** 1- (iii) 2- (iv) 3- (v) 4- (i) 5-
(ii)
**roZQ laca/h%  1-** D;ksafd os
thok.kqvksa dks Hkkstu rFkk
vkokl iznku djrs gSaA
**2-** ysDVkscSfflyl thok.kq ngh

dks cukus esa lgk;d gSA ;g
nw/ esa xq.ku djosQ nw/ dks
ngh esa ifjofrZr djrk gSA **3-**
D;ksafd fo"kk.kq vU; thoksa
osQ 'kjhj osQ ckgj ,d futhZo
tho osQ leku gksrk gSA ;s vU;
thoksa osQ 'kjhj osQ vUnj
iztuu dj ldrs gS] ftlosQ fy,
bUgsa iks"kh dh vko';drk
gksrh gSA **4-** oqQN thok.kq
vkSj uhy&gfjr 'kSoky feV ∂h
esa ukbVªkstu dks LFkkfir
djus esa lgk;d gksrs gSa tks
feV ∂h esa ukbVªkstu vkSj
mldh moZjd {kerk dks c<+krs
gSaA **5-** D;ksafd gkFkksa dks
/ksus ls dhVk.kqvksa dk
iSQyko :d tkrk gSA

3- nSfud thou esa inkFkZ
**(d)** 1- (v) 2- (n) 3- (l) 4- (n)
5- (n) 6- (c) 7- (v) **([k)** 1- u
fpidus 2- okguksa 3- dkfLVd
lksMk
4- xk<+s 5- vo;o 6- ruu **(x)** 1-
IR; 2- IR; 3- vIR; 4- IR; 5- vIR;
**(?k)** 1- la'ysf"kr cgqyd 2- nks
3- ,dy v.kqvksa ls tqM+dj cuh
y E c h   Ü k ` a [ k y k A
4- inkFkZ dks gYdk xEZ djosQ
eqyk;e fd;k tk ldrk gSA xEZ
djus ij ;s dBksj ,oa [kqjnqjs gks
tkrs gSa rFkk xEZ djus ij
bUgsa vkdkj ;k :i ugha fn;k tk
ldrkA 5- C;wVkMhu rFkk
LVkbjhu dk cgqyd gSA 6- nks
7- foukbZy DyksjkbM mPp
cgqyd osQ :i esa tkuk tkrk gSA

8- ,ØkbykWu 9- fo|qr fLop cukus esa

**(Ä)** 1- ,Fkhu dks vkWDlhtu dh mifLFkfr esa 465&485 K rki ij ,Fkhu dk cgqyhdj.k djosQ izkIr dh tkrh gSA 2- oL=k rFkk Hkkstu iSfoaQx esa] cSx esa vLrj yxkus esa] dkyhu rFkk f[kykSus cukus esa rFkk okguksa dh cSVjh dh ckWMh cukus esaA 3- 'kq¼ dkWVu dks dkfLVd lksMk osQ foy;u esa Mqcksk;k tkrk gS fiQj bldks foy;u ls ckgj fudkydj dkcZu MkbvkWDlkbM osQ lkFk xEZ djosQ lsY;qyksl tSUFksV izkIr fd;k tkrk gS lsY;qyksl tSUFksV dks dkfLVd lksMk foy;u esa ?kkskyk tkrk gS xk<+s foy;u dks ruq IYÝ;qfjd vEy (Dil $H_2SO_4$) esa Mwcs fLiujsV ls xqtkjrs gSa ftlls irys o dBksaj js'ks izkIr gksrs gSaA 4- (i) VsV$^a$kÝyksjks ,Fkhu ($CF_2$ $= CF_2)_n$– VsÝykWu] bldk mi;ksx crZuksa dks fpifpik jfgr cukus esa rFkk mPp vko`fr okys fctyh osQ rkjksa ij vkoj.k p<+kus esa fd;k tkrk gSA (ii) ikWyh foukby DyksjkbM (PVC)µ ;g ,d dBksaj IykfLVd gS ftldk mi;ksx jsudksVsa] gkfk osQ cSx rFkk f[kykSus cukus esa fd;k tkrk gS **(p)** 1- (iv) 2- (iii) 3- (ii) 4- (i) 5- (v)

**roZQ laca/h% 1-** D;ksafd ;g dBksaj] l[r rFkk mPp xyukad

okyk inkFkZ gSA ;s ekSle osQ izfrjks/h gSA **2-** D;ksafd blesa mPp n`<+rk] ?k"kZ.k izfrjks/drk rFkk lquE;rk dk xq.k ik;k tkrk gSA **3-** D;ksafd IykfLVd ,d vtSofoEuhdj.k inkFkZ gS rFkk blesa VkWfDlu tSls& iQkgkksV] ch-ih-,-]- rFkk yks fjVkjMSUV gksrs gSaA

4- fofHkUu izdkj osQ inkFkZ rFkk mudh vfHkfÝ;k,¡

**(d)** 1- (c) 2- (;) 3- (v) 4- (I) 5- (n) **([k)** 1- ueh 2- ykSg] vykSg 3- fuf"Ø; 4- ikjs 5- vkWDlhtu] ty 6- e`nqrk 7- 5000 8- /kfRod **(x)** 1- ik¡p 2- 24 oSQjsV 3- $Fe_2O_3$ 4- ftad vkWDlkbM ZnO 5- gkbMªkstu 6- izÑfr esa eqDr voLFkk esa ikbZ tkus okyh /krq,¡] tSlsµ Ag, Au, Pt 7- rsy] xzhl] isaV] ;'knysiu rFkk fo|qr ysiu osQ mi;ksx ls 8- fo|qr fØ;k }kjk /kkrqvksa ij taxjksa/h /krq dk ysiuA

**(?k)** 1- IfØ; /krq u, rÙoksa dk fuekZ.k djrh gSaA tks vyx&vyx mn~ns';ksa esa iz;ksx fd, tkrs gSaA 2- feJ /krq vius /krqvksa ls vf/d dBksaj gksrh gS rFkk /krqvksa dh vis{kk feJ/krq dk xyukad de gksrk gSA 3- vkWDlhtu] ty rFkk vU; jlk;uksa }kjk /krq dh lrg dk ijr osQ :i esa mrjdj u"V gksukA rsy] xzhl isaV vkfn dk mi;ksx

djosQ bls jksdk tk ldrk gSA 4-
oSQjsV osQ :i esa] 24 oSQjsV
dk lksuk lcls 'kq¼ gksrk gSA
5-/krqvksa dh rU;rk gS] /krq pednkj
gksrh gS] /krqvksa dh rU;rk
vf/d gksrh gSA v/krqµBksl] nzo
vFkok xSlh; voLFkk esa ik,
tkrs gSa] Hkn~ns gksrs gSa]
Å"ek osQ oqQpkyd gksrs gSa]
u rks v?kkro/Zuh; gksrs gSa
vkSj u gh rU;] ?kuRo de gksrk
gSA

**roZQ laca/h% 1-** lrg ij isaV
djosQ rFkk rsy ;k xzhl dk
mi;ksx djosQA **2-** gkbMªkstu
**3-** v/krqvksa dh izÑfr ½.k
fo|qrh gksrh gSA v/krqvksa
esa bysDVªksUk ca/s gksrs
gSa mUgsa vktknh ls
LFkkukarfjr gksus dh vuqefr
ugha gSA

5- dks;ys dk ngu

**(d)** 1- (I) 2- (c) 3- (c) 4- (I) 5-
(I) **([k)** 1- dks;yk 2- iRFkj dk
dks;yk 3- VsVªkbFkkby ySM
4- vkUrfjd
5- iksVk'k] lYiQj 6- pVdukj
**(x)** 1- lR; 2- vlR; 3- lR; 4- lR;
5- vlR; 6- vlR;
**(?k)** 1- 25000&33000 2- 400°C
ls Åij 3- ihyk vFkok isaQu
i Q k W L i Q k s j l
4- vkWDlhtuA 5- dkcZfud o
gkbMªkstu osQ ;kSfxd 6-
bFkkby ejksaQIVe 7- og rki ftl ij

dksbZ inkFkZ ok;q dh mifLFkfr
esa tyus yxrk gSA 8- b±/u]
vkWDlhtu] Å"ekA

**(Ä)** 1- dks;yk] dkcZu rFkk
blosQ ;kSfxd gkbMªkstu o
vkWDlhtu osQ ;kSfxd ls cuk
feJ.k gSA 2- izHkkth vklou ,d
yEcs LrEHk esa gksrk gSA
fofHkUu izHkktksa dk DoFku
fHkUu&fHkUu rki ij gksrk gSA
3- foLiQksVu] Lor% ngu] rhoz
ngu] ean ngu 4- og {ks=k gS
tgk¡ xSlh; inkFkks± dk ngu
gksrk gSA Hkkhrjh xgjk {ks=k]
iznhlr {ks=k] vnhlr {ks=k 5-
lksMk vEy osQ lkFk fØ;k
djosQ $CO_2$ mRiUu djrk gSA $CO_2$
osQ nkc osQ dkj.k $CO_2$ rFkk ty
dk feJ.k ckgj fudy vkrk gS vkSj
vkx cq> tkrh gSA iQkse mRiUu
djus osQ fy, lSiksfuu feykbZ
tkrh gSA

**(p)** 1- (ii) 2- (iv) 3- (i) 4- (iii)
**roZQ laca/h% 1-** D;ksafd ;s
500 fefy;u lky igys osQ thoksa
osQ vo'ks"kksa ls feydj cuk
gSA **2-** C.N.G. cgqr iqjkus
ikS/ksa rFkk tuojksa osQ
vo'ks"kksa osQ fo?kVu ls curh
gSA **3-** D;ksafd isVªksy cukus
osQ fy, ;k[kksa lky iqjkus
tho&tUrqvksa osQ vo'ks"kksa
dh vko';drk gksrh gSA **4-** ugha]
D;ksafd tyrh gqbZ eksecRrh
dks ngu osQ fy, vkWDlhtu dh
vko';drk gksrh gSA ngu esa] ,d
b±/u rFkk vkWDlhtu dh

vko';drk gksrh gSA vkWDWDlhtu osQ fcuk ngu dh fØ;k laHko ugha gSA **5-** lh-,u-th- isVªaksy ls mRre gS D;ksafd blesa cgqr de ueh gksrh gSA ,d gh le; esa ;g lcls lLrk b±/u vkSj ifjogu osQ fy, vklku gSA

6- laj{k.k D;ksa\

**(d)** 1- (v) 2- (n) 3- (n) 4- (c) 5- (l) **([k)** mRrjk[k.M 2- tkuoj 3- ikS/s] tUrq] lw{etho 4- yky vk¡dM+ksa dh fdrkc 5- oujksi.k 6- fxj] xqtjkrA **(x)** 1- i;kZoj.k dk cpko 2- WCU 3- gfj;k.kk 4- ;wukbVsM us'kUl ,t bUok;jes.V izksaxzke 5- okrkoj.k dh xq.koÙkk dks cuk, j[kuk rFkk ykHkknk;d i'kqvksa o ikS/ksa dh vkus okys dky osQ fy, fujUrj mRikndrkA 6- e`nk dks lajf{kr j[kuk ,oa e`nk dh moZjdrk dks cuk, j[kukA 7- lajf{kr {ks=k esa mxus okys ikS/ksa dh lwpuk,¡A **(?k)** 1- izkÑfrd lalk/uksa dk cqf¼erk Ikls mi;ksx 2- ikni thou ouksa dk ewy lzksr gSA ou vU; izkf.k;ksa rFkk lw{ethoksa dks Hkh lgkjk iznku djrs gSaA 3- foyqIrµos iztkfr;k¡ tks u"V o foyqIr gks xbZ gSaA laadVxzLrµuqyyqZZHk ,oa foyqIrrk osQ dxkj ij [kM+h iztkfr;k¡A LFkkuhdµftudh fo'o esa la[;k cgqr de gS rFkk oqQN HkkkSxksfyd {ks=kksa esa lhfer gSa vkSj fdlh Hkh le; laadV

x z L r g ks l d r h g S a A 4- ouksa dh dVkbZ ij jksd yxkdj] fu"ksf/r i'kqvksa osQ f'kdkj ij n`<+rk ls ikyu] tarqvksa dh [kky rFkk gkFkh nk¡r dh xSj dkuwuh rLdjh jksddj 5- izkÑfrd larq;u fcxM++ tk,xk rFkk i`Foh ij thou ugha jgsxkA 6- ouksaUewyu] vfrpkj.k] ,d gh izdkj dh iQly dk cksuk] tSo fofo/rk dk fo"kkkDr gksukA

**roZQ laca/h%** 1- ;g lHkh thfor thoksa osQ chp vlarqyu dk dkj.k gksxk ftldk lh/k izHkko izÑfr ij iM+sxkA **2-** D;ksafd blosQ nks dkj.k gS% (i) oqQN if{k;ksa osQ ukfldk fNnzksa esa eSXusVkbM gksrk gS tks mUgsa i`Foh osQ pqEcdh; {ks=k osQ mi;ksx ls ekxZfunsZ'ku djrk gSA (ii) oqQN i{kh ekxZ& funsZ'ku osQ fy, lw;Z rFkk rkjksa dh fLFkfr dk mi;ksx djrs gSaA

7- dksf'kdk

**(d)** 1- (l) 2- (c) 3- (c) 4- (l) 5- (v) 6- (l) **([k)** 1- ikni 2- lcls cM+h 3- xq.klw=kksa 4- vkdkj 5- jkbcksslkse 6- osQUnzd **(x)** 1- IR; 2- vlR; 3- vlR; 4- vlR; 5- vlR; 6- IR;A **(?k)** 1- jkWcVZ gqd 2- Mh vkWDlhjkbcksksU;qµ fDyd ,fIM 3- vaMkdkj 4-

lsUVªkslkse] ykblkslkseA 5- thou dh lajpukRed rFkk fØ;kRed bdkbZ 6- dksf'kdk dh lqj{kk djuk 7- bldk dk;Z 'olu fØ;k osQ nkSjku ÅtkZ dk mRiknuA **(Ä)** 1- ;g 'olu osQ nkSjku ÅtkZ dk mRiknu djrk gSA 2- ikni dksf'kdkµ DyksjksIykLV mifLFkr gksrk gS] o.k±d mifLFkr gksrk gSA lsUVªkslkse vuqifLFkr gksrk gSA tUrq dksf'kdkµDyksjksIykLV vuqifLFkr gksrk gS] o.k±d vuqifLFkr gksrk gS] NksVs vkdkj dh dbZ fjfDrdk,¡ ikbZ tkrh gSaA 3- ekbVksdkWfM.Mª;kµ ÅtkZ mRiknuA vUr% æO; tkfydkµtSfod dk;ks± dks ifjw.kZ gksus osQ fy, lrg iznku djrh gSA jkbckslkseµizksVhu la'ys"k.k esa lgk;d gksrh gSaA 4- DyksjksIykLVµizdk'k la'ys"k.k esa lgk;d] ØseksIyseµthUl }kjk iSr`d xq.k vFkok vuqokaf'kd xq.k mudh larfr esa igqq¡pkrs gSaA **(p)** 1- (i) 2- (v) 3- (iv) 4- (vi) 5- (vii) 6- (iii) 7- (ii)

**roZQ laca/h% 1-** Lo;a dhft,A **2-** Lo;a dhft,A 3- Lo;a dhft,A 8- tUrq ,oa ikS/ksa esa iztuu **(d)** 1- (c) 2- (I) 3- (n) 4- (I) **([k)** 1- ;qXed 2- ;qXeut 3- ijkxdks'k] ofrZdkxz 4- iztuu 5- ;qXeut] x H k k Z ' k ; 6- fo[k.Mu 7- vySafxd 8- o`f".k.k

9- ySafxd 10- iaqosQlj **(x)** 1- IR; 2- IR; 3- IR; 4- vIR; 5- vIR; 6- IR; 7- IR; 8- vIR;

**(?k)** 1- tudksa }kjk 2- gkbMªk] ;hLV] ew¡xk rFkk Liat 3- fu"kspu 4- nks 5- vaoqkQj.kA 6- tudksa }kjk thoksa dh mRifÙk dk izØe 7- flrkjk eNyh] fNidyh 8- ijkxd.kksa osQ ijkxdks'k ls ofrZdkxz rd igq¡pus dh izfØ;k 9- ,d 'kqØØ.kq rFkk ,d v.Mdksf'kdk dh ijLij fØ;k ls u, tho/kjh dh izØe dksf'kdk dk cuukA

**(Ä)** 1- o`".k.k] 'kqØokfgdk] vf/o`".k.k] f'k'u 2- uj ;qXed ijkxdks'kksa esa mRiUu gksrs gSa] tcfd eknk ;qXed vaMk'k; esa curs gSaA vaMk'k; esa ,d ;k vf/d chtkaM gksrs gSaA os eknk ;qXed gksrs gSaA uj ;qXed ,oa eknk ;qXed dh ijLij ls iztuu gksrk gSA 3- f}[k.Mu] eqoqqQyu] chtk.kq tuku] iqu#Riknu] ouLifrd izo/Zu] lafoHktu 4- vkUrfjd fu"kspu eknk osQ 'kjhj esa gksrk gS] tcfd ckg~; fu"kspu eknk 'kjhj osQ ckgj gksrk gSA **(p)** 1- (iii) 2- (ii) 3- (v) 4- (i) 5- (iv)

**roZQ laca/h% 1-** ugha] D;ksafd vo:¼ v.Mokfguh esa v.Mk fu"ksfpr ugha fd;k tk ldrk gSA ;fn v.Mk rhu fnu osQ vUnj fu"ksfpr ugha gksrk rks ;g e`r gks tkrk tkrk gSA **2-** D;ksafd

ySafxd iztuu esa] lUrku iSnk djus osQ fy, ekrk&firk nksuksa dh vko';drk gksrh gSA cSDVhfj;k ,ddksf'kdh; tho gSA

**3-** VsMikWy yEcs le; rd thfor ugha jg ik;sxk D;ksafd vk;ksMhu ;qDr ty muosQ fodkl ,oa thfor jgus osQ fy, mi;qDr ugha gSA

<u>9- cy dh /kj.kk</u>

**(d)** 1- (c) 2- (l) 3- (l) 4- (v) 5- (l) **([k)** 1- [khapuk 2- U;wVu 3- foijhr 4- tSfod 5- xq#Ro cy 6- cy 7- ;kaf=kd **(x)** 1- vlR; 2- vlR; 3- vlR; 4- vlR; 5- vlR; 6- lR; 7- lR;

**(?k)** 1- [khapuk ;k /osQyuk 2- ;kaf=kd cy 3- pqEcd 4- Mkbu 5- tc dksbZ oLrq lrg ls jxM+ [kkrh gqbZ xfr djrh gSA 6- tks fdlh inkFkZ ij izR;{kr% ;k oqQN Li'kZdksa }kjk yxrk gSA 7- lkekU; :i ls cy dh ekid bdkbZ dks fdyksxzke cy dgrs gSAA 8- igys og /hek gksrk gS mlosQ ckn og #d tkrk gSA

**(Ä)** 1- nzO;eku ;qDr oLrq tc vkd"kZ.k cy osQ mRiUu djrh gS rks mls xq#Ro cy ls dgrs gSaA fdlh oLrq ij yxk xq#Ro cy ml oLrq dk Hkkj gSA 2- (v) Li'khZ; cyµfdlh inkFkZ ij izR;{kr% ;k oqQN Li'kZdksa }kjk yxus okyk cyA (c) vLi'khZ; cyµfdlh oLrq ls izR;{kr% lEioZQ u dj LFkkuksa osQ }kjk fcuk Li'kZd osQ fØ;k'khy gksrk gSA 3-

ok;q cy dks ;kfU=kd cy esa cny dj 4- njokts dk [kksyuk] xkM+h dks /Ddk yxkuk 5- (v) is'kh; cyµ?kkl ykod /osQyuk] fjD'kk [khapukA (c) ;kaf=kd cyµiSVªaksy batu] Hkkki dk batuA (l) xq#Ro cyµi`Foh dk fdlh oLrq dks viuh vksj [khapukA (n) ?k"kZ.k cyµlkbfdy pykuk] xsan dk yq<+dukA

**roZQ laca/h% 1-** ok;qeaMyh; nkc osQ dkj.k O;fDr LVªªkWkikbi dk mi;ksx djosQ twl ihus esa l{ke gSA ;g rHkh laHko gS tc ge twl dks vius eq¡g dh vksj [khaprs gSaA **2-** D;ksafd jsfxLrku esa pyuk fcYoqQy Hkh vklku ugha gSA gesa ,d fuf'pr pky ls pyus osQ fy, is'kh; cy dh vko';drk gksrh gSA **3-** ge Bhd izdkj ls lk¡l ugha ys ik,saxsA vr% ge yach lk¡ls ysaxs ,oa ifj.kkeLo:i ge ej tk,¡xsA

<u>10- ?k"kZ.k</u>

(d) 1- (v) 2- (c) 3- (n) 4- (l) 5- (n) 6- (c) 7- (n) 8- (l)

([k) 1- xfr 2- /kjkjsf[kr 3- pØh; 4- Lusgdksa (fpdus inkFkZ) 5- c<+rh 6- ?k"kZ.k 7- bLikr 8- ?k"kZ.k **(x)** 1- vlR; 2- lR; 3- vlR; 4- vlR; 5- vlR; 6- vlR; 7- lR; 8- lR; **(?k)** 1- rhu 2- bLikr dh 3- csfjax dkA 4- nks lrgksa osQ chp vojks/ ,oa ikjLifjd xfrA 5- tks ,d nwljs dh lrg ls fiQlyus

esa vojks/ mRiUu djrk gSA 6-
?k"kZ.k c<+kus osQ fy, 7- ok;q
esa rhoz ?k"kZ.k mRiUu
gksus osQ dkj.k 8- lrg dk
[kqjnjk o fpdukiu] oLrq dk
HkkjA **(Ä)** 1- LFkSfrd ?k"kZ.k]
lhekar ?k"kZ.k] xfrt ?k"kZ.k]
pØh; ?k"kZ.k 2- fcuk ?k"kZ.k
inkFkZ est osQ fdukjs vk ldrk
gS] fcuk ?k"kZ.k osQ oqQlhZ ij
cSBus esa dfBukbZ gks ldrh
gS] dkj ;k Vªsu pyrh gSaA 3-
pØh; ?k"kZ.kµnks lrgksa osQ
chp ,d osQ Åij nwljk pyrk gSA
xfrt ?k"kZ.kµleku xfr osQ lkFk
nks lrgksa ij yxus okyk cyA
4- Lusgdµe'khuksa esa
Lusgdksa dk iz;ksx ?k"kZ.k de
djus osQ fy, fd;k tkrk gSA lkcqu
foy;uµrhoz dkVus ,oa ihlus
okyh e'khuksa esa ?k"kZ.k de
djus osQ fy, fd;k tkrk gSA    5-
vuSfPNd 'kksj mRiUu gksrk
gS] e'khuksa esa VwV&iwoQV
gksrh gS] de rsy esa pyus osQ
dkj.k LowQVj osQ fiLVu xeZ
gksdj tke gks tkrs gSaA
6- lrg dks [kqjnjk cukdj] 'kq"d
lrgksa osQ iz;ksx ls] Hkkj esa
o`f¼ djosQA

**(p)**  1- (ii) 2- (iii) 3- (i) 4- (v) 5-
(iv)

**roZQ laca/h% 1-** D;ksafd lihZ
?k"kZ.k esa laioZQ {ks=k
jksfyax ?k"kZ.k dh rqyuk esa
vf/d gksrk gSA **2-** Hkkjh vlery
Vk;jksa dk bLrseky fd;k tkrk gS

D;ksafd foo`Qfr cgqr NksVh
cukbZ tkrh gS vkSj blfy,,
jksfyax ?k"kZ.k de gks tkrk
gSA **3-** ge twrksa ,oa Hkwfe
osQ chp esa ?k"kZ.k osQ
vHkko esa py ugha ldrs gSaA
tc ge pyrs gSa rks ge Hkwfe
dks frjNs :i esa /osQyrs gSa
vkSj ?k"kZ.k cy foijhr fn'kk esa
yxrk gSA iSj osQ ?k"kZ.k cy
osQ izfrfØ;kLo:i ge vkxs dh
vksj py ikrs gSaA **4-** ?k"kZ.k
dks fuEu :i ls de fd;k tk ldrk
gS% Lusgdksa osQ iz;ksx
}kjk] ikWfy'k osQ }jkk rFkk
lkcqu foy;u osQ }jkA ?k"kZ.k
dks fuEu :i ls c<+k;k tk ldrk
gS% 'kq"d lrgksa osQ iz;ksx ls]
lrg dks [kqjnjk cukdj rFkk Hkkj
esa o`f¼ djosQA

## 11- nkc

**(d)**   1- (l) 2- (c) 3- (c) 4- (v) 5-
(v) 6- (l) 7- (l) **([k)** 1- nkc 2-
c<+rk 3- nkcekih 4- nkc 5-
cSjksehVj 6- U;wVu 7- rjy 8-
Bksl

**(x)**  1- nkc = cy@{ks=kiQy
2- U;wVu@ehVj$^2$ 3-
bokuxsfyLVk VkWfjlsyh
4- izfr bdkbZ {ks=kiQy ij yxk;k
x;k cyA

5- nkcekih osQ }jkk 6- ekSle
osQ iwokZuqekku esaA
**(?k)** 1- D;ksafd ;s dkVus okyh
oLrqvksa osQ de {ks=kiQy ls
laioZQ dj vR;f/d nkc c<+krs
gSaA 2- 1500 ikLdy 3- ,d

xksykdkj Vhu dk ik=k ysdj mlesa NksVs&NksVs fNnz dhft, rFkk mlesa ikuh Hkfj,] ikuh lHkh fNnzksa ls ,d nkc ls fudyrk gSA 4- iSu dh bad ok;qnkc osQ dkj.k fjlus yxrh gSA 5- rhoz ok;q eaMyh; nkc osQ dkj.kA **(Ä)** 1 - ( iii ) 2 - ( iv ) 3- ( i ) 4- ( ii )

**roZQ laca/h%** 1- mQ¡pkbZ ij ok;qnkc de gksrk gS D;ksafd ogk¡ ok;q osQ v.kq fupys Lrj dh vis{kk de gksrs gSaA 2- rjy inkFkZ lHkh fn'kkvksa esa nkc Mkyrs gSa& mQij] uhps vkSj xgjkbZ osQ ik'ks± esaA ;g n'kkZrk gS fd nzo nkc xgjkbZ osQ lkFk c<+rk gSA 3- ok;q e.Myh; nkc dh gekjs 'kjhj osQ

vUnj osQ nkc osQ leku gks tkrk gSa blfy, nksuksa nkc larqfyr gks tkrs gSa vkSj ge ij dksbZ izHkkko ugha iM+rkA

12- èofu

**(d)** 1- (c) 2- (c) 3- (l) 4- (n) 5- (l) 6- (c) 7- (n) 8- (v)

**([k)** 1- dEiu 2- fuokZr 3- vko`fÙk

4 gV~Zt 5- vof/ 6- nksyu dh vko`fÙk

7- Lofj=k 8- èofu 9- dEiu 10- e`nq

**(x)** 1- lR; 2- lR; 3- lR; 4- vlR; 5- lR; 6- vlR; 7- lR; 8- lR;

**(?k)** 1- U vkdkj tSlk 2- dEiu 3- inkFkZ 4- 20 gVZt 5- oLrq dh lhek osQ eè; xfr djuk 6- ,d lsd.M esa fd, x, nksyu dh la[;k