

छत्तीसगढ़ माध्यमिक शिक्षा मण्डल, रायपुर



j | k; u

d { k k x | o h a

|||

i z u c b d

1/0 | k f p r b d k b 1/2

NÜkhl x<+ek/; fed f'k{k k e.My] jk; i j

# vkedk

jk"Vh; i kB; p; kZ dh : i js[kk 2005 eaftu fpUrkvka dk mYys[k fd; k x; k gSml dsrkjrE; eain'sk dsgkbZLdny , oagk; j l dsMjh eav/; ; u djusokysfo | kFFkz ka ds l aak eafopkj djus , oa mudh l eL; kvka dk l ek/kku djus graq NRRhl x<+ek/; fed f'k{kk e.My iz Ru'khy g\$ rkd 'k\$kf.kd y{; ka dh i kflr gks l ds , oa f'k{kk dh xqkoRrk ea l qkkj gks l da


ijh{kkvka ds l e; fo | kFFkz ka ds eu eafpUrK , oa Hk; mRiUu gsrk gSfd ijh{kk ds h gksch\ ijh{kk eafdl idkj izu i Ns tk; a\$ dks l k izu ijh{kk dsfy, egROIwKz gks l drsg\$ bl graq foxr o"kk\$ ea e.My iz kl jr jgk g\$ fo"K; okj ekMy izu i = dks vc NRRhl x<+ek/; fed f'k{kk e.My ds ekU; rk i klr fo | ky; ka ea Hkstus ds l kFk&l kFk mUga e.My ds os l kbV ea ykM fd; k tk; xkA ijh{kk ds Hk; , oaruko l seDr j [kus dsfy, e.My }kjk gkbZLdny , oagk; j l dsMjh ds fo | kFFkz ka ds fy, fo"K; okj d{kk 9oha l s 12ohard izu cid r\$ kj fd; k x; k g\$ izu cid ea ijEijxR izuka ds vrfjDr uohu izuka dk l eko\$K fd; k x; k g\$ izu cid bdkbdkj , oae.My dh ijh{kk ; kstuk ds vuq kj r\$ kj fd; k x; k g\$ ftl l s vPNs vad i klr djus ds l kFk&l kFk ijh{kkfFkz ka ea fo"K; ds ifr : fp mRiUu gkschA

izu cid ds vHkko eaf'k{kdk\$ i kf'udka vK\$ fo | kFFkz ka dks i kB; i qrd ds vUr eafn; s x, ijEijxR izuka ij fuHk\$ jguk i M\$K g\$ bl l sfo"K; dk eW; ka du 0; fDrijd (Subjective) gks tkrk g\$ rFk fofHkUu 'k\$kf.kd mI\$; ka ds vk/kkj ij eW; ka du ugha gsrk g\$ bl h vko'; drk dks /; ku ea j [krs gq e.My us gkbZLdny 1/9oh\$ 10oh\$ rFk gk; j l dsMjh 1/11oh\$ 12oh\$ ds l Hkh fo"K; ds izu cid dk fuekZk fd; k g\$ bl izu cid l s f'k{kdk\$ , oa fo | kFFkz ka ea fur uohu izuka ds fuekZk dh vHk: fp mRiUu gkschA

izu cid ea fo"K; dh mi yC/k 'k\$kd l kexh dks 'kkfey fd; k x; k g\$ bl ea uohu ek\$yd izuka dK\$ fo"K; oLr\$ f'k{k.k dsmI\$; ] dfBukbZLrj vK\$ vadu dh xqkoRrk ds vuq kj l q afBr djdsj [kk x; k g\$ izu cid ea e.My dh ijh{kk ; kstuk ds vuq kj vfry?kq\$Ukjh; ] y?kq\$Ukjh; , oa nh?k\$Ukjh; izuka dk l eko\$K fd; k x; k g\$ ifr; ksch ijh{kk dsfy, vH; kl graqoLr\$u"B izuka dk Hkh l eko\$K izu cid eafd; k x; k g\$ ftl l s ifr; ksch ijh{kkvka ds vH; kl ea l gk; rk feyschA ifrfnu] ifr l l rkg] ifrekg vK\$ ifro"Kz uohu izuka ds ckjs ea fo | kFFkz k\$ f'k{kdk\$ i kf'udk\$ ijh{kdk\$ vK\$ l keU; tu l sfo"K; okj e.My uohu izuka dks vkef=r fd; k tkoskA vki ds }kjk i\$kr fo"K; okj uohu izuka dks tkM\$elj ifro"Kz izu cid dk l a kskku e.My }kjk fd; k tkosk] ftl l s izu cid vf/kd ifjiwKz vK\$ vk/k\$udre gks\$ jg\$

ep\$svk'kk gSfd e.My }kjk tkjh izu cid fo | kFFkz k\$ f'k{kdk\$ i kf'udka , oa ijh{kdk\$ dsfy, mi; ksch fl ) gkschA

'k\$kdkeukvka l fgr---

  
1/15 feat 1/2  
vkbz, -, l -

I fpo

N-x- ek/; fed f'k{kk e.My] jk; ij

# bdkbZ 01

## jLkk\_kUk dh dN EkYk vOk/kkj .kk, a , OkEk~ Ikj Ekk.kq Lkj PkUkk

### vFRkYk?kqRRkj h\_k Ikz Uk

02 vød

- Ikz1 Ikj Ekk.kq Lkj PkUkk D\_kk gS mnkgj.k nslj LkEkÖkkb\_kk
- Ikz2— æO\_kEkKUK Lkq\_kk , Oka Ikj Ekk.kq Lkq\_kk D\_kk gS
- Ikz3— d{k , Oka d{k dka Eka vBkj fYkf[k, \
- Ikz4— LkELFkkfUkd RkFkk LkEHkfjd D\_kk gS
- Ikz5- PkØ.k Dokkà/e Lkq\_kk D\_kk gS
- Ikz6- U\_kw/RUK dh [kkT'k fdLkUks dh \
- Ikz7- Yk&/ks'M dk Ikz\_kkKk jkLkk\_kfUkd Lkq\_kkKk ds fdLk fUk\_kEk dh Ikq'V djRkk gS
- Ikz8- Xkq.kRk vUkqkkRk dk fUk\_kEk fdLk Ikz\_kj ds\_kkSkdka Eka YkkXkwUkgha fd\_kk Tkk LkdRkk gS
- Ikz9- fLFkj vUkqkkRk dk fUk\_kEk D\_kk gS
- Ikz10- Ekks'k dh IkfjHkk"kk fYkf[k\_ks \

### Yk?kqñÜkj h\_k Ikz u

03 vød

- Ikz1- Ikj Ekk.kq ds Ekks'Ykd d.kka ds UkkEk fYkf[k, \
- Ikz2- Ikzdk'k dh }Bkh IkzÑfRk (Dual Nature) IkzÑfRk dks LkEkÖkkb\_kk
- Ikz3- jnjQk&MZ ds Ikj Ekk.kq Ekks'MYk ds nks'kka dks fYkf[k, \
- Ikz4- vknDokkÅ dk fLk) kBk fYkf[k\_ks \
- Ikz5- <sup>24</sup>Cr vkSj <sup>29</sup>Cu ds bYkDvRfUkd foku\_kkLk fYkf[k, \

### Yk?kqñÜkj h\_k iz u

04 vød

- Ikz1- Dokkà/e Lkq\_kk\_ka fdRkUks Ikz\_kj dh gkRkh gS Ikr\_ksd dh O\_kk\_kk dhfTk, \
- Ikz2- ckEkj Lkwk D\_kk gS \_kg gkbMRS'kuk LIkDVEk dh fdLk Ikz\_kj O\_kk\_kk djRkk gS LkEkÖkkb\_kk

- lkz3- Ckxj ds fLk) kxk ds vk/kkj lkj bYkDVfUk dh ÅTkkz ds fyk, O<sub>3</sub> kãkd O<sub>3</sub> kãkiké dhfTk, \
- lkz4- lkmYkh dk vIkOTkzk fLk) kxk , Oka EkgRok fykf [k, \
- lkz5- vkfCkx/Yk fdRkUks lkxkj ds gkRks g\$ Ok. kzk dhfTk, \
- lkz6- fM&CkxkYkh LkEkhdj .k ds fyk, O<sub>3</sub> kãkd O<sub>3</sub> kãkikUk dhfTk, \

**nh?kzRRkj,h,k i z u**

05 vrd

- lkz1- Ekkyk RkFkk , OkkxkS/ks Lkq<sub>3</sub>kk D<sub>3</sub>kk g\$ Ekkyk LkxYfUk ds vk/kkj lkj lkj Ekk. kq æO<sub>3</sub> kEkkUk RkFkk vkf. Okd æO<sub>3</sub> kEkkUk dh O<sub>3</sub>kk [k dhfTk, \
- lkz2- (i) 2-6 XkEk EkxUkhf' k<sub>3</sub>kek dkCkxkS/ dks lkxkz : lk Lks fokYkxk djUks ds fyk, fdRkUks XkEk I Yq; fjd vEydh vkOk' ,kdRkk glxkh\
- (ii) 25 XkEk CaCO<sub>3</sub> dks XkEkZ djUks lkj lktRk CaO dh Ekkxk KkRk dhfTk, \ (Ca 40 a.m.u., O = 16 a.m.u., C = 12 a.m.u.)
- lkz3- Rkjxk vk<sub>3</sub>kek RkFkk vkOkfUk dh lkjHkk"kk, a fyk [kdj bukEka Lkxk LfkkfRk dhfTk, \
- lkz4- ggM dk vf/kdRkEk CgYkdRkk dk fuk<sub>3</sub>kek fykf [k, RkFkk mnkgj .k }kjk LkEkÖkkb<sub>3</sub>ks
- lkz5- , bkkM/ fdj .kka dh fok' kSRkk, a fykf [k, A fLk) dhfTk, fd lks/kUk LkHkh lkj Ekk. kq/ka Eka lkk<sub>3</sub>kk TkUks Okkyk EkYkHk d.k g\$
- 6- ,d dkCkZUkd<sub>3</sub> kxk dka Eka dkCkZUk 61 lkrk'krk vj gkbMkS'kUk 11-88 lkrk'krk g\$ ,kfn<sub>3</sub> kxk dka Okk"lk ?kURok 59 g\$ Rkks mLkd EkYkkUkkRkh Lkuk , Oka v. kq<sub>3</sub>kek KkRk dhfTk, \

**bdkbz 02**

**RkRokka dk OkxkZdj .k , Oka Xkqk/kEkkz Eka vkOkfRkRk**

**vfRk Yk?kqRRkj,h,k**

lkz Uk 2 vrd

- 1- vk/kqUkd vkOkRkZ fuk<sub>3</sub>kek fykf [k, A
- 2- {kkj /kkRkqj vkOkRk Lkkj .kh Eka fdLk OkxkZ Eka j [kh Xkbz g\$
- 3- Nks/s CkPPks nkrk vkUks dh mEkz Eka dksk dksk Lks {kkjh<sub>3</sub> Ekink /kkRkq [kkRks g\$
- 4- bYkDVfUkd fok<sub>3</sub>kkLk fykf [k<sub>3</sub>ks- Na<sub>11</sub>, Cr<sub>24</sub>, Ar<sub>18</sub>, He<sub>2</sub>

- 5- Ikkkj, kj, sUk, kEk RkRok fdLks dgRks gS fykf[k, A
- 6- fdUgh nks LkØEk. k RkRok dk UkkEk fyk[kdj mukds , d-, d vUkqkzkkk fykf[k, \
- 7- fvVUksk Lks CkPkKok ds fyk, Tkks bākd'kuk IkzkdRk gkRkk gS Okg fdLk /kkRkq dk vkDLkkbM gS. fykf[k, \
- 8- , d RkRok dk IkkEkk. kq ØEkkad fdrkUkk gkRkk fd mLkds vāRkEk d{k dk bYkØVnUkd fokU, kklk  $3s^2, 2p^6$  gkRkk\ UkkEk , Oka Lkwk fyk[kdj Ikwkz bYkØVnUkd fokU, kklk fykf[k, A
- 9- Ikkjj{k. k dks js[kkfPk«k }kjk LIk"V dhfTk, A
- 10- , d RkRok dk IkkEkk. kq Lkq, kk 21 gS, kg fdLk OkXkZ dk RkRok gkRkk\ LkādRk , Oka bYkØVnUk fokRkj. k dks fykf[k, A

**Yk?kqnrRkj, k Ikz Uk**

vā 3

1. bYkØVnUk Xkzj. k , UFkSYkh fdLks dgRks gS bLkdkls IkākkfōRk djUks OkYks nks dkjd fykf[k, A
- 2- vk/kqUkd vkōRkz Lkkj. kh dh dkbz RkhUk fok'kSkRkk, j fykf[k, A
- 3- LkkEkkU, k RkRok fdLks dgRks gS vkōRkz RkkfykdK Eka mukdh fLFkFRk ds vk/kkj Ikk LkEkōkkb, kS
- 4- vfØ, k XkS, kka dh IkkEkk. kq f«kT, kk vf/kd gkRkh gS D, kka
- 5- RkRkh, k , Oka PkRkqkz {kkj /kkRkq dk UkkEk vks IkkEkk. kq ØEkkad fykf[k, A
- 6- RkRokka ds OkXkhdj. k ds fyk, IkkEkk. kq ØEkkad IkkEkk. kq Hkkj dh Rkq'kUkk Eka vf/kd vPNk vk/kkj gS dFkUk dk vUkqkzkkk dhfTk, A
- 7- vk/kqUkd vkōRkz Lkkj. kh dk js[kkfPk«k CkUkkdj fUkEu RkRokka dks LFkkUk nhfTk, \ H, Ar, Cr, Fe, I Ce.
- 8- Lkq{kIRk fvIk. kh fykf[k, -
- 1- LkØEk. k RkRok , Oka mukds vfHkyk{kf. kd Xkq k A
- 2- fokd. kz Lkākd A
- 9- UkkbVksT'kuk dh vk, kUkUk ĀTkz vkDLkhtUk dh vk, kuUk ĀTkz Lks vf/kd gkRkh gS.

**Yk?kq mRRkj h,k Ikz Uk**

vø 4-

- Ikz Uk 1- EksMYkhQ ds vkOKRk Lkkj .kh ds dkbz Pkkj nkšk fykf[k, A
- Ikz Uk 2- RkROkka dk OkXkhZdj .k vkOk' ,kd , Oka mlk ,kkškh gš dFKuk dks LIK"V dhfTk, A
- Ikz Uk 3- s, p, d. f CkYkkWdj RkROkka ds LkkEkkU ,k Xkqk fykf[k, A
- Ikz Uk 4- Mg , Oka AI Eka IkFEkE vk ,kukuk ÅTkkz fdLkdh vf/kd gS vksj D ,kkà
- Ikz Uk 5- Na<sup>+</sup> ,kk Li<sup>+</sup> Eka fdLkdk vdkj CkMk gkškk\ vksj D ,kkà
- Ikz Uk 6- p block RkROkka ds /kkfROkd RkFkk v/kkfROkd Yk{k.k dks fPk«k }kj k LkEkÖkkb ,kà
- Ikz Uk 7- RkROkka ds bYkDVWfUkd fokU ,kkLk , Oka vkOKRkz Lkkj .kh Eka Lkàkàk LFkkfIkRk dhfTk, A
- Ikz Uk 8- vkik vkOKRkz Lkkj .kh Eka vf/kd LIK"VRkk ds fyk, Lkøkkok dkj .k nðj fykf[k, A
- Ikz Uk 9 XkYkukkad , Oka DOKfUkkad dh IkfjHkk"kk fykf[k, A vkOKRkz Lkkj .kh ds RkROkka Eka LkCkLks vf/kd XkYkukkad , Oka LkCkLks dEk XkYkukkad fdLk RkROk dk gS fokLrkj I s fykf[k, A

**nh?kzmÜkj h,k Ikz u**

5 vø

- Ikz Uk 1- vk ,kukuk ÅTkkz dks LIK"V dj bLkds Rkhuk vUkkqzkkšk fykf[k, A
- Ikz Uk 2 LkàkšTkdRkk , Oka vkDLkhdj .k vOkLFkk Eka dkbz Rkhuk vRkj , Oka , d-, d mnkgj .k fykf[k, A
- Ikz Uk 3- OkmJokYlLk RkFkk LkgLkàkšTkd f«T ,kk, j D ,kk gS\ bLkdk fuk/kkj .k dšksfd ,kk TkkRkk gš
- Ikz Uk 4- fok | ðk \_\_.kkREkdRkk D ,kk gš bLkdk Ekkuk vkOKRkz Eka fdLk Ikdkj IkfjOkfRkRk gkRkk gš F, Cl, Br, I dks mlkdh Ck<Rkh gøz fok | ðk \_\_.kkREkdRkk ds ØEk Eka j [kdj dkj .k dks LIK"V dhfTk, A
- Ikz Uk 5 \_\_.k fok | ðkRkk , Oka fok | ðk Ckàkàkk Eka dkbz IkkPk vURkj fykf[k, A
- Ikz Uk 6 \_\_.k fok | ðkRkk dks Lkàdj .k fdLk IkHkkfOKRk djRkk gš LIK"V djRks gq fykf[k, A
- Ikz Uk 7 mRÑ"V Xkškka dk bYkDVWfUkd fokU ,kkLk LFkk ,kh gkšks Lks bukds vk ,kukuk fokHkOk , Oka fØ ,kk' khYkRkk Ikj D ,kk IkHkkOk IkMRkk gš fykf[k, A
- Ikz Uk 8 YkkfKj Ekškj ds IkjEkk .kq vk ,kRkuk IkjEkk .kq Hkkj OkØ dk js[kk fPk«k CkUkkdj bLkdh fok' kšRkk fykf[k, A

Ikz Uk 9 f<sub>2</sub>/k<sub>2</sub> vk?kwkz fokfHké v. k<sub>2</sub>/ka dh Lkj PKUkk fuk/kkZj Rk dj Uks Eka fdLk Ikzdkj Lkgk<sub>2</sub>kd gS FYkf[k, A

## bdkbZ 03

### j kLkk<sub>2</sub> kFUkd vkCkZkuk , Oka vkf. Okd Lkj PKUkk

**vfRkYk?kqnÜkj h<sub>2</sub> k** Ikz Uk

2 vrd

- Ikz Uk 1 j kLkk<sub>2</sub> kFUkd CkZk dh dkk<sub>2</sub>kyk RkFkk YkPZk vOk/kkj .kk FYkf[k, A
- Ikz Uk 2 BaSO<sub>4</sub> vk<sub>2</sub> kFUkd ,kkS<sub>2</sub>kd gS Ikj URkq ,kg TkYk Eka vfOkYkSk gS D<sub>2</sub> kka \
- Ikz Uk 3 , YdkgYk TkYk Eka Ikw kRk% fokYkSk' khYk gS \ D<sub>2</sub> kka \
- Ikz Uk 4 fUkEu FYkf[kRk RkROkka ds YkPZk IkRkhd FYkf[k, – Na, B, Ca, Xe.
- Ikz Uk 5- gkbMRS<sub>2</sub> kUk CkZk dh IkfjHkk"kk FYkf[k, A
- Ikz Uk 6 d{k d vfRkO<sub>2</sub> kKkUk Lks vkIk D<sub>2</sub> k LkEkÖRks gS
- Ikz Uk 7 CkKkZ – gkCkj PkØ dk , d vUk<sub>2</sub> kKk FYkf[k, A
- Ikz Uk 8 gS<sub>2</sub> k ds fUk<sub>2</sub> kEk dk , d mlk<sub>2</sub> kKk FYkf[k, A
- Ikz Uk 9 f<sub>2</sub>/k<sub>2</sub> vk?kwkz fdLks dgRks gS FYkf[k, A
- Ikz Uk 10 NO<sub>3</sub><sup>-</sup> dh vUk<sub>2</sub> kKknh Lkj PKUkk, i nhfTk, A
- Ikz Uk 11 π CkZk dk fUkEkZ k fdUk vkfCkZ/Ykka ds vfRkO<sub>2</sub> kKkUk Lks gkRk gS
- Ikz Uk 12 – BCl<sub>3</sub> dh Lkj PKUkk ds fPk«k CkUkkb, \

**Yk?kqnÜkj h<sub>2</sub> k** Ikz Uk

3 vrd

- Ikz Uk 1- TkYkd ÅTkZ dh IkfjHkk"kk FYkf[k, A LiF, CaF<sub>2</sub>, MgS vk<sub>2</sub> kFUkd fØLVYkka dh TkYkd ÅTkZ dk Ck<Rk ØEk FYkf[k, A
- Ikz Uk 2 Lkg Lk<sub>2</sub> kS<sub>2</sub> kDRk dh IkfjHkk"kk FYkf[k, A fdLk Ikzdkj ds RkROkka Eka Lkg Lk<sub>2</sub> kS<sub>2</sub> k dh CkUkkUs dh Ik<sub>2</sub> fÜk gkRk gS \ FYkf[k, A
- Ikz Uk 3- sp, sp<sup>2</sup>, sp<sup>3</sup> Lk<sub>2</sub> j .k Lks CkUs , d – , d ,kkS<sub>2</sub> kd dk mnkgj .k ndj LIk"V dhfTk, A
- Ikz Uk 4 NH<sub>3</sub> | s NH<sub>3</sub> → H<sup>\$</sup> Ikz Uk CkZk ds CkUkkUs dks LIk"V djRks gq CkZk dk UkkE FYkf[k, A

- Ikz Uk 5  $PCl_5$  CkURkk gS A fdURkq  $NCI_5$  Ukgha CkURkk gS  $D_3kka \setminus$
- Ikz Uk 6  $VFRO_3$  kklkUK dks fPk«k }Okjk Lk"V djUks ds fYk,  $H_2$  v.kq ds CkUKUs dks mnkgj .k yhfTk, A
- Ikz Uk 7 mlk–Lkg–LkqkksTkh Ckdk ds nks mlk, kkkk fYkf[k, A
- Ikz Uk 8  $vf\emptyset_k$  kqEk IkHkkOk  $D_3k$  gS\ bLk IkHkkOk ds dkj .k RkROk dk dksk Lkk Xkqk IkHkkfOkRk gkRkk gS fYkf[k, A
- Ikz Uk 9  $vf\emptyset_k$  kqEk IkHkkOk  $D_3kka$  gkRkk gS bLk IkHkkOk dks fdLk LkEkq ds RkROkka }Okjk lknf' kRk fd,kk TkkRkk gS\
- Ikz Uk 10- , d] f}] f«kCkdk dh  $f\emptyset_kk'$  khYkRkk dk  $\emptyset$ Ek  $D_3k$  gkRkk\

**Yk?kqñÜkj h, k Ikz Uk**

vd –4

- Ikz Uk 1-  $CH_4$ ,  $H_2O$  , Oka  $NH_3$  Eka  $sp^3$  Lkdj .k lkk,kk TkkRkk gS ljk Bkq RkhUkka ds Ckdkdks k ds EkkUK Eka fhkUURkk gkRkh gS dkj .k fYkf[k,
- Ikz Uk 2-  $vk_kfUkd$  , Oka LkgLkqkksTkh kksXkd Eka fUkEUkkfdrk fCkUnq,ka ds vk/kkj ljk vURkj fYkf[k, – 1- vOkLFkk 2- XkYkUkkad@DoFkukad 3- fOkYkRkk 4- fn'kkREkd lkdñFRk A
- Ikz Uk 3- f}/kqk vk/kwz ds dkbz Pkkj vUkqkzkkk fYkf[k, A
- Ikz Uk 4- Ckdkka dh Lkq,kk Eka Okf) Lks Ckdk Yk«kkbz Eka  $D_3k$  IkHkkOk lkmRkk gS LkCkLks dEk Yk«kkbz OkYks Ckdk dk lkdj , Oka mLkdk EkkUK fYkf[k, \
- Ikz Uk 5- /kqk, k RkFkk v/kqk, k LkgLkqkksTkd Ckdk Eka  $D_3k$  vBkj gS dkbz Pkkj A
- Ikz Uk 6-  $vk_kfUkd$  Ckdk ljk  $vk_kukuk$  ÅTkz bYkDVUk CkdkRkk , Oka TkkYkd ÅTkz dk  $D_3k$  IkHkkOk lkmRkk gS
- Ikz Uk 7-  $SO_2$  ds f}/kqk vk?kwz dk , d fUkf' PkRk EkkUK gS vRk% CkRkkb, fd ,kg v.kq jS[kd gkRkk vFkOk dks kh,ka
- Ikz Uk 8- dkCkUk ljk Ekk.kq ds  $sp^3$  LkdjRk d{k dks jS[kk fPk«k }jk LkEkÖkkb, kS
- Ikz Uk 9- fUkEUkkfdrk kksXkdka dh YkplLkj PKUkk nBks gq mUkEka mlk Lkg LkqkksTkdRkk n'kkb, kS  $H_3N.BF_3$ ,  $SO_2$ ,  $NO_2$

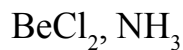


lkz Uk 1— VSEPR flk) kðk dh i kp vfHkXkfgrk, kka dks FYkf[k, A

lkz Uk 2— gkbMRS TKUK Ckak fdUk fdUk RkROkka ds Ek/,k CkURkk gS vURkj k—v.kp RkFkk var%v.kp gkbMRS TKUK Ckak ds , d mnkj .k nhfTk, A

lkz Uk 3—  $\sigma$  , Oka  $\pi$  Ckak Eka vBkj CkRkRks gq  $\sigma$  Ckak  $\pi$  Lks lkekYk D, kka gkBkk gS fyf[k; A

lkz Uk 2— Lkdj .k ds nks fUk, kEk FYkf[k, A Lkdj .k dh Lkg, kRkk Lks fUkEUK v.kp/ka dh vkÑfRk [khpK, A



lkz Uk 5— dkj .k CkRk kb, ks—

(i) HF æOk gS lkj HCl XkS.k gS

(ii) l keU; rki ij  $\text{H}_2\text{O}$  æOk gS lkj  $\text{H}_2\text{S}$  XkS.k gS

(iii) HCl l gl a kstd gks gq Hkh ty ea vk; fur voLFkk ea jgrk gS

lkz Uk 6— TKYk] vEksUk, kk Ok gkbMRS TKUK ¶Yk kj kbM ds HksSRkd Xq kka lkj gkbMRS TKUK Ckak dk D, kk lkekKOk lkmRkk gS

lkz Uk 7—  $\text{BF}_3$  v.kp dk fPk«k [khpkdj CkRk kb, ks fd fdLk lkdkj mLkdsf}/kqk vk?kwkZ dk Ekkuk 'kw, k gkBkk gS

lkz Uk 8 fUkEUK dks LkekÖk kb, ks—

1- Lkakstkh bYkDVNk fdLks dgRks gS. bLkLks lkj Ekk .kq ds Ckj s Eka D, kk TkkUkdj h feYkRkh gS

2- bYkDVNk vIkUk fufÜPkrk d{k kvka Eka gh ?kñkRks jgrks gS D, kka dkj .k 20-30 'kCnka Eka FYkf[k, \

## bdkbz -4

### j kLkk, kFUKd LkkE, k

vFRkYk?kqRRkj h, k Ikz Uk

02 vød

- 1- gblkj h dk fuk, kEk D, kk gS
- 2- D, kk dkbz mRlkj d LkkE, kOkLFkk dks IkHkkfOkRk dj LkdRkk gS
- 3- LkekZkh RkFkk fok"kekZkh Rkæk dk , d&, d mngj .k fykf[k, \
- 4- Kp RkFkk Kc Eka Lkækak LFkkfIRk dhfTk, \
- 5- mRØEk. kh, k j kLkk, kFUKd vfHkfØ, kk D, kk gS
- 6- j kLkk, kFUKd LkkE, k dks IkHkkfOkRk djUkSkYks dkj dka ds UkkEk fykf[k, \
- 7- Xk&.kh, k j kLkk, kFUKd vfHkfØ, kk lkj nkCk dk IkHkkOk fykf[k, \
- 8- æO, k vUkqkRk fØ, kk dk fuk, kEk D, kk gS

Yk?kqRRkj h, k i z u

03 vød

- 1- Ykh' ks/fyk, dk fuk, kEk mngj .k LkfgRk LkEkÖkkb, ks
- 2- OkWV gkND LkEkhdj .k dh O, kqikfÜk dhfTk, \
- 3- HkSRkd LkkE, kOkLFkk dks nks mngj .k nðj LkEkÖkkb, ks
- 4- LkkE, k dh XkFRkd IkÑFRk mngj .k nðj LkEkÖkkb, ks
- 5- LkkE, k fLFkjkd dh Lkg, kRkk Lks vEYka RkFkk {kjk dh LkkekF, kz dSks fuk/kkZjRk dh Tkk LkdRkh gS

Yk?kq mRRkj h, k

4 vød

- 1-  $N_{2(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$  vfHkfØ, kk ds fyk, Kp RkFkk Kc dh Xk. kukk dhfTk, A
- 2- HI ds LkãYk'k. k RkFkk fok, kS'kuk ds fyk, LkkE, k fLFkjkd dh Xk. kukk dhfTk, \
- 3- j kLkk, kFUKd I kE; RkFkk LkkE, k fLFkjkd dks LkEkÖkkb, ks
- 4- LkkE, kOkLFkk dks IkHkkfOkRk djUks OkkYks dkj dka dks LkEkÖkkb, ks
- 5-  $K_p = K_c(RT)^{\Delta n}$  LkEkhdj .k dh O, kqikfÜk dhfTk, \

**nh?kznRRkj h,k Ikz Uk**

05 vrd

- 1- LkE<sub>3</sub>k fLFkjkd ds vUk<sub>3</sub>kk<sub>3</sub> mngj .k ndj LkEÖkkb<sub>3</sub>ks
- 2- 1127K , Oka 1 Okk<sub>3</sub>k<sub>3</sub>.MYkh<sub>3</sub>k nkCk lkj CO , Oka CO<sub>2</sub> dk Xk<sub>3</sub>kh<sub>3</sub>k fEJ .k LkE<sub>3</sub>k Eka bLk lkzdkj g\$ fd dkCk<sub>3</sub> dk 90-55% HkkjkUk<sub>3</sub>kkj CO ds : lk Eka gA  $2C_{(s)} + O_{2(g)} \rightarrow 2CO_{(g)}$  bLk RkkIk lkj vfHkfØ<sub>3</sub>kk dsfYk, Kc dk EkkUk Kkrk dhfTk, \

**bdkbz 05**

**jkLkk<sub>3</sub>kfUkd Å"EkkXkfrkdh**

**vfRk Yk?kqnRRkj h,k Ikz Uk**

2 vrd

- Ikz Uk 1- Å"Ekk Xkfrkdh dh lkfjHkk"kk fYkf[k, \
- Ikz Uk 2- fOkLRkh.kz , OkEk~XkgUk Xkqk Lks vlik D<sub>3</sub>kk LkEÖkRks g\$
- Ikz Uk 3- ÅTkkz Lkj {k.k dk fuk<sub>3</sub>kEk D<sub>3</sub>kk g\$
- Ikz Uk 4- mnkLk<sub>3</sub>Ukhdj .k dh m"Ekk dks Lk"V dhfTk,
- Ikz Uk 5- vkrkfjd ÅTkkz Lks vlik D<sub>3</sub>kk LkEÖkRks g\$
- Ikz Uk 6- fUkEuk vfHkfØ<sub>3</sub>kk Eka , UfkY'lkH lkfjOkRk<sub>3</sub>kk dks /kUkkREkd Ok \_\_.kkREkd fPKUg }kj k CkRkkb<sub>3</sub>ks  
 1- Å"Ekk{k<sub>3</sub>kh vfHkfØ<sub>3</sub>kk      2- Å"Ekk' k<sub>3</sub>kh vfHkfØ<sub>3</sub>kkA
- Ikz Uk 7- Å"Ekk /k<sub>3</sub>fjRkk dh lkfjHkk"kk fYkf[k, \
- Ikz Uk 8-  $\Delta H$  , OkEk~  $\Delta E$  Eka D<sub>3</sub>kk Lk<sub>3</sub>kk g\$

**Yk?kqnÜkj h,k Ikz Uk**

3 vrd 1/1 Lks 4 Rkd 1/2 4 vrd 1/5-8 1/2

- Ikz Uk 1- fUkd<sub>3</sub>k fdLks dgRks g\$ ,kg fdRk<sub>3</sub>Uks lkzdkj dk gk<sub>3</sub>kk g\$ lkr<sub>3</sub>kd dks mngj .k LkfgRk LkEÖkkb<sub>3</sub>ks
- Ikz Uk 2- fLk) dhfTk, fd  $P\Delta V = \Delta nRT$
- Ikz Uk 3- g<sub>3</sub>k ds fLFkj Å"Ekk Lk<sub>3</sub>YkUk fuk<sub>3</sub>kEk dks LkEÖkkb<sub>3</sub>ks vksj mLkds nks vUk<sub>3</sub>kk<sub>3</sub> fYkf[k, \
- Ikz Uk 4- Å"Ekk Xkfrkdh dk lkE<sub>3</sub>kEk fuk<sub>3</sub>kEk D<sub>3</sub>kk g\$ bLkds Xk<sub>3</sub>.kRk<sub>3</sub>k O<sub>3</sub>k<sub>3</sub>kd dh O<sub>3</sub>k<sub>3</sub>fUk dhfTk, \

Ikz Uk 5- , UFKYIkh Ikfj OKRkZk vksj vkrkfjd ÅTkkz Lks vktk D<sub>3</sub>kk LkEkÖRks gS  $\Delta H$  vksj  $\Delta E$  Eka Lkåkak LFKfIKRk dhfTk, \

Ikz Uk 6- , d Rkæk 500J dh Å"Ek 'kks"krk djRkk gSRkFkk 50J Ikj dk<sub>3</sub>kz djRkk gS vkrkfjd ÅTkkz Eka Ikfj OKRkZk Kkrk dhfTk, \

Ikz Uk 7- 373K Rkkik BkLk NH<sub>4</sub>NO<sub>2</sub> fok?kfVRk gksdj N<sub>2(g)</sub> , Oka H<sub>2</sub>O<sub>(g)</sub> CkUkkRkk gS 1 Okk<sub>3</sub>kjkaIYkh<sub>3</sub>k nkCk Ikj , UFKYIkh Ikfj OKRkZk  $-223.6 \text{ KJ mol}^{-1}$  gS bugha Ikfj LFKfIKRk<sub>3</sub>kka Ikj vfhkfØ<sub>3</sub>kk ds fyk, vkrkfjd ÅTkkz Ikfj OKRkZk dh Xk.kukk dhfTk, \

Ikz Uk 8- dkCkZk Ok dkCkZk EkkSkks vkrkLkbbM dh ngUk , UFKYIkh 1 Okk<sub>3</sub>kjkaIYkh<sub>3</sub>k nkCk Ok 298K RkkikØEk Ikj ØEk'k% 393.5 KJ vksj  $-282.8 \text{ KJ}$  gS dkCkZk EkkSkks vkrkLkbbM XkS.k dh LkåkOkUk , UFKYIkh dh Xk.kukk dhfTk, \

**nh?kznÜkj h<sub>3</sub>k Ikz Uk** ¼ad-5½

Ikz Uk 1- fLk) dhfTk, fd 1 fLFkj nkCk Ikj fdLkh Rkæk dh Å"Ek ( $q_p$ ) , UFKYIkh Ikfj OKRkZk ( $\Delta H$ ) ds CkjKckj gkRkh gS

Ikz Uk 2- fdLkh fukdk<sub>3</sub>k dh vkrkfjd ÅTkkz Lks vktk D<sub>3</sub>kk LkEkÖRks gS vkrkfjd ÅTkkz Ikfj OKRkZk  $\Delta E$  Kkrk djUks dh CkEck dSYkjsjHEkkIkh fokf/k dk Lkæk fyk[kdj mlkdj.k dk UkkEkkfIdRk fPk«k CkUkkb<sub>3</sub>ks

Ikz Uk 3- fUkEuk fykf[krk dks LkEkÖkbb<sub>3</sub>ks-  
1- , UFKYIkh 2- CkUn fukdk<sub>3</sub>k 3- : ) kSEk IkØEk

Ikz Uk 4- fLk) dhfTk, fd fLFkj Rkkik , oa nkCk Ikj EkPRk ÅTkkz Eka dEkh fukdk<sub>3</sub>k }kj fd, Xk, vktLkkj dk<sub>3</sub>kz dh Ekkik gS

## bdkbz 06

### fok | Rk j Lkk<sub>3</sub>kUk

**vfrkYk?kqnRRkj h<sub>3</sub>k Ikz Uk** ¼ad 2½

- Ikz Uk 1 vk.kfOkd PkYkdRkk D<sub>3</sub>kk gS
- Ikz Uk 2- fokf' "V PkYkdRkk RkUkRkk ds LkFk fdLk IkZkj Ikfj OKRkZk gkRkh gS
- Ikz Uk 3- /kfrOkd PkYkd dh dkbz nks fok' kSRkk, j fykf[k, \

- Ikz Uk 4- vkek~ dk fuk,kek D,kk gS
- Ikz Uk 5- IkekYk fok | Bk vik?kV<sub>3</sub>-k Ok nqkzk fok | Bk vik?kV<sub>3</sub>-k Eka dkbZ nks vBkj fYkf[k, \
- Ikz Uk 6- /kkfROkd PkkYkd Ok fok | Bk vik?kVUkh PkkYkd dh RkYkUkk dhfTk, \
- Ikz Uk 7- fok | Bk vik?kV<sub>3</sub>-k dh PkkYkdRkk Ikj RkUkRkk dk D,kk IkHkkOk IkMRkk gS
- Ikz Uk 8- Qj kMs ds f}Rkh<sub>3</sub>k fuk,kek dh O,kk[<sub>3</sub>kk dhfTk, \

**Yk?kqñÜkj h<sub>3</sub>k Ikz Uk**

¼ 3 vad½

- Ikz Uk 1- fok | Bk vik?kV<sub>3</sub>-k dh PkkYkdRkk dks IkHkkfORk djUks OkYks dkbZ RkhUk dkjdka dh O,kk[<sub>3</sub>kk dhfTk, \
- Ikz Uk 2- dksYkj kWk dk fuk,kek , d vUkqkz kSk nBks gq LkEkÖkbb<sub>3</sub>ks
- Ikz Uk 3- fMckbz gdYk fLk) kRk dh IkEk[k vfhkXkghfRk<sub>3</sub>kka fYkf[k<sub>3</sub>ks ½dkbz-Pkkj ½
- Ikz Uk 4- fokf' k"V PkkYkdRkk] RkY<sub>3</sub>kkadh PkkYkdRkk RkFkk vk.kfOkd PkkYkdRkk Ikj RkUkRkk ds IkHkkOk dh O,kk[<sub>3</sub>kk dhfTk, \
- Ikz Uk 5- fok | Bk vik?kVUkh IkfØ<sub>3</sub>kk Eks dFkkM Ok , UkkM Ikj gkblSkYkh fØ<sub>3</sub>kkvka dks mnkgj .k LkfgRk LkEkÖkbb<sub>3</sub>ks
- Ikz Uk 6- 5 , Eikh<sub>3</sub>kj fok | Bk ?kjk 30 fEUKV Eka AgNO<sub>3</sub> fokYk<sub>3</sub>kUk Eka Lks 10-07 XkkEk fLYOkj fuk{kSIRk djRkh gS fLYOkj dk fok | Bk jkLk<sub>3</sub>kfUkd RkY<sub>3</sub>kkad D,kk gS
- Ikz Uk 7- CuSO<sub>4</sub> , Oka AgNO<sub>3</sub> fokYk<sub>3</sub>kUk Eka LkEkUk fok | Bk /kkjk IkOkkfgrk djUks Ikj 1-25g Cu Ok 4-252g Ag , df«kRk gPZ , kn Ag dk RkY<sub>3</sub>kkad 107-9 gks Rks Cu dk RkY<sub>3</sub>kkad Hkj KkRk dhfTk, \
- Ikz Uk 8- fUkEuk dks LkEkÖkbb<sub>3</sub>ks-
- 1- JkFURk IkHkkOk (Relaxation effect)
  - 2- OkSj Bk d.k LkPkykUk IkHkkOk (Electrophonetic effect)
- Ikz Uk 9- fokf' k"V PkkYkdRkk , OkEk- LkYk fLFkjkaD D,kk gS bLkEka LkEkak LFkfkRk dhfTk, \
- Ikz Uk 10- vYIk fokYkSk YOk.k dh fokYkSkRkk dk fuk/kkj .k dksYkj kWk fuk,kek dh Lkgk<sub>3</sub>kRkk Lks dSks djJks O,kk[<sub>3</sub>kk dhfTk, \

## nh?kznRRkj h,k Ikz Uk-

5 vā-

- Ikz Uk 1- fōk, kks'kuk dh Ekkskk Lks D, kk RkRk, kZ gS. bLkdh Lkgk, kRkk Lks vkt. VōkYM dh RkukBkk fuk, kEk LkEkōkkb, ks.
- Ikz Uk 2- dks'kj kVv ds fuk, kEk ds dkbZ Rkhuk vUkqz kksk dh O, kk [ , kk dhfTk, \
- Ikz Uk 3- 18°C Ij HCl, CH<sub>3</sub>COOH dh vURk RkukBkk Ij Rky, kkdh PkykdRkk ds Ekku ØEk' k% 383-5 Rfkk 78 -5 vEk&<sup>1</sup> LkEk<sup>2</sup> Rky, kkd<sup>&1</sup> gS H<sup>+</sup> Rfkk CH<sub>3</sub>COO<sup>-</sup> dk vfhkxkEkukkd ØEk' k% 0-841 Rfkk 0-46 gA CH<sub>3</sub>COOH dh vURk RkukBkk Ij Rky, kkdh PkykdRkk dh Xk. kkk dhfTk, \
- Ikz Uk 4- vURk RkukBkk Ij HCl, CH<sub>3</sub>COONa Rfkk NaCl dh Rky, kkdh PkykdRkk, j ØEk' k% 426-1] 91-0 Rfkk 126-45 vEk&<sup>1</sup> LkEk<sup>2</sup> Rky, kkd<sup>&1</sup> gS Rks CH<sub>3</sub>COOH ds fYk, λ<sub>∞</sub> dk Ekku KkRk dhfTk, \
- Ikz Uk 5- fdLkh fōk | Bk vIk?kV<sub>3</sub>-k ds 0-01 M fōYk, kUk dk 25°C Ij Ikrkj ksk 200 vEk gA , kfn Lkyk fLFkj kd 0-82 cm<sup>-1</sup> gS Rks fōYk, kUk dh fōf' k"V PkykdRkk KkRk dhfTk, \
- Ikz Uk 6- , kfn fdLkh fōk | Bk vIk?kV<sub>3</sub>-k fōYk, kUk dh fōf' k"V PkykdRkk dk Ekku 0-00041 vEk<sup>-1</sup> LkEk<sup>-1</sup> gS Rks fōYk, kUk dh Ekky'j PkykdRkk KkRk dhfTk, ] , kfn fōYk, kUk dh LkkJæRkk 0-01 M gks.

## bdkbZ 07

### S-Block RkRkka dk jLk, kUk

#### vfrk Yk?kpnRRkj h,k Ikz Uk %

1/2 vā 1/2

- Ikz Uk 1- EkxUkfh' k, kEk ds dkbZ nks v, kLdka ds UkkEk Ok Lkuk fYkf [k, ksA
- Ikz Uk 2- CktbUk D, kk gS Lkuk fYkf [k, A
- Ikz Uk 3- CksdYk LkkMk , OkEk-CksdYk IkkmMj Eka dkbZ , d vBk fYkf [k, \
- Ikz Uk 4- IkfEk LkEkng ds RkRk {kkj /kkRkq; dgYkRkh gS D, kka
- Ikz Uk 5- IYkLVj vKQ Iksj Lk dk jLk, kFUkd Lkuk fYk [kdj , d mlk, kksk fYkf [k, \
- Ikz Uk 6- {kkj /kkRkq; vPNh vIkPkk, kd gS D, kka
- Ikz Uk 7- LkksM, kEk /kkRkq dks dS kLkhuk Eka j [kk TkRkk gS D, kka

## Yk?kqRRkj h, k i z u

1/3 v d 1/2

- Ikz Uk 1- fkd. kz Lkákak Lks vkIk D, kk LkEkÖRks gð
- Ikz Uk 2- YkhfFk, kEk ds vLkkEkkU, k O, kOkgj dks fdUgha Pkkj fCkmaq/ka ds vk/kkj Ikj LkEkÖkkb, ks
- Ikz Uk 3-  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$  Ikj Å"EkK ds IkHkkOk dks fykf [k, \
- Ikz Uk 4- Mg Okk, kqEka TKYkdj , d LkQn jk [k CkUkkRkk gSfTkLkds TKYk vIk?kVUk Eka vEkksUk, kk dh Xkak vkrkh gð dkj. k nhfTk, \
- Ikz Uk 5- fUkEuk fykf [krk dks dkj. k LkfgRk LkEkÖkkb, ks-
- 1- {kkj /kkRkq/ka ds dCkKkks/ TKYk Eka fOkYkSk gkBs gð TkCfd Eknk /kkRkq/ka ds dCkKkks/ vYIk fOkYkSk gkBs gð
  - 2- {kkj /kkRkq/ka dh vIkSk {kkj h, k Eknk /kkRkq a nqkZk vIkPkk, kd gð
- Ikz Uk 6- LIK"V dhfTk, -
- 1- Na {kkj h, k gS, kk  $\text{Na}_2\text{O}$  {kkj h, k gð
  - 2- LiCl Ok PbCl<sub>2</sub> Eka dkBk vf/kd vk, kfUkd gkKkka
  - 3- TKYk Eks BaO fOkYkSk gð fdBkq BaSO<sub>4</sub> vfOkYkSk gð

## nh?kzmÜkj h, k Ikz Uk

1/5 v d 1/2

- Ikz Uk 1- LkksM, kEk fUk"d"Kz k gBkq MkmULk LkYk fOkf/k dks fUkEu vk/kkj Ikj LkEkÖkkb, ks-
- 1- fLk) kRk , OkEk- LkEkhdj . k
  - 2- fOk | Bk vIk?kV, k Eka KCl RkFkk KF fEkYkkUks dk dkj. k
- Ikz Uk 2- LkkyOks fOkf/k }kj k  $\text{Na}_2\text{CO}_3$  dk fUkEkZ k dS, ks fd, kk TkkRkk gð bLk fOkf/k dks fUkEuk fCkmaq/ka ds vk/kkj Ikj LIK"V dhfTk, \
- 1- fLk) kRk , OkEk- LkEkhdj . k
  - 2- Lk, k«k dk UkkEkf dRk jS [kfpk«k
- Ikz Uk 3- IYkkLVj vkND Iksj Lk dks fUkEuk fCkmaq/ka ds vk/kkj Ikj LIK"V dhfTk, \
- 1- CkUkkUks dh fOkf/k
  - 2- Å"EkK dk IkHkkOk

3- IYkkLVj vkiD IksjLk ds nks mlk, kkkk A

Ikz Uk 4- D<sub>3</sub>kk gkRkk gS Tkck – jkLkk, kfUkd LkEkhdj .k fykf[k, –

1- YkbbEk LVkdk ,kk Pkks ds IKRFkj dks XkEkZ fd<sub>3</sub>kk TkkRkk gA

2- fckUkk CkQks Pkks Ikj Ikkukh Mkykk TkkRkk gA

3- fTkILkEk dks fofHkUk RkkikØEk Rkd XkEkZ fd<sub>3</sub>kk TkkRkk gA

4- EkXUkhf' k<sub>3</sub>kEk ds Rkkj dks Okk<sub>3</sub>kq Eka TkYkk<sub>3</sub>kk TkkRkk gA

Ikz Uk 5- H<sub>2</sub>O<sub>2</sub> dks fUkEUk fckanq/ka ds vk/kkj Ikj LkEkÖkkb<sub>3</sub>ksA

1- vkDLkhdkj d Xkqk–vEYkh<sub>3</sub>k Ekk/<sub>3</sub>kEk] {kkjh<sub>3</sub>k Ekk/<sub>3</sub>kEk] mnkLkhUk Ekk/<sub>3</sub>kEk

2- vIkPkk<sub>3</sub>kd Xkqk–

3- fckjākd Xkqka

Ikz Uk 6- Ikzkkkk' kkykk Eka gkbMRSJKUK XkLk CkUkUks dh fof/k dks fUkEUk fckanq/ka ds vk/kkj Ikj LkEkÖkkb<sub>3</sub>ksA

1- jkl k; fud l ehdj .k

2- ukekādr js[ kfp=

3- fof/k dk l f{klr o.ku

izu 7- fuEu fckanq/ka dks l e>kb; &

1- vkFkkz , OkEk~ Iksj k gkbMRSJKUK

2- vkORRkZ Lkkfj .kh Eka gkbMRSJKUK dk LFkkUk

3- gkbMRSJKUK ds LkELFkkfUkd

4- Hkkjh TkYk

5- LkfØ<sub>3</sub>k gkbMRSJKUK

Yk?kqnRRkj h<sub>3</sub>k Ikz Uk –

dkj .k nhfTk<sub>3</sub>ks-

Ikz Uk 7- 1. H<sub>2</sub>O Eka sp<sup>3</sup> Lkdj .k gS Ikj Bkq dks k dk EkkUk 105<sup>0</sup> gkRkk gA

2- CkQZ Ikkukh Eka RkS Rkh gA



- Ikz Uk 8- gkbM&TKUk Ck&k D,kk gS ,kg fdRkUks Ikzdkj dk gkRkk gS Ikr,kd dks mnkgj .k LkfgRk LkEkÖkbb ,k&A
- Ikz Uk 9- dBkj Ok Eknq TKYk Lks vllk D,kk LkEkÖkRks gS. TKYk Eka dBkj Rkk fdUk—fdUk dkj .kka Lks gkRkh gS bLks nij djUks ds dkbZ nks mlk,k fykf [k,k&A

## bdkbZ 08

### p CYkkd ds RkRkka dk jLk,kuk

**VLkEkng 13 , Oka 14 ds RkRk½**

**vfRk Yk?kqRRkj h,k Ikz Uk**

vd -2

- Ikz Uk 1- LkEkng 13 ds RkRkka ds UkkEk , Oka Lk&dBk fykf [k, A
- Ikz Uk 2- MkbCkksj bk dk Lkj PKUkk Lkwk fykf [k, A
- Ikz Uk 3- Ckksj kuk VRbgYkbbMka dh vEYkh,kRkk dk ØEk fykf [k, A
- Ikz Uk 4- BF<sub>3</sub> Yk&Zk vEYk ds LkEkUk O,kOkkj D,kka lknf' kRk djRkk gS.
- Ikz Uk 5- fv&Yk D,kk gS.
- Ikz Uk 6- Xk&kbV f&k | &k dk Lk&kkYkd gS D,kka.
- Ikz Uk 7- LkhLk Lk&kk,kd LkYk Eka Yk&M ds fdLk ,kk&Xkd dk mlk,k&Xk gkRkk gS.
- Ikz Uk 8- fLkfykd&v/Ek D,kk gS.
- Ikz Uk 9- CO Xk&k fdLk Ikzdkj gkfu&dkjd gS.
- Ikz Uk 10- dkCk&bbM dh lkfjHkk"kk fykf [k, A
- Ikz Uk 11- CO<sub>2</sub> ds nks mlk,k&Xk fykf [k, A
- Ikz Uk 12- dkC&Zk ds vf&LVYkh,k vlkj : Ikka ds UkkEk fykf [k, A

**Yk?kqRRkj h,k iZ u**

03 vd-

- Ikz Uk 1- ckj kuk RkFkk fLkfykdUk ds Ek, ,k f&kd .kz Lk&k&k CkRkkb ,k&S.
- Ikz Uk 2- MkbCkksj bk dk Lkj PKUkk Lkwk fykf [k, A bLkEka Ck&k Ik&NfRk dh O,kk [ ,kk dhfTk, A
- Ikz Uk 3- D,kk gkRkk gS. Tk&k Ckksjd vEYk dks XkEkZ fd ,kk TkRkk g&S.

- Ikz Uk 4- Ckjsj DLk EkUkdK Ikj h{k.k D,kk gS. LkEkÖkbb,ksA
- Ikz Uk 5- IYkEckks LkkYOkkLkh D,kk gS
- Ikz Uk 6- QYkfsj Uk D,kk gS. LkEkÖkbb,ksA
- Ikz Uk 7- dKckZk vIkPk,kuk fOkf/k }kj k YkM dk fuk"d"kz k dSks fd,kk TkkRkk gS
- Ikz Uk 8- YkM ds fdUgh Pkkj v,kLdka ds UkkeK Ok Lkwk fYkf[k, A
- Ikz Uk 9- V3/r , fFkYk YkM CkUkkUks dh fOkf/k Xkqk Ok mlk,kkSkk fYkf[k, A

**Yk?kqRRkjh,k Ikz Uk**

04 v@d-

- Ikz Uk 1- BCl<sub>3</sub> dh vEYkh,kRkk dh O,kk[,kk dhfTk, A
- Ikz Uk 2- LkEkng 13 ds RkROkka ds LkEkku,k Xkqkka dks fYkf[k, A
- Ikz Uk 3- bYkDVrUk U,kkk ,kkSkd D,kk gkBs gS. D,kk BCl<sub>3</sub> bYkDVrUk U,kkk ,kkSkd gS. LkEkÖkbb,ksA
- Ikz Uk 4- YkM dk fuk"d"kz k dSks fd,kk TkkRkk gS. jkLkk,kfUkd LkEkhdj.k LkfgRk fYkf[k, A
- Ikz Uk 5- LkjPkUkk ds vk/kkj Ikj ghj k RkFkk XkQkbV Eka vBkj CkRkkb,ksA
- Ikz Uk 6- YkM ds fOkjTkRkhdj.k dh lkkØ lksVULkUk fOkf/k dk Ok.kk dhfTk, \

**nh?kZRRkjh,k iZu**

05 v@d-

- Ikz Uk 1- LkEkng 14 ds RkROkka ds LkEkku,k Xkqkka dks LkEkÖkbb,ksA
- Ikz Uk 2- fVUk ds Ekq[,k v,kLdka ds UkkeK Ok Lkwk fYkf[k,] fVUk LVkSk Lks 'kq) fVUk] dSks fuk"df"kr dj,ksA fVUk ds jLkk,kfUkd Xkqk , Oka mlk,kkSkk fYkf[k, A
- Ikz Uk 3- Ckksjd vEYk CkUkkUks dh fOkf/k Xkqk RkFkk mlk,kkSkk fYkf[k, A
- Ikz Uk 4- Ckksj kUk RkFkk fLkFYkdKkUk Eka fOkd.kz LkOkk RkFkk Ckksj ku-1 dk vLkEkku,k O,kkkgkj LkEkÖkbb,ksA

## bdkbZ 09

### dkCkZUKd jLkk,kuk dh dN EkYkHkRk vOk/kkj .kk, j

**vFRk Yk?kqRRkj h,k IkZ Uk**

½ v d ½

- IkZ Uk 1- Ekk' kZ Xk&.k fdLks dgrks g&
- IkZ Uk 2- Jā kYkuk fdLks dgrks g&
- IkZ Uk 3- LkTkkRkh,k Js kh dh nks fOkf' k"VRkk, j fYkf [k, \
- IkZ Uk 4- fØ,kkREkd LkEkog fdLks dgrks g&
- IkZ Uk 5- PkYkkOk,kOkRkk dks mnkgj .k LkfgRk LkEkÖkkb,k&
- IkZ Uk 6- , LkhfVYkhuk Eka fdRkUks  $\sigma$  , Oka  $\pi$  Ck&k g&
- IkZ Uk 7- EkØRk EkYkd D,kk g&
- IkZ Uk 8- vkCk&k ghuk vUtkkn fdLks dgrks g&
- IkZ Uk 9- dkCkZk dh PkRkqLk&k&TkdRkk dks LkEkÖkkb,k&
- IkZ Uk 10- fOk"kekka&h fOknYkuk fdLks dgrks g&

**Yk?kqñÜkj h,k IkZ Uk**

½ v d ½

- IkZ Uk 1- IkFRkLFkkikuk vfhkfØ,kk ds Rkhuk mnkgj .k nhfTk, A
- IkZ Uk 2- dkCkZUK,kEk vk,kuk , Oka dkCkZ, Ukk,kuk Eka Rkhuk vRkj n&
- IkZ Uk 3- fLkI -VR&.k LkEkOk,kOkRkk dks , d mnkgj .k LkfgRk LkEkÖkkb,k&
- IkZ Uk 4- Ek&.kk&ksjd IkHkkOk dks mfPkrk mnkgj .k ndj LIk"V dhfTk, A
- IkZ Uk 5- vFRkLk&k&Ekuk dks mnkgj .k LkfgRk LkEkÖkkb,k&
- IkZ Uk 6- bYkØVRE&ksjd IkHkkOk dks mnkgj .k LkfgRk LkEkÖkkb,k&
- IkZ Uk 7- vUtkkn fdLks dgrks g& mnkgj .k ndj LIk"V dj&
- IkZ Uk 8- LkTkkRkh,k Js kh dks mnkgj .k LkfgRk LkEkÖkkb,k&
- IkZ Uk 9- Ek&ksk ds Lk&dj .k dks LkEkÖkkb,k&

Ikz Uk 10- bykDVkQkbYk , Oka U<sub>3</sub>kqDYk<sub>3</sub>kkQkbYk dks mnkgj .k LkfgRk LkEkÖkbb<sub>3</sub>kA

Ikz Uk 11- CkBTkhUk dh vUkqkknh LkjPKUkk, a fykf [k, A

### Yk?kqRRkj<sub>3</sub>k izu

¼ vad½

Ikz Uk 1- vEkksUk<sub>3</sub>kk dh RkykUkk Eka EkfFYk, ehUk vf/kd {kkjh<sub>3</sub>k gA LkEkÖkbb<sub>3</sub>kA

Ikz Uk 2- Lka Ik.k Lks D<sub>3</sub>kk LkEkÖRks gks , FkSk Eka Lka Ik.k dks LkEkÖkbb<sub>3</sub>kA

Ikz Uk 3- vkbZ<sub>3</sub>kwlkh-, -I h- UkkEkdj .k dks Pkkj fCkmp/ka Eka LkEkÖkbb<sub>3</sub>kA

Ikz Uk 4- lkkfFkEd] f}Rkh<sub>3</sub>kd , Oka RkRkh<sub>3</sub>kd dkCkZUk<sub>3</sub>kEk vk<sub>3</sub>kUk ds LFkff<sub>3</sub>kRok dk ØEk nhfTk, A

Ikz Uk 5- vfrk LkqkYEKuk fdLks dgrks gA bLkds nks mlk<sub>3</sub>kkk dks LkEkÖkbb<sub>3</sub>kA

Ikz Uk 6- , FkSk ds LkkRkfjRk Lka Ik.k , Oka XkfLkRk Lka Ik.k dks LIk"V dhfTk, A

Ikz Uk 7- lkj f.kd lkkkkOk Ok EkhLkkEksjd lkkkkOk Eka Pkkj vRkj fykf [k, A

### nh?kznRRkj<sub>3</sub>k Ikz Uk

½ vad½

Ikz Uk 1- vkbZ<sub>3</sub>kwlkh-, -Lkh- }kj k dkCkZUkd<sub>3</sub>kkSXkdk ds UkkEkdj .k dks LkEkÖkbb<sub>3</sub>kA

Ikz Uk 2- NH<sub>3</sub> dh vkÑfrk dks Lkdj .k }kj k LkEkÖkbb<sub>3</sub>kA

Ikz Uk 3- fUKEu dks LkEkÖkbb<sub>3</sub>ks-

1- dkCkZUk<sub>3</sub>kEk vk<sub>3</sub>kUk dk LFkff<sub>3</sub>kRok ØEk

2- EkPRk EkYkd dh LkjPKUkk A

Ikz Uk 4- Lkdj .k D<sub>3</sub>kk gS sp<sup>2</sup> , Oka sp Lkdj .k dks LkEkÖkbb<sub>3</sub>kA

Ikz Uk 5- fUKEUkFYkf [kRk ds IUPAC UkkEk , Oka LkjPKUkk fykf [k, -

1- DYkkg kQkEkZ

2- , LkhVksk

3- QkFkEd vEYk

4- , f. VSYMgkbM

5- Mkb, fFkYk bFkj

Ikz Uk 6- fUkEUkFYkf [kRk ,kkSXkdka ds LkjPkUkk Lkwk FYkf [k, -

- 1- 3]3- MkbEkfFYkIksVhUk
- 2- 4- EkfFYk gDLksk -2-vkww
- 3- 1]2-MkbCktEkks Fksk
- 4- VrbDYkkj kEkfksk
- 5- UkkbVREkfsk A

### bakbz 10-

## gkbMtsdkCkzk , Oka gYkksTkUk IkfRkLFkklkh gkbMtsdkCkzk dk j Lkk, kUk

vfrkYk?kqnRRkj h, k Ikz u

1/2 vad 1/2

Ikz Uk 1- , YdkbUk dk LkEkku, k Lkwk FYkf [k, A

Ikz Uk 2- LPG D, kk gS

Ikz Uk 3- , LkhVhfYkUk ds CkgYkhdj .k Lks D, kk CkURkk gS. UkkEk Ok Lkwk FYkf [k, A

Ikz Uk 4- , fYdYk gYkkbMka Eka fdLk gYkksTkUk dk , fYdYk gYkkbM vf/kd fØ, kk' khYk gkRkk gS

Ikz Uk 5- TkCk , fYdYk gYkkbM dh LkksM, kEk /kkrq ds LkkFk bEkj dh mlkLFkfrk Eka fØ, kk djkbz TkkRkh gS Rkks D, kk IkkIRk gkRkk gS.

Ikz Uk 7-  $CH \equiv CH$  dh {kkjh, k  $KMnO_4$  ds fØ, kk Lks IkkIRk , kksXkd dk UkkEk FYkf [k, ks Lkwk FYkf [k, \



Ikz Uk 8-  $\begin{array}{c} | \\ CH_2Cl \end{array}$  ds TkYkh, k KOH ds LkkFk fØ, kk Lks CkUkkbz TkkRkh gS.

Yk?kqnUkj h, k Ikz Uk

1/3 vad 1/2

Ikz Uk 1- Ekkj dksUkdKND fUk, kEk dks mnkgj .k LkfgRk CkRkkb, ka

Ikz Uk 2- fUkEUk Lks dS, ks Ikfj CkRkzk dj, kks  $CH_4$  Lks  $C_2H_6$

Ikz Uk 3— D<sub>2</sub>kk fØ<sub>2</sub>kk gkØkh gS TkCk , FkhfYkUk MkbCkEkkbM Lks , YdkgYkh dkfLVd {kkj Lks fØ<sub>2</sub>kk djkbz TkkRkh gS jLkk<sub>2</sub>kfUkd LkEkhdj .k fYkf[k, \

Ikz Uk 4— CCl<sub>4</sub> dh RkhUk mlk<sub>2</sub>kkØk fYkf[k, \

Ikz Uk 5— fUkEukfYkf[kRk vfHkfØ<sub>2</sub>kkvka dk dSkYk LkEkhdj .k fYkf[k, k&

1- jhEkj VhEkØk

2- ÝhMYk ØkIV

3- QdYkSM

Ikz Uk 6— vk<sub>2</sub>kkMkQkEkZ CkUkkUks dh jLkk<sub>2</sub>kfUkd vfHkfØ<sub>2</sub>kk dks fYkf[k, A

Ikz Uk 7— DYkkgkSkfØUk dS<sub>2</sub>ks CkUkk<sub>2</sub>kk TkkRk gS dSkYk jLkk<sub>2</sub>kfUkd vfHkfØ<sub>2</sub>kk fYkf[k, A

Ikz Uk 8— dkYCs vfHkfØ<sub>2</sub>kk fYkf[k, A

**Yk?kqnØkj h<sub>2</sub> k Ikz u** ¼ vd½

Ikz Uk 1— CkTkhUk ds fjØk LkjPkUk Lkwk dh LkkFkØRk ds Ik{k fØkIk{k Eka nks jLkk<sub>2</sub>kfUkd vfHkfØ<sub>2</sub>kk }kj k RkØ IkL<sub>2</sub>RkØk djA

Ikz Uk 2— [kk' k IkØkØk D<sub>2</sub>kk gS<sub>2</sub> kg Ekj dkskhdkQ fUk<sub>2</sub>kEk Lks dS<sub>2</sub>ks fHkUk gSnkØkka dk mnkgj .k fYkf[k, A

Ikz Uk 3— dkØz Pkj CkgYkhdj .k vfHkfØ<sub>2</sub>kk fYkf[k, \

Ikz Uk 4— Ikz<sub>2</sub>kkØk' kkYk Eka , FkØk CkUkkUks dh fØf/k dk fPk«k , oa jLkk<sub>2</sub>kfUkd vfHkfØ<sub>2</sub>kk fYkf[k, kS

Ikz Uk 5— Ikz<sub>2</sub>kkØk' kkYk Eka CH≡CH CkUkkUks dh Ikz<sub>2</sub>kkØk' kkYk fØf/k fPk«k] jLkk<sub>2</sub>kfUkd vfHkfØ<sub>2</sub>kk] LkkØk/kkFk<sub>2</sub>kk; Øk , d vU<sub>2</sub>k fØf/k fYkf[k, \ fTkLkI s CH≡CH CkUkk<sub>2</sub>kk Tkk LkdA

**nh?kznRRkj h<sub>2</sub> k Ikz Uk** ½ vd½

Ikz Uk 1— Ikz<sub>2</sub>kkØk' kkYk Eka DYkkgkSkØkEkZ CkUkkUks dh fØf/k dk UkkEkkaØRk fPk«k jLkk<sub>2</sub>kfUkd LkEkhdj .k fYkf[kRks gg fUkEuk I s jLkk<sub>2</sub>kfUkd vfHkfØ<sub>2</sub>kk fYkf[k, ks-

1- IkfFkEkd , sEkUk

2- gØk ds LkkFk

Ikz Uk 2— , fYdYk gSkkbM CkUkkUks dh IkØk LkkEkU<sub>2</sub>k fØf/k fYkf[k, A

- Ikz Uk 3— D<sub>3</sub>kk gkRkk gS TkCk—
- 1- , YdkgYk ds LkkFk RkUkq H<sub>2</sub>SO<sub>4</sub>, 110°C lkj fØ<sub>3</sub>kk dj vLkOkUk djRks gS
  - 2- DYkkj kOkEkZ dks , LkhVksk Lks fØ<sub>3</sub>kk djkbZ TkkRkh gS
  - 3- DYkkj Yk dks DYkkj kSkTkhuk ds LkkFk LkkUæ H<sub>2</sub>SO<sub>4</sub> ds LkkFk fØ<sub>3</sub>kk djkbZ TkkRkh gS
  - 4- LkwkZ ds lkzdk'k dh mlkFLFkFRk Eka DYkkj huk dks CkTkhuk ds LkkFk fØ<sub>3</sub>kk djkbZ TkkRkh gS
  - 5- , fYdYk gYkkbM dks LkkfM<sub>3</sub>KEk , YdkLkkbM Lks fØ<sub>3</sub>kk djkbZ TkkRkh gS

Ikz Uk 4— fUkEukfYkf [kRk vfHkfØ<sub>3</sub>kk dks fYkf [k<sub>3</sub>ks —

- 1- , YdkbUkka ds vktkkskhj . k
- 2- Okq/Æk vfHkfØ<sub>3</sub>kk
- 3- YhMYk ØkqV vfHkfØ<sub>3</sub>kk A

## bdkbz 11

### gkbMkFDLkYk dkCkZUkd , kksXkd

**vfRk Yk?kqRRkj h<sub>3</sub>k Ikz Uk**

1/2 v d 1/2

- Ikz Uk 1— , YdkgYk Eka fØ<sub>3</sub>kkREkd LkEkng dk UkkEk Ok Lkwk fYkf [k, A
- Ikz Uk 2— VtkzgbfMbd , YdkgYk dk , d mnkgj .k Ok mLkd IUPAC UkkEk fYkf [k, A
- Ikz Uk 3— flkfØd vEYk dk Lkwk Ok UkkEk fYkf [k, A
- Ikz Uk 4- XYkwdkLk Lks , YdkgkMk Eka lkj OkfRkRk djUks OkkYks , UTkkbEk dk UkkEk CkRkkb<sub>3</sub>kS
- Ikz Uk 5— fXYkLkjYk ds KHSO<sub>4</sub> dh mlkFLFkFRk Eka 260° Lk/hXkM/ lkj fØ<sub>3</sub>kk djUks lkj CkUkUks OkkYks , kksXkd dk UkkEk fYkf [k, A
- Ikz Uk 6- fXYkLkjYk dk Lkwk fYkf [k, A
- Ikz Uk 7— YkwdkLk vfHkdEkZd D<sub>3</sub>kk gS
- Ikz Uk 8— XYkwbdkMk ds nks mlk<sub>3</sub>kkk fYkf [k, A

Ikz Uk 9— , YdksYk dk fMUKBkj's kuk D, kk gkRkk gS

Ikz Uk 10- LVkPKZ dks XYkndkT'k@YDVkT'k Eka Ikfj OkFRkRk djUks OkkYks , UTkkbEk dk UKkEk FYkf[k, \

**Yk?kqnÜkj h, k** **Ikz' Uk** 1/3 vad 1/2

Ikz Uk 1— fUkEukFYkf [kRk fOkf/k, kka Lks , YdksYk CkUkkb, ks-

- 1- , Ydhukka ds TkYk, kkt'kuk
- 2- bEkj ds TkYk vik?kVuk
- 3- fXkXkUkkMZ vfHkfØ, kk

Ikz Uk 2— , YdksYk dh Oks vfHkfØ, kkvka dks FYkf [k, fTkLkEka gkbMkT'kuk vYkXk fukdYk jgk gkA 1/2kbZ -3 1/2

Ikz Uk 3— , jkEksVd, kksXkd TkYk Eka vfOkYksk gkRks gA Ikj Bkq fQUkkWk TkYk Eka vYIk fOkYksk gS dkj. k FYkf [k, A

Ikz Uk 4- XYkKbdkYk dk vEYkh, k Ekk/ kEk Eka vkDLkhdj. k FYkf [k, A

COOH  
|  
COOH

Ikz Uk 5— fXYkLkjWk vksj ds CkhPk 110° Lka/hXka/ Ikj gkRks OkkYkh vfHkfØ, kk dks jLkk, kkfUkd LkEkhdj. k }kj k LkEkÖkkb, kA

Ikz Uk 6— fXYkLkjYk dk mlk, kksk FYkf [k, A 1/2kbZ & 3 1/2

Ikz Uk 7- dSks Ikfj OkFRkRk dj kks-

- 1- fQUkkYk Lks fQUkkYq]Fks'khuk
- 2- fQUkkYk Lks , S LkRk

Ikz Uk 8 Ikknkj vYdksYk D, kk gS \

**Yk?kqnÜkj h, k** **Ikz' Uk** 1/4 vad 1/2

Ikz Uk 1— IkkFkFkEd f}Rkh, kd RkRkh, kd , YdksYk dks, kfn Rkhuk , Sks CkRkYkka Eka j [ks fTkLkEka YksYk Uk gks Rkks mLkdks vkik fdLk fOkf/k Lks IkgPkkuk LkdRks gS 1/2kbZ , d fOkf/k 1/2

Ikz Uk 2— YkhcjEkSk UkkbVRk, kks Ikj h{k. k dks LkEkÖkkb, kA

Ikz Uk 3— fQUkkYk ds vEYkh, k Xkq k dks LkEkÖkkb, kA



Ikz Uk 4— fOkDVj Ekşkj fOkf/k Lks , YdkgYk Eka fOkHkn ¼kFkFkEd] }SRk\_kd] RkRkh\_kd½ djUks dh fOkf/k dks fYkf[k, A

Ikz Uk 5— fUkEukfYkf[kRk fØ\_kkvka dks fYkf[k\_k&

1- fQUkkYk dk\_kkEkuk vfHkfØ\_kk

2- cDfYkkbV CkUkkUs dh vfHkfØ\_kkA

Ikz Uk 6— fXYkLkjkwk dk dkbz Pkj mlk\_kkxk fYkf[k, \

### nh?kznÜkj h\_k Ikz Uk

½ vd½

Ikz Uk 1 'khjs Lks , fFkYk , YdkgYk ds fUkEkiz k Eka fdUk-fdUk lknka dk mlk\_kkxk fd\_kk TkRkk gS. Ikr\_ksd lkn dh mlk\_kkxkRkk fLk) dhfTk, \

Ikz Uk 2 EkhBs TkYk Lks fXYkLkjkyk fUkEkiz k dk Lkfpk«k Ok.kk dhfTk, \

Ikz Uk 3 fQUkkwvks , YdkgYk ds Xkqk Eka lkkPk vBkj CkRkkb\_kS

Ikz Uk 4 YkMh ds Hkãkd vLkOkuk Lks EkfFkYk , YdkgYk CkUkkUs dh fOkf/k dk Lkfpk«k Ok.kk dhfTk, \

Ikz Uk 5 , YdkgYk CkUkkUs dh lkkPk LkkEku\_k fOkf/k fYkf[k, \

Ikz Uk 6 fQUkkYk ds fUkEuk ds LkkFk vfHkfØ\_kkvka dks fYkf[k, —

1- fTkd Pkwz ds LkkFk

2- gkbMRkTukhdj.k

3- UkkbVhdj.k

4- Qfjd DYkjbM ds LkkFk fØ\_kk

5- , lkhfVd , BkgkbMRbM ds LkkFk fØ\_kk A

## bdkbz 12

### dkCkZUKd ,kkSXkdka dk fOk'YkSk.k ,Oka 'kq) dj.k

vfRkYk?kqRRkj h,k Ikz Uk

1/2 v d 1/2

- Ikz Uk 1— ØkEks/kXkkQh fdLks dgRks gS
- Ikz Uk 2— m/OkZkkRkUk D,kk gS
- Ikz Uk 3— v.kq,kwck D,kk gS ,kg EkvYkkUkqkRkh Lkwck Lks fdLk Ikdkj LkEka/kRk gS
- Ikz Uk 4— LkksM,kEk fuk"d"Kz dSks CkUk,kk TkkRkk gS
- Ikz Uk 5— vkLkOkUk D,kk gS
- Ikz Uk 6— dkCkZUKd ,kkSXkd Eka UkbbVBTkUk dk Ikj h{k.k dSks djRks gS
- Ikz Uk 7— IkHkkTkh vkLkOkUk D,kk gS
- Ikz Uk 8— fOkYkk; d fuk"d"Kz k fOkf/k D,kk gS
- Ikz Uk 9— vkDLkTkUk dk vkdYkUk dkCkZUKd lknkFkz Eka fdLk Ikdkj djRks gS
- Ikz Uk 10— XkYkUkka dS fuk/kkz .k gBkq dkkBk Lkk mlkdj .k mlk,kkSk Eks Ykk,kk TkkRkk gS

Yk?kqRRkj h,k Ikz Uk

1/3 v d 1/2

- Ikz Uk 1— nks fHkUk —fHkUk DOkfUkka dka ds æOkka dk IkFkDdj .k dSks djRks
- Ikz Uk 2— fØLVYkUk fOkf/k }kjk BkLk lknkFkz dks dSks 'kq) djRks
- Ikz Uk 3— vf/k'kkSk.k ØkEks/kXkkQh dk fLk) kBk fYkf[k, A
- Ikz Uk 4— dkCkZUKd ,kkSXkd ds gYkktUkka dk fuk"d"Kz k dSks djRks

Yk?kqRRkj h,k Ikz Uk

1/4 v d 1/2

- Ikz Uk 1— dkCkZUKd lknkFkz ds v.kq,kj fuk/kkz .k gBkq fOkfHkUk fOkf/k,kka dh fOkOkP'kUk dhfTk, \
- Ikz Uk 2— fOkOkRk vkLkOkUk RkFkk Okk"lk vkLkOkUk dks LkEkÖkbb,kA
- Ikz Uk 3— vk,kukkREkd fOkf/k }kjk dkCkZUKd vEYkks RkFkk {kkjka dk vkf.Okd æ0,kEkkUk dSks KkRk djRks
- Ikz Uk 4— HkkIk vkLkOkUk dh fØ,kk fOkf/k dk Ok.kk dhfTk, A

Ikz Uk 5— Tks/MkYk fokf/k }kjk UkkbVRSTkuk ds vkdYkuk dk fLk) kRk , Oka Xk.kUkk dk Ok.kZk dhfTk, A

nh?kznRRkj h,k Ikz Uk

1/5 v d 1/2

Ikz Uk 1— fdLkh Okk"lk' khYk lknkFkZ ds vkf. Okd æ0,kEkkuk dk fuk/kkj .k fokDVj Ekskj fokf/k }kjk fd,kk TkkRkk gS fPk«k LkfgRk Ok.kZk dhfTk, A

Ikz Uk 2— dEk nkGk lkj vkLkOkuk Lks fdLk lkdkj ds dkCkZUkd ,kkSXkdka dk 'kq) dj.k fd,kk TkkRkk gS vksj D,kka fPk«k nRks gq LkEkÖkkb,kS

Ikz Uk 3— dkCkZUkd ,kkSXkd Eka UkkbVRSTkuk ds vkdYkuk dh M<sub>3</sub>-kRkk fokf/k dk LkFPk«k Ok.kZk dhfTk, \

Ikz Uk 4— fukEufYkf [kRk fEkJ.kka Lks 'kq) ,kkSXkd dLks lktIRk djXks-

1- NH<sub>4</sub>Cl , Oka NaCl

2- XYkndkStk , Oka dIkij (camphor) A

fo" k; % j l k; u 'kkL=

bdkbz - 1

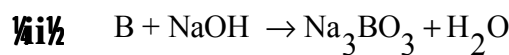
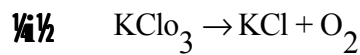
-% j l k; u dN ey vo/kkj.kk, a , oa i jek.kq l j puk %

vfr y?kpnÜkj h; izu

izu 1- eykuq krd l = , oa v.kj = ea l cak fLFkfi r dhft, \

izu 2- ySMkV dk iz, kx fdl jkl k; fud l a kx dh fu; e dh i fV djrk gS A  
bl fu; e dh ifjHkk"kk fyf[k, \

izu 3- fuEukfyf[kr l ehdj.k dks vupek fof/k }kj l rfy dhft, %



izu 4- fdl h ; kxd dk eykuq krd l =  $C_3H_7O$  gS , oa ok'i ?kuRo 59 gS rks  
; kxd dk v.kj = , oa v.kkkj Kkr dhft, A

izu 5- fdl h xS ds , d eky ea mi fLFkr d.kka dh l a ; k dks D; k dgrs gS A  
bl dk eku fdruk gkrk gS fyf[k, !

izu 6- fn; s x, l ehdj.k  $CaCO_3 \xrightarrow{\Delta} CaO + CO_2 \uparrow$  ea  $\Delta$  , oa  $\uparrow$  D; k inf'kr  
djrk gS A

izu 7- Na i jek.kq , d byDVku R; kxdj ?kuk; u cukrk gS tcf d Cl , d byDVku  
xg.k dj \_\_.kk; u cukrk gS D; ka \

izu 8- d{k d %Orbital% fdl s dgrs gS \ mnkgj.k nhft, A

izu 9- i jek.kq mnkl hu gkr s gS D; ka \

izu 10- Li DVe fdl s dgrs gS A

izu 11- ;fn fdl h rko ds fy, e[; Dokve l [;k ½½ dk eku 3 gS m ,oa l ds eku  
Kkr dhft, A

izu 12- ,d rko dk ijek.k Øekad 11 gS rFkk ijek.k Hkkj 23 gS rks ml dk  
byDVkfud fol;kl fyf[k, \

y?kqÜkj; izu

izu 1- jnjQkMZ ds ijek.k ukfikh; ekMy ds dkbZ rhu fo'ksrk,a fyf[k, \

izu 2- dkij %z Ø- 29% dk byDVkfud fol;kl  $3d^9 4s^2$  ds LFkk ij  $3d^{10} 4s^1$   
glsk gS D;ka \

izu 3- ;fn Mg, K, ,oa Ar ds ijek.k Øekad 12] 19 ,oa 18 gS rks bues byDVku]  
iVtu ,oa U;Vtu dh l [;k Kkr dhft, A

[ijek.k nØ; Mg = 24, K = 39, Ar = 40]

izu 4- ,d rko ftl dk ijek.k Ø- 17 gS rks bl ds vfire byDVku ds fy, pkja  
Dokve l [;k dk eku Kkr dhft, A

izu 5- (n + 1) fu;e fdl s dgrs gS A nks mnkgj.k ndj Li"V dhft, A

izu 6- f}xdkh Dokve l [;k ,oa p[cdh; Dokve l [;k dks mnkgj.k l fgr  
l e>kb;s A

izu 7- byDVku dh }S'h izfr dks n'kkZus okyh Mh-ctXyh l ehdj.k dh mRi fr  
dhft, A

nh?kZ mRrjh; izu

izu 1- ctj dk ijek.k ekMy l e>kb,a rFkk ;s Hkh Li"V dhft, fd jnjQkMZ  
ekMy ds nksk dks fdl izdkj nj fd;k \

izu 2- ½½ v.kq l [; ,oa eykujkrh l = fdl s dgrs gS A ½½

1/2 ,d ; kxd dk ifr'kr l 2kvu fuEufyf[kr gS % 3/2

C = 40% H = 6.66% ,oa O = 53.34% gSA ; fn ; kxd dk ok'i  
?kuRo 30 gS rks ; kxd dk v.kj = ,oa eukujkfrd l = Kkr dhft, A

izu 4- gqM ds vf/kdre cgyrk dk fu;e ,oa ikWjh ds viotU fu;e dks  
mkgj.k l fgr l e>kb; a \

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## bdkbz - 2

-% rRoka dk oxhZdj.k , oa xqk/kekZ ea vkofrZrk %

vfr y?kqñÜkj; izu

- izu 1- vkorZ fdl s dgrs gâ A vk/kqñud vkorZ I kj.kh ea fdrus vkorZ gâ A
- izu 2- Li ,oa Be fdu rRoka ds I kFk fod.kZ I cak n'kZra gâ \ muds uke , oa irhd fyf[k, A
- izu 3- ;fn fdl h rRo ds vâre dksk ea 8 byDVtu gS rks ml dh nks fo'kskrk fyf[k, A
- izu 4- P Cykd ds rRo fdl s dgrs gâ A bl dk ckg; byDVkfud foll;kl fyf[k, A
- izu 5- I gl a kstd f=T;k fdl s dgrs gâ A
- izu 6- N dk iFke vk;uu folko vkñI htu I s vf/kd gkrk gS D; ka \
- izu 7- Ci dh byDVtu c/krk F dh viçkk vf/kd gkrh gS A D; ka \
- izu 8- mlk; /kehZ vkñI kbM fdl s dgrs gâ A mnkgj.k fyf[k, A
- izu 9- I Øe.k rRo fdl s dgrs gâ A

y?kqñÜkj; izu

- izu 1- vk/kqñud vkorZ I kj.kh ,oa eSMyhQ vkorZ I kj.kh ea dkbz rhu varj fyf[k, A
- izu 2- fdl h oxZ ea Åij I s uhps vkus ij ijek.kq vtdkj] ukñkdh; vtd"zk rFkk fo|ç \_\_.krk ij D;k iñko iMrk gS A
- izu 3- rhu rRoks ftuds ijek.kq Øekad 101] 104] 107 gS rks buds IUPAC uke fy[kdj irhd fyf[k, A
- izu 4- nyñk enk rRo fdl s dgrs gâ \ buds rhu xqk fyf[k, \
- izu 5- I Øe.k rRoka dk I kekl; byDVkfud foll;kl fy[kdj budh rhu fo'kskrk fyf[k, A

## nh?kZ mRrjh; izu

izu 1- rRoka ds oxhbj.k dk egRo fyf[k, vj vk/kfud vkorZ I kj.kh ea oxZ dh rhu fo'kSkkrk fyf[k, A

izu 2- S-Cykd rRoka ds fuEu xqkka dks I e>kb; s -

¼a½ ckg; byDVkfud foll;kl ¼2½

¼b½ vkDI hdj.k I d; k ¼1½

¼c½ S-Cykd rRoka ds nks xqk ¼2½

izu 3- vk; uu ÅtkZ ,oa byDVku cakrk fdl s dgrs gâ A vk; uu ÅtkZ dks iHkkfor djus okys rhu dkj dks dks I e>kb; s A

izu 4- vk/kfud vkorZ I kj.kh ds fdl h I eg %Group½ ea Åij I s uhrs pyus ij rRoka ds fuEu xqkka ea D; k ifjorZu gkrs gâ -

¼a½ xyukd ¼b½ DoFkukd ¼c½ I a kst drk ¼d½ fo | r\_\_ .krk

¼e½ vipk; d xqk



## bdkbz – 3

-% jkl k; fud vkcakd vkj vk.kfod l j puk %

vfr y?kqñkjh; izu

- izu 1– jkl k; fud cak dh ifjHkk"kk fyf[k, A
- izu 2– d{kdkd ds vfr0; ki u l s vki D; k l e>rs gā \
- izu 3– xñ h; Dykjhu ijek.kq dk Dykjhu vk; u ea ifjorzu fdl izdkj gsrk gS \
- izu 4– fo|q l a kstdrk cak ,oa l g l a kstdrk cak ea dkbz nks varj fyf[k, A
- izu 5– BaSO<sub>4</sub> dh ty ea foyş rk vf/kd gsrh gā D; ka \
- izu 6– vk; fud ; kşxd ds xyukad ,oa DoFkukad mPp gsrk gā A D; ka \
- izu 8– ,dkdh byDVtu ; ðe fdl s dgrs gā A
- izu 9– He<sub>2</sub> v.kq ugha curk D; ka \
- izu 10– NH<sub>4</sub>Cl ds ; kşxd ea dks–dks l k cak ik; k tkrk gS A muds uke fyf[k, A

y?kqñkjh; izu

- izu 1– SP<sup>3</sup> l dj.k fdl s dgrs gā CH<sub>4</sub> ea SP<sup>3</sup> l dj.k dks l e>kb; s A
- izu 2– tkyd Åtkl fdl s dgrs gā bl s iHkkfor djus okys rhu dkjdka dh foopuk dhft, A
- izu 3–  $\sigma$  cak ,oa  $\pi$  cak ea dkbz pkj varj fyf[k, A

nh?kz mRrjh; izu

- izu 1– l a kstdrk dksk byDVtu ; ðe ifrd"lk fl )kr fdl s dgrs gā A bl dh rhu l hek, a fyf[k, A
- izu 2– vk; fud cak ij vk; uu Åtkl byDVtu c/kqk ,oa tkyd Åtkl dk D; k iHko iMrk gS A l e>kb; s A

izu 3-  $\Delta H_{\text{f}}^{\circ}$  p $\ddot{O}$  fdl s dgrs g $\ddot{A}$  A bl ds v $\ddot{r}$ /k $\ddot{r}$  ij NaCl ds fuek $\ddot{z}$ k ds fo $\ddot{r}$ h $\ddot{u}$  i n $\ddot{a}$  d $\ddot{k}$  l e>k; s A

izu 4- l  $\ddot{a}$ j.k fdl s dgrs g $\ddot{A}$  bl ds i $\ddot{z}$ k $\ddot{j}$  f $\ddot{y}$ f[k, ,oa , f $\ddot{f}$ k $\ddot{y}$ h $\ddot{u}$  ds v.k $\ddot{q}$  ea l  $\ddot{a}$ j.k d $\ddot{k}$  l e>k; s A

izu 5- t $\ddot{k}$ y $\ddot{d}$   $\ddot{A}$ t $\ddot{k}$  fdl s dgrs g $\ddot{A}$  A fu $\ddot{E}$ u v $\ddot{k}$ o $\ddot{M}$ l $\ddot{a}$  dh l g $\ddot{k}$ ; r $\ddot{k}$  l s NaCl dh t $\ddot{k}$ y $\ddot{d}$   $\ddot{A}$ t $\ddot{k}$  dh x.kuk d $\ddot{l}$ f $\ddot{t}$ , A

$$\frac{1}{2} \text{Na dh m?o} \ddot{r} \text{kru } \ddot{A} \text{t} \ddot{k} = 108.5 \text{ kJ mol}^{-1}$$

$$\frac{1}{2} \text{Dy} \ddot{k} \text{jhu dh fo; kstu } \ddot{A} \text{t} \ddot{k} = 243.0 \text{ kJ mol}^{-1}$$

$$\frac{1}{2} \text{Na dh v} \ddot{k}; \text{uu } \ddot{A} \text{t} \ddot{k} = 495.2 \text{ kJ}$$

$$\frac{1}{2} \text{Dy} \ddot{k} \text{jhu dh by} \ddot{D}$$
V $\ddot{t}$ f $\ddot{u}$ d c/k $\ddot{r}$ k = 348.3 kJ mol<sup>-1</sup>

$$\frac{1}{2} \text{NaCl dh l } \ddot{M} \text{kou } \ddot{A} \text{t} \ddot{k} = 381.8 \text{ kJ mol}^{-1}$$

—00—

## bdkbz - 4

-% jkl k; fud l kE; %

vfr y?kpnÜkjh; izu

- izu 1- l kE; koLFkk fdl s dgrs gñ A
- izu 2- m"ek{ki h vflkfØ; k dk rki c<kus ij fØ; kQy ij D; k i hko i Mæx A
- izu 3- gsujh dk fu; e fyf[k, A
- izu 4-  $K_p$  , oa  $K_c$  ea D; k l cak gS A
- izu 5- l fØ; ek=k dks ifjHkkf"kr dhft, A
- izu 6- l kM; e l YQV ds l rår foy; u ij rki c<kus ij D; k glsx \
- izu 7- l æxh l kE; koLFkk vflkfØ; k ifjHkkf"kr dhft, A
- izu 8- ;fn  $\Delta G = +ve$  WkukRed½ gñ rks vflkfØ; k fdl fn'kk ea vxl j glsxh A

y?kpnÜkjh; izu

- izu 1- ^jkl k; fud l kE; , d xfrd l kE; gñ A bl dFku ds vflki k; dks Li"V dhft, A
- izu 2- jkl k; fud l kE; koLFkk dh rhu i æ[k fo'kkrk, a fyf[k, A
- izu 3- mRØe.kh; , oa vuRØe.kh; vflkfØ; k dks ifjHkkf"kr dj mnkj.k fyf[k, A
- izu 4- fuEufyf[kr l ehdj.k ij rki] ntc vkj l knzk ds ifjorZu dk i hko fyf[k, -



- izu 5- nØ; vu[krh fØ; k dk fu; e fyf[k, vj l =  $K_c = \frac{[C][D]}{[A][B]}$  fl ) dhft, A

## nh?kZ mRrjh; izu

- izu 1-  $N_2 + 3H_2 \rightleftharpoons 2NH_3$  yh-'kkrfy, s fu; e D; k gS \ veku; k fuekZk dh gEj fof/k ftI s I ehdj.k  
ea n'kkZ; k x; k gS bl ea I knzkj nkc , oa rki ds iHkko  
dks I e>kb; s A
- izu 2-  $H_2 + I_2 \rightleftharpoons 2HI$  ds fy,  $K_p$  &  $K_c$  ea I cak Kkr dhft, A
- izu 3- KI ds I dySk.k ds fy,  $K_c$  dk eku Kkr dhft, A
- izu 4-  $PCl_5 \rightleftharpoons PCl_3 + Cl_2$  ds fy, fo; kstu fLFkjkd  $\frac{1}{K_c}$  dk eku Kkr dhft, \ ;fn 2 eky  $PCl_5$  dks 2 fyVj ds ,d fuykld ea xel djus ij I kE; kolFkk ij 40 ifr'kr fo; kstu ik; k x; k rls  $PCl_5$  ds fy,  $K_c$  dk eku Kkr djka
- izu 5- n0; vuqkrh f0; k dk fu; e D; k gS I kE; dks iHkfor djus okys fdUgha rhu dkj dka dk mYys[k dhft, A

## bdkbz – 5

-% jkl k; fud m"ekxfrdh %

vfr y?kpnÜkjh; izu

izu 1– foylkr ræ fdl s dgrs gš \

izu 2– : nkse iØe l s D;k vflki k; gš \

izu 3– icy vEy vlg icy {kkj dh mnkl hhdj.k m"ek dk eku KJ ea fyf[k, A

izu 5– volFkk Qyu ds nks mnkgj.k fyf[k, A

izu 6– ok"ihdj.k dh ,U; Yih dks ifjHkkf"kr dhft, A

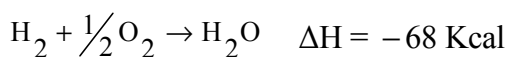
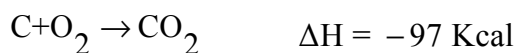
y?kpnÜkjh; izu

izu 1– fdl h ; kfxd dh l Hkou m"ek vkj ngu m"ek l s D;k rkRi ; l gš \  
l e>kb; A

izu 3– fl ) dhft, –  $\Delta H = \Delta E + P\Delta V$

izu 4– vkrfjd Åtkz D;k gš \ bl dk fu/kk.k ce dsykeVj }kjk ds s fd;k tkrk  
gš \

izu 5– fn, s x, s vkdMla ds vk/kkj ij cat hu dh l Hkou m"ek dh x.kuk dhft, %



cat hu dh ngu m"ek –783.4 Kcal

izu 6– , UFKsyh dh ifjHkk"kk fyf[k, , oa fl ) dhft, fd flFkj vk; ru ij

$$q_v = \Delta E$$

nh?kz mRrjh; izu

izu 1- vkrfjd Åtkz ,oa ,UFkYih dks ifjHkkf"kr dhft, A

izu 3- dkj.k nhft, -

¼a½ cQZ dks Li'kz djus ij gea BMD egl ¶ gksh g\$ A D; ka \ ¼2½

¼b½ m"ek ,d voLFkk Qyu ugha g\$ D; ka A l e>kb;s \ ¼2½

¼c½ dryh ea j[lh pk; fdl izlkj dk ra= g\$ uke fyf[k, A ¼1½

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## bdkbz – 6

–% fo|q jlk; u %

vfr y?kqRrjh; izu

- izu 1– elyj pkydrk fdl s dgrs gđ \
- izu 2– fof'kV pkydrk ij ruqk dk D;k iHkko gkrk gđ A
- izu 3– fo|q vi?kVu dk fu;e fdl oKkfud us fn;k A
- izu 4– icy ,oa nqy fo|q vi?kV; ea nks varj fyf[k, A
- izu 5– fo|q vi?kV; ,oa fo|q vui?kV; fdl s dgrs gđ A

y?kqRrjh; izu

- izu 1– fof'kV pkydrk dh ifjHkk"kk fyf[k, ,oa ruqk dk D;k iHkko iMfk gđ A  
0;k[k; k dhft, \
- izu 2– dkyjkkk dk fu;e D;k gđ \ bl fu;e }kjk fdl h nqy fo|q vi?kV; ds  
fy, vullr ruqk ij vk.kfod pkydrk fdl izdkj Kkr dj l drs gđ A
- izu 3– l y fLFkjkd fdl s dgrs gđ \ bl s iz; kx }kjk fdl izdkj Kkr dj l drs  
gđ A
- izu 4– /kkfRod pkyu rFkk fo|q vi?kVuh pkyu ea pkj varj fyf[k, A

nh?kz mRrjh; izu

- izu 1–  $\frac{1}{2}$  Qs kMs ds iFke fu;e dks ifjHkkf"kr dhft, A  $\frac{1}{2}$   
 $\frac{1}{2}$  0-25 ,fei;j dh fo|q /kkjk dks  $\text{CuSO}_4$  foy;u ea 1 ?k/s rd  
izkfgR dh tk,xk rks fdruk dkij eqRr gkrk gđ \  $\frac{1}{2}\text{Cu} = 63$  ij Hkkj  $\frac{1}{2}$
- izu 2– Qs kMs ds f}rh; fu;e dks fyf[k, A ,d gh fo|q /kkjk dks  $\text{CuSO}_4$  ,oa  
 $\text{AgNO}_3$  foy;ula ea izkfgR fd;k x;k A ftrus le; ea 0-35 xte dkWj

eſſr gſk mruſ l e; ea fdruk fl Yoj 1 byDVMM ij eſr glxk x.luk  
dlft, A

izu 3- dkyjkk dk fu;e D;k gſ \ bl ds rhu vujz kx fyf[k, A

—00—



## bdkbz – 7

-% s -cykd ds rRoka dK j l k; u %

vfr y?kqRrjh; izu

- izu 1– I keld; rti ij  $H_2O$  no gS tcfD  $H_2S$  xS gS D; ka \
- izu 2– ij kus ry fp=ka dks i mkbLFk ea ykus ds fy,  $H_2O_2$  dK iz kx D; ka fd; k tkrk gS \
- izu 3– vk; ka , oa ijk-gkbMkstu dks I e>kb; a A
- izu 4– dSyxkllh fdl s dgrs gS \
- izu 5– I eng IA ds rRoka dks {kkj /kkrq dgrs gS A D; ka \
- izu 6– I hel/ ea ftll e D; ka feyk; k tkrk gS A
- izu 7– {kkj /kkrq a no veksu; k ds I kFk uhyk jak nrh gS A D; ka \
- izu 8– Be , oa Mg Tokyk ij h{k.k ugha nrs D; ka \

y?kqRrjh; izu

- izu 1– dkj.k fyf[k, –  
 $\frac{1}{2}$  izdfr ea {kkj/kkrq a eDr volFk ea ugha ik; h tkrh D; ka \  
 $\frac{1}{2}$  {kkj /kkrq a icy vipk; d gkrs gS A D; ka \
- izu 2– eSMyhQ dh vkorZ I kj.kh ea  $H_2$  ds LFku dks Li"V dhft, A
- izu 3– fod.kZ I cak fdl s dgrs gS A Li , oa Mg ea dkbz pkj fod.kZ I cak fyf[k, A
- izu 4– csjfy; e ds vl ekl; 0; ogkj dks fdllgha pkj fcnyka ds vk/kkj ij I e>kb; \
- izu 5– "dSyxku \*\* D; k gS \ bl dh I gk; rk I s ty dh dBkjr dS s nij dh tkrh gS \

izu 6-  $H_2O_2$  dh fuEu ds l kfk fØ;k fyf[k, -

$\frac{1}{2}$  PbS     $\frac{1}{2}$  KI     $\frac{1}{2}$  vEyh;  $KMnO_4$      $\frac{1}{2}$   $FeSO_4$

nh?kz mRrjh; izu

izu 1-  $\frac{1}{2}$  gkbMkstu ds l eflFkkfudka ds uke o l = fyf[k, A     $\frac{1}{2}$

$\frac{1}{2}$  gkbMkstu ds l eflFkkfudka ds i jek.kq l j puk dk vj[s[k cukb, A

$\frac{1}{2}$  M; Wfhj; e D; k gS \ bl dk , d mi ; kx fyf[k, A     $\frac{1}{2}$

izu 2- {kkj/kkrq rFkk {kkjh; eñk /kkraqka dh rgyuk fuEu fcnpka ds vk/kkj ij dhft, -

$\frac{1}{2}$  vk;uu Åtkz     $\frac{1}{2}$  vkDI kbM dh {kkjh; rk

$\frac{1}{2}$  dkcku/ks dh foyş rk

## bdkbZ – 8

–% P – Cykld ds rRoka dk jlk; u %

vfr y?kqRrjh; izu

- izu 1– fl fydvt fdl s dgrs gā \
- izu 2– lyEcks l KYod h fdl s dgrs gā A mnkgj.k nhft, \
- izu 3– yM ds nks mi; ks fyf[k, A
- izu 4– ikvkl ,ye dk l = ,oa ,d mi; ks fyf[k, A
- izu 5– D; ks gkrk gS tc yM dks l knz HCl ds l kfk xeZ djrs gS A jkl k; fud l ehdj.k fyf[k, A
- izu 6– fl nj dk l = ,oa nks mi; ks fyf[k, A
- izu 7– dkcu vij: ika ds uke fyf[k, A
- izu 8– l gkxk eudk ijh{k.k dks jkl k; fud l ehdj.k }kjk l e>kb; s A
- izu 9–  $\text{AlO}_3$  ypl vEy dh Hkar 0; ogkj n'kzk gS A D; ka \

y?kqRrjh; izu

- izu 1– dkckbM D; k gS \ bl dk oxhdj.k dhft, A
- izu 2– l hl s dh ied[k pkj feJ /kkrvka ds uke] ifr'kr l xBu rFkk mi; ks fyf[k, \
- izu 3– ckjDI cukus dh fof/k] xqk ,oa mi; ks fyf[k, A

nh?kZ mRrjh; izu

- izu 1– yM ds fdllgha nks v; Ldka dk uke ,oa l = fyf[k, ,oa bl ds fu"d"zk ds dkcu vip; u fof/k dk o.ku dhft, A
- izu 2– fuEu ; kSxdka ij fVli.kh fyf[k, –  
 $\frac{1}{2} \text{PbCl}_4$        $\frac{1}{2} \text{SnCl}_4$

izu 3- ckyku vky fl fydkk ea fod.kz l aak fdlgha i kp fcnyka ds vk/kkj ij  
fyf[k, A

izu 4- ckyku ifjokj ,oa dkcU ifjokj ds l nL; ka ds rRoka ds uke l = ,oa  
byDVkfud fol;kl fyf[k, A

--00--

## bdkbz – 9

–% dkčud j l k; u dh dN eytkr vo/kkj.kk, a %

vfr y?kqRrjh; izu

izu 1– I tkrh; Jskh fdl s dgrs gā \

izu 2– fdl h ; kxd ds fdnsy gkus ds iedk 'krā D; k gS \ fyf[k, A

izu 3– I ery /kfor izk'k fdl s dgrs gā A

izu 4– ,ffkytu ,oa ,fl fVytu ea  $\sigma$  ,oa  $\pi$  cāka dh I ē; k fyf[k, A

izu 5– vl efer dkčū fdl s dgrs gā A

izu 6– LFku I eko; rk dks mngj.k I fgr I e>kb; a \

izu 7– epr eyd fdl s dgrs gā \

y?kqRrjh; izu

izu 1– vuqkn fdl s dgrs gā \ vuqkn ds 'krā fyf[k, \

izu 2– ijf.kd i hko ,oa ed ksjd i hko ea dkbz pkj vrj fyf[k, A

izu 3– dkj.k fyf[k, –

$\frac{1}{2}$  Qkfed vEy] ,I hfVd vEy dh vi{kk icy vEy gkrs gā D; ka \

$\frac{1}{2}$  eFky ,ehu] veku; k dh vi{kk icy {kkj gkrs gā D; ka \

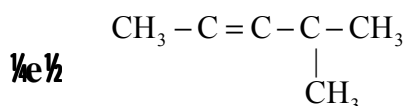
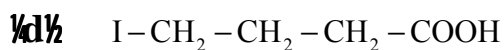
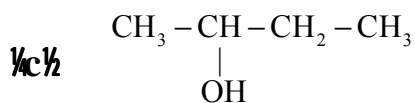
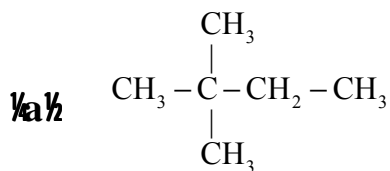
izu 4– fØ; kRed I eng fdl s dgrs gā A ,Ydkgy] ,fYMgkbM ,oa bFkj ds fØ; kRed I eng dk I = fyf[k, A

izu 5– I adj.k fdl s dgrs gā \  $C_2H_2$   $\frac{1}{2}$  I hfVytu $\frac{1}{2}$  ea I adj.k dks I e>kb; s A

nh?kz mRrjh; izu

izu 1– fuEu ; kxd dk IUPAC uke fyf[k, \

iz 2-  $\frac{1}{2}$  , I hfVd vEy  $\frac{1}{2}$  fxyI jkly  
 fuEu I jpuvka dk IUPAC uke fyf[k, -



iz 3- I eko; rk fdl s dgrs gā \ T; kferh I eko; rk dks mnkgj.k I fgr I e>kb; A

iz 4- I a i.k fdl s dgrs gā \ , Fku vkj I kbDykgDI su ds I a i.k dk foLrkj iwd ryuk dhft, A

iz 5- fuEufyf[kr dks mnkgj.k }kj Li"V dhft, -

$\frac{1}{2}$  ifrcEc : i

$\frac{1}{2}$  dkckfu; e vk; u

$\frac{1}{2}$  dkckuk; u

## bdkbZ – 10

-% gkbMtkdkcZu dk j l k; u , oa gSykst u ifr0; kih gkbMtkdkcZu %

vfr y?kqRrjh; izu

izu 1– ijvkdI kbM i tkko fdl s dgrs gā \

izu 2– ekdkfudkND fu; e fyf[k, A

izu 3– xēDI hu dk l = , oa jkl k; fud uke fyf[k, A

izu 4– ol/zē vflkfØ; k dks l ehdj.k l fgr l e>kb; s A

izu 5– cs j vflkdebd D; k gS \ bl dk l = fyf[k, A

izu 6– D; k gkrk gS tc , l hfVyu dks veksu; e AgNO<sub>3</sub> ds foy; u ea i dkfgr djrs gS A jkl k; fud l ehdj.k fyf[k, A

izu 7– 666 fdl ; kxd dks dgrs gā vsj D; ka \

izu 8– DytjkQkeZ ds ckr y ea 1 ifr'kr , ffky , Ydkgy feykdj j[kk tkrk gS A D; ka \

izu 9– DytjkQkeZ dks uhys ; k Hkjs jak dh ckr y ea eHj rd Hkj dj MKV yxkdj j[kk tkrk gS A D; ka \

izu 10– PVC fdl s dgrs gā \ bl ds nks mi ; kx fyf[k, A

izu 11– , Ydsu] , Ydhu , oa , Ydkbu dk l keld; l = fyf[k, A

nh?kZ mRrjh; izu

izu 1– cgyhdj.k fdl s dgrs gā \ nks mnkgj.k ndj l e>kb; a A

izu 2– catlu dk vkfc/y ekMy l e>kb; s A

izu 3– fQvklh xS D; k gS \ bl ds cukus dk l ehdj.k , oa nks mi ; kx fyf[k, A

izu 4– , l hfVyu cukus dh iz; kx'kkyk fof/k dk ukelfdr fp= cukdj vko'; d l ehdj.k fyf[k, \

izu 5- DykjQkeZ dks ok; q rFkk izdk'k ea j[kus ij D;k gkrk gS \ jkl k; fud  
 I ehdj.k fyf[k, ,oa DykjQkeZ ds nks mi ;ks fyf[k, \

vfr y?kqRrjh; izu

izu 1- fuEu dks dS s ifjofr r djxs %k- I ehdj.k fyf[k, ½

i½ , FksukW I s , fFkyhu

ii½ , Y; qefu; e dkckbM I s efku

iii½ I kM; e catkS V I s cat hu

vi½ efFky DykjkbM I s , Fksu

v½ , d hfV yhu I s cat hu

izu 2- D; ks gkrk gS tc %kl k; fud I eh- fyf[k, ½

i½ I kM; e , d hfV dks I kMkykbe ds I kFk xeZ djrs gA ¼2½

ii½ , fFkyhu dks vkstku ds I kFk mip; u djrs gA A ¼2½

iii½ , I hfV yhu ty ds I kFk I a ks djrh gS A ¼1½

izu 3- fuEu vflkfØ; k dks I e>kb; a -

i½ vk; kMkQkeZ vflkfØ; k ¼2½

ii½ jkbej VheS vflkfØ; k ¼2½

iii½ oqZt vflkfØ; k ¼1½

izu 4- fuEu ; kSxd ds cukus dh fof/k xqk , oa mi ;ks fyf[k, A

i½ B.H.C. ¼2½

ii½ D.D.T. ¼2½

izu 5- iz ;ks'kyk ea DykjQkeZ cukus dh fof/k fy[kdj ukedfr fp= cukb; s , oa  
 vko'; d I ehdj.k fyf[k, A



izu 6- ,ffkyhu cukus dh iz kx'kkyk fof/k dk fuEukfdr fcnyka ds vt/kkj ij  
l e>kb; s -

i½ fl )kr ,oa l ehdj.k ¼2½

ii½ ukefdr fp= ¼2½

iii½ iz kx fof/k ¼1½

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# bdkbZ – 11

-% gkbMkDI h dkcŕud ; kŕxd %

vfr y?kqRrjh; izu

- izu 1– ifj'kq ,Ydkgy fdl s dgrs gŕ A
- izu 2– fXyl jkly dh ty ea foyŕ rk dk D;k dkj.k gŕ A fyf[k, A
- izu 3– ikb j ,Ydkgy D;k gŕ \ bl dk l 2kVu fyf[k, \
- izu 4– Qhukly vEyh; idfr dk gkrk gŕ D;ka \ l ehdj.k l fgr l e>kb; s A
- izu 5– fQukly ,oa ,Ydkgy ea dkbZ nks vrj fyf[k, A
- izu 6– fXyl jky dk l = ,oa IUPAC uke fyf[k, A
- izu 7– fQukly l s fi fØd vEy dŕ s ikr djrs gŕ A jk- l ehdj.k fyf[k, A
- izu 8– ,ffky ,Ydkgy ty ea foyŕ gŕ
- izu 9– 'kq fQukly jakghu gkrk gŕ ijarq ok; q ds l i Ø ea vkrŕ gh xykch jak dk gks tkrk gŕ A D;ka \ 2k- l ehdj.k l fgr l e>kb; 2

vfr y?kqRrjh; izu

- izu 1– fQukly dh fuEufyf[kr vflkfØ;k dks jk- l ehdj.k }kjk l e>kb; s A  
i½ dk'cf'eV vflkfØ;k ii½ jkbej Vheŕ vflkfØ;k
- izu 2– Qhukly vŕj ,ffky ,Ydkgy dk fuEu xqkka ds vk/kkj ij vrj fyf[k, –  
i½ idfr ii½ xdk iii½ FeCl<sub>3</sub> ds l kFk vflkfØ;k
- izu 4– LiŕykbZ fdl s dgrs gŕ A LiŕykbZ l s fXyl jkly cukus okys l a = dk ukekŕdr jŕ[kf= cukbZ a A
- izu 5– yndkl ijh{k.k }kjk 1<sup>o</sup> 2<sup>o</sup> 3<sup>o</sup> ,Ydkgy ea folkn dŕ s fd;k tkrk gŕ A jkl k;fud l ehdj.k }kjk l e>bZ; s A

vfr y?kqRrjh; izu

izu 1- 1<sup>o</sup>] 2<sup>o</sup>] 3<sup>o</sup>] ,Ydkgy fdl s dgrs gš A buds igpku dh vkDI hdj.k vks  
fcgkbMkstuhdj.k fof/k; ka dks jkl k; fud l ehdj.k l fgr fyf[k, A

izu 2- fXyl jhu dk o.ku fuEu fcnpka ij dhft, -

a½ cukus dh fof/k ,oa l ehdj.k ¼3½

b½ vkDI fyd vEy ds l kFk vfllkØ;k ¼2½

izu 3- fQukWl l s i k j k dj fuEu ; kšxd dš s i k l r dj s s ½dšy l ehdj.k  
fyf[k, ½A

a½ Mkgckeks fQukWl

b½ fi fØd vEy

c½ , uhyhu

d½ cat hu

e½ cšlykbV

izu 4- fXyl jky l s i k j k dj fuEu ; kšxd dš s i k l r dj s s -

a½ , fyy vk; kškbV

b½ ukbVksXyl jhu

c½ Qkfebl vEy

d½ , Økshu

e½ , fyy, Ydkgy

## bdkbz – 12

-% dkcīud ; kšxd dk fo'yšk.k , oa 'kq) dj.k %

vfr y?kqRrjh; izu

- izu 1– nks flklu DoFkukad okys nō dk iF; dj.k dš s djrs gš A | e>kb; s \
- izu 2– yš Xys ijh{k.k }kjk fdu–fdu rRoka dh igpku dh tkrh gš A muds uke fyf[k, A
- izu 3– ,d cšry ea nks vflk{k.kh; nō gš budks iFkd djus dh dšū | h fof/k dk mi; kx djrs gš včš D; ka \
- izu 4– dkcīud ; kšxd ds rRoka dk ijh{k.k djus ds fy, ik; % | kšM; e fu"d"iz cuk;k tkrk gš D; ka A dkj.k nhft, A
- izu 5– yhfcax fof/k }kjk fdu rRoka dk vkdyu fd;k tkrk gš

y?kqRrjh; izu

- izu 1– iškktth vkl ou }kjk nōka dk iF; dj.k dš s djrs gš A | fp= o.kū dhft, A
- izu 2– yš Xus ijh{k.k }kjk N dk ijh{k.k dš s djrs gš \ | ehdj.k | fgr | e>kb; š
- izu 3– dkcīud ; kšxd ea | YQj ds ijh{k.k dk yš Xus fof/k dk jkl k; fud | ehdj.k | fgr o.kū dhft, A
- izu 4– dšj; | fof/k }kjk gšyktu ½ dk vkdyu dš s fd;k tkrk gš ukekdšr jš[kkfp= , oa fl ) kš fyf[k, A

## nh?kZ mRrjh; izu

izu 1- N - ds vkdyu dh tYMkly fof/k dk fuEufidr fcnp/ka ds vk/kkj ij o.kZu dhft, -

$\frac{1}{2}$  fl )kr ,oa fof/k  $\frac{1}{2}$

$\frac{1}{2}$  ukedidr fp=  $\frac{1}{2}$

$\frac{1}{2}$  N dh ifr'kr ek=k dh x.kuk  $\frac{1}{2}$

izu 2- dFj;l fof/k fdls dgrs gS \ ;fn ,d dkcfud inkFkZ ds 0-3 xte ds  $\text{HNO}_3$  vkj  $\text{AgNO}_3$  ds lkFk dFj;l mi dj.k ea xel djus ij 0-280 xte  $\text{AgBr}$  ikr gqk rks ckehu dh ifr'kr ek=k kkr dhft, A

izu 3- dkcfud ;kxd ea C ,oa H dh igpku dS ds dh tkrh gS l ehdj.k l fgr l e>kb;a ,oa bl ds vkdyu dh M;nek fof/k dk ukedidr fp= cukb;s \

## bdkbz 01

### jLkk,kUk dh dQ EkYk vOk/kkj .kk, a

#### Lkgh fOkdYIk PkQkdj fYkf [k,ks-

Ikz Uk 1- fdLkEka vf/kdRkEk v.kq gS-

(a) 7 XkkEk  $N_2$  (b) 2 XkkEk  $H_2$  (c) 16 XkkEk  $NO_2$  (d) 16 XkkEk  $O_2$

Ikz Uk 2 – fUkEuk Eka Lks dkSk Lkh v/kkRkq gS-

(a) Cksj kUk (b) bfUM<sub>3</sub>kEk (c) , $\nu$ <sub>3</sub> kQEkfUk<sub>3</sub>kEk (d) UkSYk<sub>3</sub>kk

Ikz Uk 3– LkYQj CkgBkk<sub>3</sub>kRk Eka fEKYkRks gS-

(a) EkglLkkXkj ka Eka (b) LkEkQeka Eka (c) PkEkUkka Eka (d) Ukn<sub>3</sub>kka Eka

Ikz Uk 4– IkjEkk.kq Hkkj dk vk/kQkUkd LdYk fUkEu Ikj vk/kkfj Rk gS-

(a)  $C^{12}$  (b)  $O^{16}$  (c)  $H^1$  (d)  $Cl^{13}$

Ikz Uk 5– fUkEuk Eka v.kq/ka dh vf/kdRkEk Lkq<sub>3</sub>kk mlkLFkRk gS-

(a) 0-5 XkkEk  $H_2$  Xk&k (b) 10 XkkEk  $O_2$  Xk&k  
(c) 15L  $H_2$  Xk&k (d) STP Ikj 5L  $H_2$  Xk&k A

#### fjDRk LFkkUkka dh IkRkZ dhfTk, –

Ikz Uk 1- æ0<sub>3</sub>kEkUk dh SI bdkbz \_\_\_\_\_gS

Ikz Uk 2- 'kQ) TkYk dh EkSYkjRkk \_\_\_\_\_gkRkh gS

Ikz Uk 3- Lkq<sub>3</sub>kk 0-0250 Eka \_\_\_\_\_LkkfkZd vAd gS

Ikz Uk 4- fEkEh fEKYks TkYk dks \_\_\_\_\_fOkf/k }kj k 'kQ) dj Rks gS

Ikz Uk 5- , d EkSYk  $CO_2$  Eka \_\_\_\_\_dkCkUk IkjEkk.kq mlkLFkRk gS

#### Lkgh <sub>3</sub>kk XkYkRk fYkf [k,ks-

Ikz Uk 1- vkUkLkhTkUk dk v.kq , d fEkJ.k gS

Ikz Uk 2- v.kq 'kCn dks , Skk&k&Rks Uks IkLkRkQk fd<sub>3</sub>kk Fkka

- Ikz Uk 3- fLFkj vUkqkRk dk fUk,kEk IkmlLV Uks fn,kk FkkA
- Ikz Uk 4- æ0,k dks Uk Rkks mRIKUk fd,kk Tkk LkdRkk gS vkj Uk gh Uk"V
- Ikz Uk 5- j kLkk,kfUkd LkEkhdj .k Lks v.kq/ka dh Lkq,kk dk KkUk gkBkk gA

**Lkgh TkMh fyf[k, –**

- |                                 |     |   |
|---------------------------------|-----|---|
| 1- ghjk                         | (a) | $(\text{NH}_4)_2\text{SO}_4 \cdot \text{Fe}(\text{SO}_4) \cdot 6\text{H}_2\text{O}$ |
| 2- MhTkYk                       | (b) | YkSkkTk, j  |
| 3- Eksgj Ykok.k                 | (c) | TkkUk MkyVUk  |
| 4- Xkq.kRk vuq kr dk fu; e      | (d) | fEkJ.k  |
| 5- æ0,kEkUk Lkj {k.k dk fUk,kEk | (e) | RkRk  |

**mRRkj EkYkk –**

- 1- CkgfQkdYIkH; Ikz Uk& 1. (b) 2. (a) 3. (c) 4. (d) 5. (c)
- 2- fjDRk LFkkUkka dh IkRkZ dhfTk, – 1- fdYkkkEk 2- 55-6 3- 3 4- vkLkUk fof/k  
5-  $6 \cdot 02 \times 10^{23}$
- 2- I gh ; k xyr fyf[k; s & 1- vLkR,k 2- LkR,k 3- LkR,k 4- LkR,k 5-LkR,k A
- 4- I gh tkMh fyf[k; s & 1-(e) 2-(d) 3-(a) 4-(c) 5-(b)

### **Ikj Ekk.kq Lkj PkUk**

**fjDRk LFkkUkka dh IkRkZ dhfTk, –**

- Ikz Uk 1- Ikks/RUk dh [kkTk dk Jsk ————dks gA
- Ikz Uk 2- p<sub>x</sub> d{k d Eka UkkMYk RkYk dh Lkq,kk ————gkBkh gA
- Ikz Uk 3- Ikj Ekk.kq dk IYEk— IkqMk EkkMYk ————Uks IkLkRkFkRk fd,kkA
- Ikz Uk 4- LkEkHk d{k d Eka bYkDVkUk HkjUks dh IkfØ,kk ————fUk,kEk dh vUkqkYUk djRkh gA
- Ikz Uk 5- vfUk' PkRkRk dk fLk) kRk RkFk æ0,k dh Rkjkk IkñfRk dh vOk/kkj.kk ————  
Uks IkLkRk dhA

**Lkr,k ,kk vLkr,k fykf[k,ks-**

- Ikz Uk 1- Lkhkh Ikzdkj ds Ikzk'k ds Qks/kukka dh ÅTkkz LkEkkuk gkRkh gÅ
- Ikz Uk 2-  $z = 0$  Ekkuk OkkYkk vkfcVÿ UkkfHkd ds LkkIkçk LkEkfEkrk gkRkk gÅ
- Ikz Uk 3- f}Xka kh Dkk. VEk Lkç, kk dk Ekkuk \_\_. kREkd Ugha gks LkdRkk gÅ
- Ikz Uk 4- FkkLkLkuk Uks LkEkLFkkfUkdka dh [kkçk dh Fkh A
- Ikz Uk 5- Ckj fLk) kRk ds vUkkkkj bYkDVruk dk dks kh, k LkRkk Dkk. VhñRk gkRkk gÅ
- Ikz Uk 6- Cr, Cu Rfkk Na ds Ckg, kREk dks k dk fok, kLk ØEk'k%  $3d^5$ ,  $3d^{10}$  Rfkk  $3s^1$  gkRkk gÅ

**Lkgh mRRkj Pkkdj fykf[k,ks-**

- Ikz Uk 1- Ikks/Ruk gÅ-
  - 1- /kuk vkOks'k
  - 2-  $H^+$
  - 3- gkbmRçkuk vk, kuk
  - 4- mlk, kDRk Lkhkh
- Ikz Uk 2- LkçLks gYdk d. k gÅ-
  - 1- Ikks/Ruk
  - 2- bYkDVruk
  - 3- U, kv/Ruk
  - 4-  $\alpha - d. k A$
- Ikz Uk 3- Ukkh/h, k RkYk Ugha gÅ-
  - 1- 1s Eka
  - 2- p- d{kd Eka
  - 3- d- d{kd Eka
  - 4- mlk, kDRk Lkhkh
- Ikz Uk 4- dçkkM/ fdj. ka-
  - 1- fok | çk PkçCkdh, k fokfdj. ka
  - 2-  $\alpha - d. kka$  dk LkEkng
  - 3- bYkDVruk dk Ikçkg
  - 4- fokfdj. ka
- Ikz Uk 5- mnkLkhuk Ikj Ekk. kq Eka gkRks gÅ-
  - 1- dçkYk bYkDVruk
  - 2- dçkYk Ikks/Ruk
  - 3- dçkYk U, kv/Ruk
  - 4- mlk, kDRk Lkhkh
- Ikz Uk 6- U, kv/Ruk dh [kkçk fdLkdh dh gÅ-
  - 1- b- jnjQkMz
  - 2- Ckj
  - 3- IkkÅYkh
  - 4- PkMfokd A



Ikz Uk 7- Pkfcckdh<sub>3</sub>k DOK. VEK Lkē<sub>3</sub>kk n'kkRkh gS-

- 1- d{kd dh ÅTkz
- 2- vBkfj{k Eka d{kd dk fokU<sub>3</sub>kkLk
- 3- d{kd dh vkOkfRRk
- 4- UkkfHkd dh Lkj PKUkk A

Lkgh TkkfM<sub>3</sub>ka CkUkkb<sub>3</sub>ks-

- 1- gqM  $_{18}\text{Ar}^{40}, _{20}\text{Ca}^{40}$
- 2- IkkÅYkh  $_{15}\text{P}^{31}, _{16}\text{S}^{32}$
- 3- RkjÅk QYkUk  $_1\text{H}^1, _1\text{D}^2, _1\text{T}^3$
- 4- LkkEkj QYM  $\text{NH}_3, \text{H}_3\text{O}$
- 5- gkbTkkk OkXkZ  $_{92}\text{U}^{235}, _{90}\text{Th}^{231}$
- 6- LkEkLFkkfUkd IkkEkk. Okh<sub>3</sub>k d{kd
- 7- LkEkHkkfjd UkkbVRSfUk dk bYkDVfUkd fokU<sub>3</sub>kkLk
- 8- LkEkU<sub>3</sub>kwfUkd nh?kZkRRkkdkj vkfOkk
- 9- LkEkbykDVfUk vfUkf' PkRkRkk dk fLk) kkk
- 10- vkbLkkM<sub>3</sub>k fQ<sub>3</sub>kj vkfckD/Yk Eka fokIkfj Rk PkØ. k OkkYksnksbykDVfUk dh Xkg. kRkk

## bdkbz 02

**RkRokka dk OkXkhZj . k , Oka Xkq k/kEkkZ Eka vkOkfRkRkk**

Lkgh mRRkj PkfUk<sub>3</sub>ks-

Ikz Uk 1- LkOkkZ/kd fok | Bk CkU/kBkk dk RkRok gS-

- 1- qYkkg huk
- 2- DYkkg huk
- 3- CkkEk huk
- 4- vk<sub>3</sub>kkD/huk

Ikz Uk 2- LkckLks dEk vk<sub>3</sub>kUkuk fokHok OkkYkk RkRok gS-

- 1- Li
- 2- Mg
- 3- H
- 4- Cs

izu 3- LkckLks CkMk vkdkj gS-

1. Na
2. Na<sup>+</sup>
3. K
4. K<sup>+</sup>

Ikz Uk 4— nŷkŷk Ekŷk /kkRkq/ka dk IkEKEk RkROk gŷ-  
 1- YkŷkŷkEk 2- Lkhfj ,kEk 3- ,kij ŷUK ,kEk 4- , ŷVhfUK ,kEk

Ikz Uk 5— IkR ,kd vkokRk Eka {kkj /kkRkq a j [kRkh gŷ-  
 1- Yk?kŷkRkEk vkdkj 2- fUKEu vk ,kuk ÅTkz  
 3- mPPkRkEk fok | ŷk \_\_.kRkk 4. mPPkRkEk vk ,kukuk ÅTkz A

**fjDRk LFkkUkka dh Ikŷkz dhFTk, -**

- Ikz Uk 1- Be vkŷ Mg RkROk ——— IkfjOkj dk LknL ,k gŷ
- Ikz Uk 2- s- [kŷ ds RkROk — RkROk dgYkkRks gŷ
- Ikz Uk 3- Ykŷkŷkŷkŷk RkFkk , ŷVhUkŷkŷk ———LkEkŷ ds LknL ,k gŷ
- Ikz Uk 4- DYkksj huk dh bYkŷVhUK Ckŷkŷkŷk ŷYkksj huk Lks ———gkŷkh gŷ
- Ikz Uk 5- Lkokŷ/kd fok | ŷk \_\_.kh ,k RkROk vkokRkz Lkkj .kh ds ———LkEkŷ Eka fLFkRk gŷ

**LkR ,k ,kk vLkR ,k fykf [k ,ks-**

- Ikz Uk 1- fok | ŷk \_\_.kRkk foYkŷkRk IkjEkk .kq dk Xkq k/kEkz gkŷkk gŷ
- Ikz Uk 2- LkkŷM ,kEk dh f}Rkh ,k vk ,kukuk ÅTkz EkŷUkhf' k ,kEk dh f}Rkh ,k vk ,kukuk ÅTkz Lks mPPk gkŷkh gŷ
- Ikz Uk 3- mPPk IkjEkk .kq ŷEkkd OkkYks RkROkka ds fyk, vfŷ ,k ,kŷEk Ikŷkkok LkckLks vf/kd gkŷkk gŷ
- Ikz Uk 4- RkROk fTkUkds IkjEkk .kq/ka ds Ckkg ,kRkEk Rkhuk dks k vLkŷz gkŷks gŷ LkEkŷ ds RkROk dgYkkRks gŷ
- Ikz Uk 5- vkokRkz Lkkj .kh ds RkhLkjs vkokRkz Eka 18 RkROk gkŷks gŷ

**Lkgh TkŷŷM ,kka CkUkbb ,ks-**

- 1- LkEkŷ—' kŷ ,k (a) At
- 2- LkŷEk .k RkROk (b) Bk
- 3- fLkDdk /kkRkq (c) Pm
- 4- YkŷkŷkŷkŷkM (d) Cu, Ag, Au

- 5- , sDVUkkbM (e) j xkhuk , kksXkd  
 6- gS'kksT'kuk (f) , j kst'kuk

**mRRkj EkkYkk –**

- 1- 1(b) 2(d) 3(c) 4(b) 5 (b)  
 2- 1- Ek'nk {kkj /kk'q 2- IkfRkfUkf/k 3- IIIB 4- mPPk 5- VIIA  
 3- 1- vLKR<sub>3</sub>k 2- LKR<sub>3</sub>k 3- LKR<sub>3</sub>k 4-LKR<sub>3</sub>k 5- LKR<sub>3</sub>k A  
 4- 1- (f) 2- (e) 3- (d) 4- (c) 5- (b) 6- (a)

**bdkbz 03**

**jkLkk , kfUkd vkCk'kuk , Oka vk. kfUkd Lkj PkUkk**

**Lkgh mUkj PkUkdj fYkf [k,**

- Ikz Uk 1- fdLkea fOk | Bk Lk'kksT'kd Ck'k gS-  
 (a) O<sub>2</sub> (b) CCl<sub>4</sub> (c) NaCl (d) CHCl<sub>3</sub>  
 Ikz Uk 2- Lkg Lk'kksT'kd , kksXkd TkYk Eka lkk<sub>3</sub>%  
 (a) ?kq'kuk' khYk (b) v?kq'kuk' khYk (c) fOk , kksT'kRk (d) TkYk vIk?kfVRk  
 Ikz Uk 3- s-s vFRkO<sub>3</sub> kkiKuk Lks-  
 (a) σ-Ck'k (b) π-Ck'k (c) gkbMfR'kuk Ck'k (d) dkbz Ck'k UkghA  
 Ikz Uk 4- fdLk , kksXkd Eka gkbMfR'kuk Ck'k Ukgha jgXkk-  
 (a) CH<sub>3</sub>COOH (b) H<sub>2</sub>O (c) CH<sub>4</sub> (d) C<sub>2</sub>H<sub>5</sub>OH  
 Ikz Uk 5- I dfjr d{k'kd ea gks'k g&  
 (a) 1/4 s y{k.k (b) 1/2 s y{k.k (c) 2/3 s y{k.k (d) 3/4 s y{k.k

**fjDRk LFkkUkka dh IkfRkZ dhfTk, –**

- 1- CaO dh TkYkd ÅTkZ KI Lks —————gkRkh gA  
 2- Ck'k /kq'Rkk Ck<Uks Ikj Ck'k Yk'kkbz —————gkRkh gA

- 3-  $\text{TiCl}_4$  ds v.kq Eka v $\pi$ DLkhTkUk ———Lkadj .k v $\pi$ LFkk j [kRkk gA
- 4-  $[\text{CH}_3]^+$  dh T<sub>2</sub>kkEkrk ———gkRkh gA
- 5-  $d^2sp^3$  LkdfjRk d{k d Eka d vfHkYk{k.k ———lkrk'krk gkRkk gA

**Lkr, k ,kk vLkr, k fykf [k, -**

- 1-  $\text{SnCl}_2$  , d jS [kd v.kq gA
- 2-  $\text{CO}_2$  , d Lkg&LkqkS'kd Bk.k gS TkCfd ghjk , d vkf.Okd Bk.k gA
- 3-  $\text{NaCl}$  dh , dd dks" Bdk Eka  $\text{NaCl}$  dh Pkkj Lkwk bZkbZ gkRkh gA
- 4-  $\text{O}_2$  Lks  $\text{O}_2^+$  CkUkks Eka bYkDVrUk  $\pi$ -fOkkfjRk Ckdkh vkf.Okd d{k d Lks fuk"dkf"krk gkRkk gA
- 5-  $\text{H}_2\text{O}$  vk<sub>2</sub>vk H- Ckdk ds dkj .k HF CkUkks Eka Lk{kEk gkRkk gA

**Lkgh TkkMh CkUkks, ks-**

- |     |    |                        |   |
|-----|----|------------------------|---|
| [A] | 1- | VBT                    | (a) fXkYk.kh Ok UkkbgkEk                            |
|     | 2- | MOT                    | (b) yfvej o jkM cz k                                |
|     | 2- | VSEPR                  | (c) vUtkkn  |
|     | 4- | $\text{NO}_3^-$        | (d) fgVYkj YkanUk                                   |
|     | 5- | H-Ckku                 | (e) gqM- EkfykdUk                                   |
| [B] | 1- | $\text{PCl}_5$         | (a) $120^\circ$ (18) [dks k l d ; k]                |
|     | 2- | $\text{SF}_6$          | (b) $120^\circ$ (3)                                 |
|     | 2- | $\text{BP}_3$          | (c) $120^\circ$ (3) $180^\circ$ (1), $90^\circ$ (6) |
|     | 4- | $\text{C}_6\text{H}_6$ | (d) $109^\circ 28'$ (6)                             |
|     | 5- | $\text{CH}_4$          | (e) $90^\circ$ (12)                                 |

**mUkj EkkYkk % -**

- 1- 1- (c) 2- (b) 3- (a) 4- (c) 5- (b)
- 2- 1- mPPk 2- ?kVRkh gS 3-  $sp^3$  4- f=dks kh; l ery 5-

3- 1-  $\sqrt{LKR},k$  2-  $\sqrt{LKR},k$  3-  $LKR},k$  4-  $LKR},k$  5-  $LKR},k$

4- (A) 1- (d) 2- (e) 3- (a) 4- (c) 5- (b)

(B) 1- (c) 2- (e) 3- (b) 4- (a) 5- (d)

### bdkbz 04

#### j kLkk, kfUkd LkkE, k

#### Lkgh fkdYlk Pkqkdj fYkf[k, %-

1- LkkE, k lkj EkkUkd EkPRk ÅTkkz lkfjOkRkzlk 'kij, k gS Rkks Kp dk EkkUk gkxkk

(a) 0 (b) 1 (c) 2 (d) 100

2-  $N_2 + 3H_2 \rightleftharpoons 2NH_3$  vfHkfØ, kk ds fYk,  $K_{eq}$  dk EkkUk  $1.6 \times 10^{-5}$  gS Rkks

$NH_3 \rightleftharpoons \frac{1}{2}N_2 + \frac{2}{3}H_2$  ds fYk,  $K_{eq}$  gkxkk -

(a) 6-25 (b) 25 (c) 250 (d) 500

3-  $A + B \rightleftharpoons C + D$  vfHkfØ, kk ds lkjEHk EkaA RkFkk B ds EkkYk Ckj kCkj gA LkkE, kkokLFkk lkj C ds EkkYk A Lks Rkhuk Xkqkk gA LkkE, kkokLFkk fLFkjkd dk eku gksxk&

(a) 1 (b) 3 (c) 4 (d) 9

4- 120 XkkEk, kfij, kk 5 fYkVj fokyk, kUk Eka mlkLFkRk gSRkks, kfij, kk dk LkfØ, k æO, kEkkUk gkxkk-

(a) 0-06 (b) 0-2 (c) 0-4 (d) 0-8

5-  $2HI \rightleftharpoons H_2 + I_2$  vfHkfØ, kk ds fYk, , kfn fok, kksT'kUk fLFkjkd  $\alpha$  gS EkkYkks dh Lkq, kk gkxkh

(a) 2 (b)  $-\alpha$  (c) 1 (d)  $1 - \alpha$

#### Lkgh TkkMh cukb; %-

A

B

(a) XkqMOKkz RkFkk OkkXks

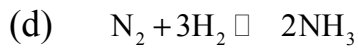
(i) Ykh 'kVs fYk, ks

(b)  $k_p = k_c$

(ii) Lkekxkh LkkE, k

(c)  $AgNO_3 + KCl \rightarrow KNO_3 + AgCl$

(iii)  $CaCO_{3(s)} \rightarrow CaO_{(s)} + CO_{2(g)}$



(iv)  $\Delta H_{\text{mR}} < 0$

(e)  $\Delta H_{\text{f}} < 0$

(v)  $\Delta H_{\text{f}} > 0$

(f)  $\Delta H_{\text{f}} > 0$

(vi)  $\Delta H_{\text{f}} < 0$

(g)  $\Delta H_{\text{f}} < 0$

(vii)  $\Delta H_{\text{f}} > 0$

mÙkj Lkgh fÙkdYIk %- 1- (b) 2- (c) 3- (d) 4- (c) 5- (a)

mÙkj Lkgh TkkMh

(a) – (vi)

(b) – (vii)

(c) – (iv)

(d) – (ii)

(e) – (i)

(f) – (v)

(g) – (iii)

### bdkbz 05

#### jkLkk, kkfÙkd m"EkXkfRkdh

OkLRkqÙk" B Ikz Uk

1- fdLkh LOKRk% IkÙkfrkRk IkÙEk ds fYk,  $-\Delta G$  dk EkkÙk bLkds Ckj kCkj gkRkk gS-

(a) vf/kdRkEk mlk, kkkkh dk, kZ

(b) fÙkd, k Eka , .VRÙDh Ikfj OkRkZk

(c) , UFKYIk

(d) IkLkkj dk, kZ

2- fÙkd, k }kj k vÙk' kks"krk Å"Ek RkFkk , .VRÙk Ikfj OkRkZk Eka fÙkEUK LkÙk gS %

(a)  $\Delta S = \frac{-q_{(rev)}}{T}$

(b)  $\Delta S = \frac{-q}{T}$

(c)  $\Delta s = \frac{q}{T}$

(d)  $\Delta s = \frac{q_{(rev)}}{T}$

3- LkE, kOkLFkka Eka fukdk, k dk EkDRk ÅTkkz k fjOkRkZk gkRkk gS %-

- (a) 'kD, k (b) \_\_.kkREkd (c) vR, kf/kd \_\_.kkREkd (d) /kukkREkd

**fjDRk LFkkUkka dh IkRkZ djs -**

4- LOkRk% IkOkfRkRk IkØEk ds fYk,  $\Delta G^\circ$  dk Ekkuk \_\_\_\_\_ Lks dEk gkRkk Pkkfg, A

5- , .Vkkh \_\_\_\_\_ dk Ekkkd gkRkk gS

6- LkE, k ds fYk,  $\Delta G =$  \_\_\_\_\_ gkRkk gS

**LkR, k @ vLkR, k dFkuk %**

7- Å"Ek dh SI bdkbz dYkkjh gkRkk gS A

8- LOkRk% IkØEk mRØEk. kh, k IkñFRk dk gkRkk gS

9- EkDRk ÅTkkz Eka dEk RkFk LkE, k fLFkjkd fUkEu 0, kkd Lks LkOkk/kRk gS -

$\Delta G^\circ = -2.303 RT \log Kc$

10- fOkYk, k dk dh LkEkdyk Å"Ek RkFk kknkFkZ dh TRYk, kskkuk Å"Ek , d gh gkRkh gS

**mRrj %**

- 1- (a) 2- (d) 3- (a) 4- 'kD, k 5- vO, kOkLFk 6- 'kD, k 7- vLkR, k 8- vLkR, k  
9- LkR, k 10- vLkR, k

**bdkbz 06**

**jkLk, kfukd Å"Ek xFRkdh**

**Lkgh mUkj Pkkkdj fYkf [k, ks**

1- Å"Ek xFRkdh dk kFEk fuk, k dk dOkYk , kg gS

- (a) Okk Lkj {k. k dk fuk, k (b) ÅTkkz Lkj {k. k dk fuk, k (c) æO, kkkuk Lkj {k. k dk fuk, k (d) æO, kkkkkkkk fØ, k dk fuk, k

2- Okg IkØe fTKLEka Å"Ek k fjOkRkZk Ukgha gkRkk] dgYkkRk gS-

- (a) , d vUkØEk. kh, k IkØe (b) mRØEk. kh, k (c) , d kØe (d) : ) kSEk IkØe

- 3- lknkFkZ dh ngUk Å"EkK –
- (a) Lknk /kukkREkd gk&kh gS (b) Lknk \_\_.kkREkd gk&kh gS
- (c) Lk[ ,kkREkd nf"V LksLk&KUK Å"EkK dsLkEkKUK gk&kh gS (d) buKEka Lks dkbZ Ukgha
- 4 - fUKEu Eka fdLkEka , .VRNkh ?kVRkh gS–
- (a) Yksgs Ij T&Kk YkXkUk (b) f&Yk ,kuk LksLk&K&K dk f&LVYku
- (c) dIkj dk ok"i u (d) &QZ dk fik?kYkUk
- 5- æ&K ds &K"IKUK Ik&EK Eka &
- (a) , UFKYIKh Eka &f) (b) , .VRNkh Eka d&K
- (c) Ek&RK ÅTKZ Eka dkbZ Ikfj &RK&K Ukgha (b) , .VRNkh Eka &f)

**fj DRk LFkkUkka dh Ik&RkZ dhfTk ,ks&**

- 1- Å"EkK&fRkdh dk Xkf .kRkh ,k L&K: Ik gS \_\_\_\_\_A
- 2- , UVRNkh , d \_\_\_\_\_ Xkqk gS
- 3- ,kfn RkR&K dh EkK&Kd v&KLF&K Eka , UFKYIKh dks L&K&Nk Lks EkK&K fYk ,kk Tk&R&K gS – \_\_\_\_\_
- 4- Lk&E ,k ds fYk, ΔG \_\_\_\_\_ gk&Kk gS
- 5- ,kfn Rk&= Ikfj&Ks k Lks Uk Rkks Å"EkK &K Uk æ& ,k dk f&KfU&E ,k djR&K gS \_\_\_\_\_ dgYk&R&K gS

**Lk& ,k ,kk vLk& ,k fYkf [k ,ks**

- 1- L&K&K% Ik&E mR&EK .kh ,k] Ik&NfRk dks gk&Kk gS
- 2- Å"EkK dh SI b&KbZ d&Yk&h gk&Kk gS
- 3- ÅTK&Z Lk& {k .k dk fuk ,k&K Å"EkK X&fRkdh dk Ik&EK fuk ,k&K gS A
- 4- v&K&fjd ÅTK&Z dk fukjIk&K EkK&K K&Rk fd ,kk Tk& L&dR&K gS A
- 5- Å"EkK 'kk&kh ,k&X&Kd] Å"EkK{k&kh ,k&X&Kd Lks vf/kd LF&K ,kh gk&Kk gS

**Lkgh Tk&Mh fYkf [k ,ks %**

- 1- Å"EkK 'kk&kh (a)  $\Delta E = q + w$



- 2-  $\Delta H_{\text{vap}}$  (b)  $\frac{q_{\text{rev}}}{T}$
- 3-  $\Delta H_{\text{fusion}}$  (c)  $\Delta V = 0$
- 4-  $\Delta H_{\text{condensation}}$  (d)  $\Delta H = -ve$
- 5-  $\Delta H_{\text{sublimation}}$  (e)  $H_2O(l) \rightarrow H_2O(g)$

mRrj %

- (i) 1- (b) 2 (d) 3 (b) 4 (b) 5 (d)
- (ii) 1-  $\Delta E = q + w$  2-  $\Delta H_{\text{fusion}}$  3-  $\Delta H_{\text{condensation}}$  4-  $\Delta H_{\text{sublimation}}$  5-  $\Delta H_{\text{vap}}$
- (iii) 1-  $\Delta H_{\text{fusion}}$  2-  $\Delta H_{\text{condensation}}$  3-  $\Delta H_{\text{sublimation}}$  4-  $\Delta H_{\text{vap}}$  5-  $\Delta H_{\text{fusion}}$
- (iv) 1- (c) 2- (d) 3- (a) 4- (b) 5- (e)

### bdkbZ 07

#### fOk | qk j Lkk, kUk

Lkgh mUkj PkYkdRkk fYkf[k, -

- 1- fOkf' k"V PkYkdRkk dh bdkbZ gS-
- (a)  $\text{m}^3\text{K}^{-1}$  (b)  $\text{m}^3\text{K}^{-1}\text{L}^{-1}$  (c)  $\text{m}^3\text{K}$  (d)  $\text{m}^3\text{K}^{-1}$
- 2- vkf. Okd PkYkdRkk n' kZks OkYkk LkOkk gS-
- (a)  $\lambda_m = \frac{k \times 1000}{M}$  (b)  $\lambda_m = \frac{M \times 100}{k}$
- (c)  $\lambda_m = \frac{1000}{Mk}$  (d)  $\lambda_m = \frac{M}{1000 \times k}$
- 3- bdkbZ  $\text{m}^3\text{K}^{-1}$  fdLkds fYk, lkZkDRk gRkhh gSA
- (a) vk. kfOkd PkYkdRkk (b) RkY, kkdh PkYkdRkk
- (c) fOkf' k"V PkYkdRkk (d) PkYkdRkk
- 4- , d Qs kS/s dk EkkUk gS-
- (a) 96500 dYkkUk (b)  $10^6$  dYkkUk (c)  $3.7 \times 10^6$  dYkkUk (d)  $6.23 \times 10^{23}$  dYkkUk

- 5-  $\text{CuSO}_4$  fckYk<sub>3</sub>kuk Eka 2-5F /kkjk Ik0kkfgRk djUks lkj dFkkM lkj , d«k Cu ds XkkEK RkY<sub>3</sub>kka dh dh Ek«kkk gk«kh&
- (a) 'kl; (b) 1-25 (c) 2-5 (d) 5-0

**fukEu dh Lkgh TkMh CkUkkb<sub>3</sub>ks –**

- |    |                                   |                    |
|----|-----------------------------------|--------------------|
| 1- | LkYk fLFkjka d                    | (a) k              |
| 2- | fokf' k"V IkfRkjksk               | (b) I/A            |
| 3- | fokf' k"V PkkYkdRkk               | (c) $\lambda_{eq}$ |
| 4- | RkY <sub>3</sub> kka dh PkkYkdRkk | (d) $\lambda_m$    |
| 5- | EkkYkj PkkYkdRkk                  | (e) e              |

**fjDRk LfkUkka dh IkfRkZ dhfTk<sub>3</sub>ks**

- 1- fokf' k"V PkkYkdRkk dh bdkbz — gA
- 2- Yksgs ds Tk«k dk jkLkk<sub>3</sub>kFukd Lk«k gS —
- 3- SI lk) frk Eka fokf' k"V PkkYkdRkk dh bdkbz — gA
- 4- EkkUkd gkbMRS<sub>3</sub>kuk bYkDV<sub>3</sub>M dh bdkbz — gA
- 5- RkUk«kk Eka Okf) ds LkkFk RkY<sub>3</sub>kka dh PkkYkdRkk — gA

**LkR<sub>3</sub>k<sub>3</sub>kk vLkR<sub>3</sub>k<sub>3</sub> fykf[k<sub>3</sub>ks**

- 1- IkekYk fok | «k vIk?kV<sub>3</sub>kka ds fyk,  $\Delta_m$  ds EkkUk nqkZk fok | «k vIk?kV<sub>3</sub>kka ds  $\Delta_m$  ds EkkUkka Lks dEk gk«ks gA
- 2- fok | «k jkLkk<sub>3</sub>kFukd LkYk Eka , UkkM \_\_.kkREkd /k«k gk«kk gA
- 3- fokf' k"V PkkYkdRkk dh bdkbz vk«k Lk«kh<sup>-1</sup> gA
- 4- foYk<sub>3</sub>kuk dh EkkYkj PkkYkdRkk RkUk«kk ds LkkFk IkfjOkRkZk gk«kh gA
- 5- 'kq) LkYk Eka fTka d Ik«k Lok<sub>3</sub>ka dFkkM dk dk<sub>3</sub>kZ djRkk gA

mRrj (i) 1. (b) 2. (a) 3- (d) 4- (a) 5- (c)

(ii) 1- (b) 2- (e) 3- (a) 4- (e) 5- (d)

(ii) 1.  $\nu_{\text{C}=\text{C}}^{-1}$   $\text{Lk}^{-1}$  2-  $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$  3-  $\text{scm}^{-1}$  4- 'k<sub>3</sub>' 5-  $\text{Ck} < \text{Rkh}$

(iv) 1-  $\nu_{\text{LKR}_3, \text{k}}$  2-  $\text{LKR}_3, \text{k}$  3-  $\nu_{\text{LKR}_3, \text{k}}$  4-  $\text{LKR}_3, \text{k}$  5-  $\nu_{\text{LKR}_3, \text{k}}$  A

## bdkbZ 07

s- CYkkd ds RkRk

Lkgh mRRkj PkQkdj fYkf [k,ks-

1- fUkEuk fYkf [kRk Eka Lks fdLkEka lkzk'k fok | Qk lkHkkOk vf/kdRkEk g\$-

(a) Cs Eka (b) Na Eka (c) K Eka (d) Li Eka

2. YkOk.k dtd g\$-

(a)  $\text{Lk} \text{fM}_3 \text{kEk}$   $\text{LKYQ} \text{v}$  (b)  $\text{Lk} \text{fM}_3 \text{kEk}$   $\text{DYkkj kbM}$

(c)  $\text{Lk} \text{fM}_3 \text{kEk}$   $\text{Ck kbLKYQ kbM}$  (d)  $\text{Na}_2\text{SO}_4$   $\text{vkj}$   $\text{NaCl}$

3. TKYkh<sub>3</sub>k fokYk<sub>3</sub>kUk Eka fdLkdk vkdkj LkCkLks CkMk g\$-

(a)  $\text{Rb}^+$  (b)  $\text{K}^+$  (c)  $\text{Li}^+$  (d)  $\text{Cs}^+$

4. TKYk Eka U<sub>3</sub>kwuRkEk fokYk<sub>3</sub>kRkk g\$-

(a)  $\text{BeSO}_4$  (b)  $\text{BaSO}_4$  (c)  $\text{SrSO}_4$  (d)  $\text{CaSO}_4$

5. LkEkqeh TKYk Eka fUk"df"kk dh TkkUks OkYkh , d /kkRkq g\$-

(a) Ba (b) Mg (c) Ca (d) Sr

fjDRk LFkkUkka dh lkRkZ dhfTk, -

1- dBkj RkEk {kkj /kkRkq ————g\$

2- j fM<sub>3</sub>kks LkfØ<sub>3</sub>k {kkj /kkRkq ————g\$

3-  $\text{CaH}_2$  dk O<sub>3</sub>kkkkfjd UkkEk ————g\$

4- Qmdk gq/k Pkdkk ————gk<sub>3</sub>kk g\$

5- fdLkh /kkRkq dks mLkds vEkYkXkEk Lks lkFkd~djUks dh LkOkkBRkEk fokf/k ————g\$

LkR<sub>3</sub>k ,kk  $\nu_{\text{LKR}_3, \text{k}}$  fYkf [k,ks-

1- CkQks gq Pkdkk dk Lkwk  $\text{Ca(OH)}_2$  gk<sub>3</sub>kk g\$

- 2- {kkjh<sub>3</sub>k Ekin /kkRkgk&Bkk.k Ckkb&dkCkk&Bk/ Ukgba CkUkkRkh g&
- 3- LkHkh {kkj /kkRkq vk<sub>3</sub>kuk j&khuk Ok vPl&kdh<sub>3</sub>k gk&ks g&
- 4- (BeF<sub>3</sub>) Ckj hfYk<sub>3</sub>kEk dh Lk&dj .k v&LFFk —Nks/h g&
- 5- Lk&M<sub>3</sub>kEk v&KY&ke /kkfR&kd Lk&M<sub>3</sub>kEk ds v&ks&kk vf/kd f&kk' khYk gk&kh g& Lkgh

**I gh Tk&Mh CkUkkb<sub>3</sub>ks-**

[A]	[B]
1- Lk&kk&/kd /kuk f&   &k	(a) Be <sub>2</sub> C
2- fLkYkCkkbUk	(b) Fr
3- j&M <sub>3</sub> kk&k&khz RkR&k	(c) Cs
4- lkYkz , &k	(d) KCl
5- dkCkk&M] Tk&ks Ek&f&kk n&kk g&	(e) K <sub>2</sub> CO <sub>3</sub>

**mRRkj -**

- (I) Lkgh m&Ukj Pk&kdj fYkf [k<sub>3</sub>ks& 1. (a) 2. (a) 3. (c) 4. (b) 5. (b)
- (II) fjDRk LFkkUkka dh l&Rkz dhfTk, — 1- YkhfFk<sub>3</sub>kEk 2- Y&SULk<sub>3</sub>kEk 3- gkbM&fYkFk 4. CaO 5. vkLk&Uk
- (III) LkR<sub>3</sub>k vLkR<sub>3</sub>k fYkf [k<sub>3</sub>ks- 1- LkR<sub>3</sub>k 2-LkR<sub>3</sub>k 3-vLkR<sub>3</sub>k 4-LkR<sub>3</sub>k 5-vLkR<sub>3</sub>k A
- (IV) Lkgh Tk&Mh CkUkkb<sub>3</sub>ks- 1. (d) 2. (c) 3. (b) 4. (e) 5. (a)

**gkbM&f&kk**

**(I) Lkgh mRRkj Pk&kdj fYkf [k<sub>3</sub>ks**

- 1- TkYk g&-
  - (a) , d , &lks&v& foYkk<sub>3</sub>kd
  - (b) , d mHk<sub>3</sub>k lks&v& foYkk<sub>3</sub>kd
  - (c) , d lks&/Ruk Xk&gh foYkk<sub>3</sub>kd
  - (d) , d lks&/ks&QfYkd foYkk<sub>3</sub>kd A
2. gkbM&f&kk lkj&DLkk&M dk<sub>3</sub>kz djRkk g&-
  - (a) , d vkDLkhd&j& dh Rkjg
  - (b) , d v&Yk dh Rkjg

- (c) , d vIkPkk, kd dh Rkjg (d) RkhUkka dh Rkjg A
- 3- Tkyk dh dBkj Rkk fdLk vk, kUk , kEek ds dkj . k gkRkh gS-
- (a)  $Ca^{2+}$  o  $K^+$  (b)  $Mg^{2+}$  o  $K^+$  (c)  $Ca^{2+}$  o  $Mg^{2+}$  (d)  $Ba^{2+}$  o  $Zn^{2+}$
- 4- Hkkjh Tkyk Ikz, kDRk gkRkk gS-
- (a) UkkfHkdh, k fj , DVjka Eka (b) Nf" k Eka
- (c) vkskf/ k ds : Ik Eka (d) dhV. kDkk' kd ds : Ik Eka
- 5- fvfv, kEk fdLkd LkEkHkkjh gS-
- (a) ghfyk, kEk (b) VkbvSuk, kEk (c) VbvykEk (d) Vyknj, kEk A

(II) **fj DRk LFkkUkka dh IkRkz dhFTk, -**

- 1- \_\_\_\_\_ gkbMRSTkuk ds nks vIkj : Ik gkRks gS
- 2- IkksV, kEk Eka \_\_\_\_\_ U, knvRuk gkRks gS
- 3-  $D_2O$  dk ?kURok  $H_2O_2$  Lks \_\_\_\_\_ gkRkk gS
- 4- OkULIkFRk Rkykka ds \_\_\_\_\_ Lks OkULIkFRk ?kh CkUk, kk TkkRk gS
- 5- Hkkjh Tkyk UkkfHkdh, k fj , kDVjka Eka \_\_\_\_\_ ds : Ik Eka Ikz, kDRk gkRkk gS

(III) **LkR, k , kk vLkR, k fykf[ k, ks-**

- 1- Tkyk Tkks LkkCkjk ds LkkFk vLkkUkh Lks OkkXk Ugha nRkk] Hkkjh Tkyk dgYkkRk gS
- 2- jkLkk, kfuKd vfHkfØ, kkvka Eka mRlkuUk Ikj Ekkf. Okd gkbMRSTkuk dks UkOTkkRk gkbMRSTkuk dgRks gS
- 3- Hkkjh Tkyk TkhFRk dks' kdkvka ds fyk, ?kVd gkRkk gS
- 4-  $H_2O_2$  ds Pkkj ka Ikj Ekk. kq , d gh Rkyk Eka gkRks gS
- 5- gkbMRSTkuk , Oka fokfHkUk RkRokka ds Lkakkk Lks CkUks fj } vIkhn , kksXkdka dks gkbMRbM dgRks gS

(IV) **fukEu dk Lkgh TkkMh CkUk, ks-**

- | LRkEHk v      | LRkEHk Ck                |
|---------------|--------------------------|
| 1- VrbfV, kEk | (a) vk, kRkUk LkkEkf, kz |

- 2-  $\text{CaH}_2$  (b) Ekand  
 3- Hkkjh TkYk (c) jSM, kks/kEkH  
 4- LkCkLks gYdk RkRk (d) gkbMRSTkuk  
 5- gkbMRSTkuk Ikj kDLkbbM (e) vk, kfUkd gkbMRbM

mRRkj –

- (I) Lkgh mUkj Pkdkdj fYkf [k, ks- 1. (b) 2. (d) 3. (c) 4. (a) 5. (d)  
 (II) 1. vkFkkk RkFkk Ikj gkbMRSTkuk 2. 'kU, k 3- vf/kd 4- gkbMRSTkhdj .k 5-Ekand A  
 (III) LkR, k ,kk vLkR, k fYkf [k, ks- 1- vLkR, k 2- LkR, k 3-LkR, k 4- vLkR, k 5-LkR, kA  
 (IV) TkkMh CkUkkb, ks- 1. (c) 2. (e) 3. (d) 4. (b) 5. (a)

### bdkbz 08

p- CYkd ds RkRkka dk j l k; u

LkEkj 13 , Oka 14 ds RkRk

CkgfOkdYlkh, k Ikz Uk

- 1- TKYk Eka vf/kd vEYkh, k ,kksXkd gS-  
 (a)  $\text{AlCl}_3$  (b)  $\text{HgCl}_2$  (c)  $\text{NH}_4\text{Cl}$  (d)  $\text{BeCl}_2$
- 2- dkSk Lk m/OkZkkfRkRk gks TkkRkk gS-  
 (a)  $\text{NH}_4\text{Cl}$  (b)  $\text{HgCl}_2$  (c)  $\text{AlCl}_3$  (d) I Hkh
- 3- dkSk Lk vkDLkbbM vU, k Rkhuk Lks LFkk, kh gS-  
 (a)  $\text{Th}_2\text{O}_3$  (b)  $\text{Th}_2\text{O}$  (c)  $\text{Ga}_2\text{O}$  (d)  $\text{In}_2\text{O}_3$
- 4- LkkUæ  $\text{HNO}_3$  dks fdLkds lkkk Eka j [kk Tkk LkdRkk gS-  
 (a) Cu (b) Al (c) Zn (d) Sn
- 5- fUkEuk Eka Lks dkSk fEkfJRk vkDLkbbM gS-  
 (a)  $\text{Fe}_2\text{O}_3$  (b)  $\text{PbO}_2$  (c)  $\text{Pb}_3\text{O}_4$  (d)  $\text{BaO}_2$

**LkR<sub>3</sub>k ,kk vLkR<sub>3</sub>k fYkf [k,ks-**

- 1- fLKYkdKk mPPk XkYkUkk d OkYkk ?kVd Lkqkktkh v. kq gA
- 2- YkM NaOH fokYk<sub>3</sub>kUk ds LkkFk vfhkfØ<sub>3</sub>kk Ukgha dj RkkA
- 3- VhUk RkhUk vIkj : Ikka Eka Ikk<sub>3</sub>kk TkkRkk gS-
- 4- YkM vIk: IkRkk Iknf' kRk Ukgha dj Rkk A

**[kkYkh LFkkUk Hkjks-**

- 1- ghjs dks ——— Rkkik Rkd XkEkZ dj XkQkbV Eka CknYkk Tkk LkdRkk gA
- 2- XkQkbM Eka dkCkZk dh Lkdj. k vOkLFkk ——— RkFkk ghjs ea ——— gkRkh gA
- 3- CO v. kq Eka dkCkZk dh LkqkktkdRkk ——— gA
- 4- 'ktd CkQZ ——— gA

**mUkj EkkYkk –**

Lkgh fUkdYk – 1- (d) 2- (a) 3- (b) 4- (a) 5- (c)

LkR<sub>3</sub>k vLkR<sub>3</sub>k & 1- LkR<sub>3</sub>k 2- vLkR<sub>3</sub>k 3- LkR<sub>3</sub>k 4- vLkR<sub>3</sub>k 5-LkR<sub>3</sub>k A

[kkYkh LFkkUk Hkfj<sub>3</sub>ks- 1- 1800°C 2- sp<sup>2</sup>sp<sup>3</sup> 3- +2 4- Bkl CO

**bdkbz 09**

**dkCkZUkd jLkk<sub>3</sub>kUk ds dQn EkWkHkRk vOk/kkj .kk, a**

**CkgfOkdYkH Ikz' Uk**

- 1- ,YdkbUk dk LkkEkkU<sub>3</sub>k Lkkk gS-  
 (a) C<sub>n</sub>H<sub>2n+2</sub> (b) C<sub>n</sub>H<sub>2n</sub> (c) C<sub>n</sub>H<sub>2n-2</sub> (d) C<sub>n</sub>H<sub>n</sub>
- 2- CH<sub>3</sub>-O-C<sub>2</sub>H<sub>5</sub> dk IUPAC Ukkek gS-  
 (a) , FkkDLkh EkfKk (b) EkfkkDLkh , fKk  
 (c) EkfKYk , fKYk bEkj (d) , fKYk EkfKYk bEkj A
- 3- dkCkZk VskDYkKj kbM Eka dkCkZk Ikj Ekk. kq dh Pkkj ka vKj LkqkktkdRkk, a bulkds dkkkka dh vKj fUkfn'ZV gkRkh gS-  
 (a) Lkekdkk PkRkktk (b) vk<sub>3</sub>kRk  
 (c) fOk'kEkdsk PkRkktk (d) LkekPkRkQYkd A

- 4-  $\text{d}^{\text{S}}\text{YLk}_3\text{KEK}$   $\text{dkCkzbM}$   $\text{Ikj}$   $\text{TkYk}$   $\text{dh}$   $\text{f}\text{Ø}_3\text{kk}$  } $\text{kjk}$   $\text{mRlKUUK}$   $\text{gkBs}$   $\text{dkYkh}$   $\text{XkSk}$   $\text{gS}$ -  
 (a)  $\text{EkfFksk}$  (b)  $\text{, FkSk}$   
 (c)  $\text{, fFkYkhUk}$  (d)  $\text{, LkhfVYkhUk}$
- 5-  $\text{C}_3\text{kw/k-1}$ ]  $2\text{-MkbUk}$   $\text{Eka}$   $\text{gkBs}$   $\text{gS}$ -  
 (a)  $\text{dSkYk}$   $\text{sp}$   $\text{LkdfjRk}$   $\text{dkCkZk}$   $\text{IkjEkk.kq}$   
 (b)  $\text{dSkYk}$   $\text{sp}^2$   $\text{LkdfjRk}$   $\text{dkCkZk}$   $\text{IkjEkk.kq}$   
 (c)  $\text{sp}$   $\text{vkS}$   $\text{sp}^2$   $\text{LkdfjRk}$   $\text{dkCkZk}$   $\text{IkjEkk.kq}$   
 (d)  $\text{sp}$ ,  $\text{sp}^2$   $\text{vkS}$   $\text{sp}^3$   $\text{LkdfjRk}$   $\text{dkCkZk}$   $\text{A}$
- 6- (I)  $\text{HCHO}$ , (II)  $\text{CH}_3\text{CHO}$ , (III)  $\text{CH}_3\text{-CO-CH}_3$   $\text{dk}$   $\text{UkkfHkd}$   $\text{LUkgh}$   $\text{,kkkkREkd}$   $\text{vfHkf}\text{Ø}_3\text{kk}$   $\text{ds}$   $\text{IkRk}$   $\text{f}\text{Ø}_3\text{kk}$   $\text{khYkRk}$   $\text{dk}$   $\text{ØEk}$   $\text{gS}$ -  
 (a)  $\text{II} > \text{III} > \text{I}$  (b)  $\text{III} > \text{II} > \text{I}$   
 (c)  $\text{I} > \text{II} > \text{III}$  (d)  $\text{II} > \text{I} > \text{III}$
- 7-  $\text{MkbEkSFkYk}$   $\text{bFkj}$   $\text{, Oka}$   $\text{, fFkYk}$   $\text{, YdksYk}$   $\text{gS}$ -  
 (a)  $\text{Ek/ ,kkk ,kORk}$  (b)  $\text{LkTkRk}$   
 (c)  $\text{f}\text{Ø}_3\text{kkREkd}$   $\text{LkEkKk ,kKh}$  (d)  $\text{LFkkUk}$   $\text{LkEkKk ,kORk}$

**fjDRk LFkkUkka dh IkRkZ dhfTk, -**

- 8-  $\text{vUkqkn}$   $\text{Lks}$   $\text{,kkSkd}$   $\text{dk}$   $\text{LFkkf ,kRk}$  \_\_\_\_\_ $\text{gS}$   
 9-  $\text{dkCkZk}_3\text{KEK}$   $\text{vk}_3\text{kUk}$   $\text{ds}$   $\text{dkCkZk}$   $\text{Ikj}$  \_\_\_\_\_ $\text{vkOs k gkBk gS}$   
 10-  $\text{UkkfHkd}$   $\text{LUkgh}$   $\text{vfHkdEkZka}$   $\text{dks}$  \_\_\_\_\_ $\text{Hkh dgRks gS}$   
 11-  $\text{, YdhUkka}$   $\text{Eka}$   $\text{Ekq ,kRk\%}$  \_\_\_\_\_ $\text{vfHkf}\text{Ø}_3\text{kk}$ ,  $\text{a}$   $\text{Ik ,kh}$   $\text{TkRk}$   $\text{gS}$

**LkR ,kk vLkR ,k CkRkks ,ks-**

- 12-  $\text{fok"KEkZkh}$   $\text{fok [k\&Uk}$   $\text{Lks}$   $\text{EkDRk}$   $\text{Ekvkd}$   $\text{IkIRk}$   $\text{gkBk}$   $\text{gS}$   
 13-  $\text{dkCkZk}_3\text{KEK}$   $\text{vk}_3\text{kUk}$   $\text{ds}$   $\text{dkCkZk}$   $\text{Ikj}$   $6$   $\text{bYkDVUk}$   $\text{gkBs}$   $\text{gS}$   
 14-  $\text{dkCkZk}$   $\text{V\&RDYkkg}$   $\text{kbM}$   $\text{Eka}$   $\text{vkCkZk}$   $\text{dks}$   $\text{k}$   $\text{YkXkHkXk}$   $90$   $\text{v\&k}$   $\text{dk}$   $\text{gkBk}$   $\text{gS}$   
 15-  $\text{vUkqkn}$   $\text{Lks}$   $\text{,kkSkd}$   $\text{ds}$   $\text{LFkkf ,kRk}$   $\text{Eka}$   $\text{dEk}$   $\text{gkRk}$   $\text{gS}$



**Lkgh TkMh CkUkkb,ks-**

**LRkEHk-I**

- 1- IkFRkLFkkIkUk vfhkfØ,kk, a
- 2- bYkDVREksjd IkHkkOk
- 3- , YkqEkfUk, kEk DYkkj kbM
- 4- Jā kYkk Eka vkOks k dk LkPkj .k

**LRkEHk-II**

- (a) LkqkqEKUk IkHkkOk
- (b) bYkDVREQfYkd vfhkdEkEk
- (c) Ikkbz bYkDVrUkka dk fOkLFkkIkUk
- (d) , Ydsk

**, d 'kCn Eka mRRkj nhfTk,ks-**

- 1- vkCkalkghuk vuktkkn dks dgRks gS
- 2- d{kdk ds lkk' Okz vFRkO, kktIkUk Lks CkUkk nqkZk Ckdk dgYkkRkk gS
- 3- /kUkkOks' kRk dkCkZk IkjEkk. kq , kPRk LkEkng dgYkkRkk gS
- 4- \_\_. kkos' kr dkCz ijek. kq ; PR l eng dgYkrk gS
- 5- d{kdk ds v{kh, k vFRkO, kktIkUk Lks CkUkk gYk IkEkYk Ckdk dgYkkRkk gS

mRRkj –

**CkgqkdyIkH Ikz Uk** – 1. (c) 2. (b) 3. (d) 4. (d) 5. (d) 6. (c) 7. (c)

**fjDRk LfkkUk**– 8- Ck<Rkk gS 9- /kUk 10- YkP Lk {kkj 11- , kkkk' khYk

**LkR, k vLkR, k&** 12- vLkR, k 13- LkR, k 14- vLkR, k 15- vLkR, k

**Lkgh TkMh** – 1. (d) 2. (c) 3. (b) 4. (a)

**, d 'kCn Eka mRRkj** – 1- vFRk LkqkqEKUk 2- π Ckdk 3- dkCkZk, kEk 4- dkCkZk , Ukkb, kUk 5- σ

**bdkbz 10**

**gkbMksdkCkZk , Oka gS'kks'kUk IkFRkLFkkIkH gkbMksdkCkZk dk jLkk, kUk**

- 1- fUkEufYkf [kRk Eka dkSk Lkk RkRk LkTkkRkh, k Js kh dk UkgHa gS-  
(a) , fkhuk (b) 1-C, kq/huk (c) 2 C, kq/huk (d) 2 C, kq/kbUk
- 2- , Ydhuk Tkks T, kkekhFRk, k LkEkko, kOkRkk Ikrf' kRk djRkk gS-  
(a) 2 EkSFYk 2-C, kq/huk (b) Ikks huk (c) 2-EkSFYk Ikks huk (d) 2 C, kq/huk

3. , Yk-i h-Tkh- , d fEkJ.k gS-



4. f«kCkdk Ikk,kk TkkRkk gS-



5. DYkKj kQEKZ Xkgjs jk dh CkRkYkka Eka j [kk TkkRkk gS D, kkd-

(a) Okk"lUk j kdUks ds fYk,

(b) Ukek Lk CkPkUks ds fYk,

(c) bLdk vkDLkhdj .k j kdUks ds fYk,

(d) bLdk dkRk Lk vfHkFØ,kk CkPkUks ds fYk, A

**fj DRk LFkUkka dh IkkRk dhfTk, -**

1- nks gYkksTuk O, kRkUk fTkUdk mlk, kkk dhVukk' kh ds #lk Eka gkRkk gS \_\_\_\_\_ RkFkk \_\_\_\_\_ gS

2- DYkKj kQEKZ dh NaOH ds LkFk TkYk vik?kVuk ds QYkLk: Ik \_\_\_\_\_ vRkEk mRkkn IkkRk gkRkk gS

3- ROH dks RCl Eka Ikfj CkRkUk gRkq \_\_\_\_\_ JSB vfHkdEkZd gS

4- , fkbk Eka 109°28' ds \_\_\_\_\_ dks k gkRks gS

5- \_\_\_\_\_ dks LkMkYkkbuk ds LkFk XkEkZ dj Rks gS fuk, kskkVsk IkkRk gkRkk gS

**mUkj**

**Lkgh fkdYk -** 1. (a) 2. (d) 3. (b) 4. (b) 5. (c)

**fj DRk LFkUk&** 1- BHC, DDT 2- HCOONa 3-  $SO_2Cl_2$  4- Cdk dks k 5-  $(CH_3)_3C.CH_2.COOH$

## bdkbz 11

### gkbMFDLk dkCkZUKd ,kkSXkd ,YdkgYk ,Oka QhUkkWk

#### CkgQkdYikh Ikz Uk –

- 1- ,YdkgkWk dh IkkUkh Eka fOkYkSkRkk fUKEu Eka Lks fdLk ds dkj .k gkRkk gA  
 (a) gkbMkSTkUk CkAk (b) Lkg LkqkSTkh CkAk  
 (c) vk,kfUkd CkAk (d) mlkLkgLkqkSTkh CkAk
- 2- ,fFkYk ,YdkgkWk Ij vk,kkSMUk vkj dkfLVd I kMk dh fØ,kk Lks IkkIRk gkRkk gSA  
 (a)  $\text{CHI}_3$  (b)  $\text{CHCl}_3$  (c)  $\text{CHBr}_3$  (d)  $\text{CHNO}_3$
3. tc fXYkLkj kWk dks HI vkf/kD<sub>3</sub> ds LkFk vfHkfØ,kk dh TkkRkh gSRkCk Ekq<sub>3</sub> k mRlkn D<sub>3</sub>kk gkXkk–  
 (a) vkbLkkkkfIkYk ,YdkgkWk (b) C<sub>3</sub>kfVYk ,YdkgkWk  
 (c) ,fFkYk ,YdkgkWk (d) EkfFkYk ,YdkgkWk
4. fQUkkWk dk jkLkk,kfUkd O<sub>3</sub>kkgkj gS–  
 (a) mnkLkhUk (b) vEYkh<sub>3</sub>k (c) {kkjh<sub>3</sub>k (d) fQdSYkd
5. ,YdkgkWk dk jkLkk,kfUkd O<sub>3</sub>kkgkj gS–  
 (a) {kkjh<sub>3</sub>k (b) vEYkh<sub>3</sub>k (c) mnkLkhUk (d) vLkRkIRkRkk A
- 6- ,YdkgkWk Eka fdRkUks Ikzdkj ds LkEkKk,kkRkk Ikk<sub>3</sub>ks TkkRks gS–  
 (a) 3 (b) 2 (c) 4 (d) 6

#### Lkgh TkkMh CkUkkb<sub>3</sub>ks-

	<b>v</b>		<b>Ck</b>
1-	LIkSVYkkbz		$\text{C}_2\text{H}_5\text{OH}$
2-	' khj k		fXYkLkj kWk
3-	YkdMh dk HkTkd vLkKkUk		XYkkbdkYk
4-	TKYkXkgh ,YdkgkWk		EkfFkYk ,YdkgkWk

**[kkYkh LFkkUk Hkjs-**

- 1- Ikkkj , ydkgkww Eka lks/rsk Rfkk , ydkgkww dk vukkrk — gA mRRkj & 4%
- 2- Qhukk dh jkbEku Vhek.k vfHkØ, k Lks — vEy IkkRk gkRk gA mRRkj— LkSYkLfYkd vEy A
- 3- , fkskww vDLkdj.k Ij — nRks gA mRRkj & , fLkVd vEy
- 4- fxyLkYkjkk dk mPPk ' ,kkURk — Gak ds dkj.k gA mUkj —gkbMSTkuk A

**mRRkj EkkYk-**

**CkgfkdYkh Izk Uk** – 1. (a) 2. (a) 3. (b) 4. (c) 5. (c)

**Lkgh TkMh** – 1. fxyLkYkjkk 2- C<sub>2</sub>H<sub>5</sub>OH 3- EkfYk , ydkgkww 4- XYkbbdkkk

**[kkYkh LFkkUk** 1- 4% 2- LkSYkLfYkd vEy 3- , fLkVd vEy 4- gkbMSTkuk

**dkCZUkd ,kSXkdka dk fOk'YkSk.k , Oka 'kf) dj.k**

**Lkgh fkdYkh Pkdkj fyk[k, -**

- 1- , d EkkYk C<sub>3</sub>H<sub>6</sub> dks vf/kd O<sub>2</sub> ds LkFk IkkRk nguk djUs Ij Ikkkh ds EkkYk CkUkka  
(a) 6 (b) 4 (c) 5 (d) 8
- 2- , d IknkFz Eka 80% dkCZk Rfkk 20% gkbMSTkuk gS Rks Okg IknkFz gkRk—  
(a) C<sub>3</sub>H<sub>6</sub> (b) C<sub>4</sub>H<sub>8</sub> (c) C<sub>5</sub>H<sub>10</sub> (d) C<sub>6</sub>H<sub>12</sub>
- 3- , fukYkhuk dks Lk/kkj .kRk% fdLk fOk/k Lks 'kq) fd, k TkkRk gS—  
(a) IkkTkh vLkOkuk (b) HkkIk vLkOkuk  
(c) fukkkRk vLkOkuk (d) 'kq) vLkOkuk
- 4- dkCZUkd ,kSXkd Eka LkYQj dh Ekkkk KkRk djRks gS—  
(a) SO<sub>3</sub> Eka CknYkdj (b) H<sub>2</sub>SO<sub>4</sub> Eka CknYkdj  
(c) SO<sub>3</sub> Eka (d) H<sub>2</sub>SO<sub>3</sub> Eka

- 5- nks lknkfkz dks lfkf-djUks dh lkhkTkh fØLVYkuk fokf/k bLkds vBkj lkj fukhkj djRkh g\$
- (a) ?kukRok (b) Okk"lk' khYkRkk  
(c) fokYkskRkk (d) fØLVYkh,k vkdkj A
- 6- Ykhfokk VLV dk mlk,kkk fukeuk Eka Lks fdLkds vkdYkuk Eka gkRkk g\$
- (a) H (b) C (c) C vkj H (d) N
- 7- fdLk lknkfkz dk 'kf) dj.k m/OkzkkRkuk fokf/k Lks gkRkk g\$
- (a) CkTkkbd vEYk (b) dlkj (c) UksfFkSYkuk (d) LkHkh

**LkR,k ,kk vLkR,k Nk/dj fykf[k, -**

- 1- vk,kRkukREkd fokf/k }kj v.kkjkj KkRk fd,kk Tkk LkdRkk g\$
- 2- {kkj dk v.kkjkj = RkY,kkad Hkkj × vEYkh,kRkka
- 3- Mîkk fokf/k g\$kkkTuk ds vkdYkuk dh fokf/k g\$
- 4- fokDVj Ekjkj fokf/k Eka fokLFkkfIRk gkbs OkkYkh Xk,k Okk,kq gkRkh g\$
- 5- XkYukkad , Oka DokFukkad ØEk'k% dkCkZukd Bk,k RkFkk æOk dh lkgPkuk gBkq EkGRokIkwkz fCUnq g\$

**fjDRk LFkkukka dks Hkfj,ks-**

- 1- Ek,kbTkj fokf/k Lks ——— ds vkdYkuk dh fokf/k g\$
- 2- fLkYokj fokf/k Lks ——— dk v.kkjkj KkRk fd,kk Tkk LkdRkk g\$
- 3- dfj,kLk dh fokf/k Eka LkYQj dks ——— Eka Lk/kk H<sub>2</sub>SO<sub>4</sub> }kj vkDLkhIRk fd,kk TkkRkk g\$
- 4- OkLQkjLk dh lkgPkuk ds fyk, dkCkZukd ,kkSkd dh ———ds LkFk LkYkYkRk fd,kk TkkRkk g\$
- 5- LRkEHk Ok. & YkS[kdh Eka lkk,k% ——— vf/k'kkSkd ds : lk Eka YkRks g\$

**mÜkj-**

- Lkgh fokdYk-** 1. (b) 2. (a) 3. (b) 4. (b) 5. (c) 6. (c) 7. (d)

LKR,k vLKR,k –  $\frac{1}{4}\frac{1}{2}$  LKR,k  $\frac{1}{2}\frac{1}{2}$  LKR,k  $\frac{1}{3}\frac{1}{2}$  vLKR,k  $\frac{1}{4}\frac{1}{2}$  LKR,k  $\frac{1}{5}\frac{1}{2}$  LKR,k A

fjDRk LFkkuk –  $\frac{1}{4}\frac{1}{2}$  LKYQj  $\frac{1}{2}\frac{1}{2}$  dkckZukd vEYk  $\frac{1}{3}\frac{1}{2}$  H<sub>2</sub>SO<sub>4</sub>  $\frac{1}{4}\frac{1}{2}$  LkkSM<sub>3</sub>KEk IkJ vkDLkkbM  
 $\frac{1}{5}\frac{1}{2}$  fLkfykdk TkYk

### p-cykll ds rRo 14 eg 15] 16] 17 ds rRo½

- i z 1 fuEu rRok dks ?kuRo ds c<rs Øe ea0; ofLFkr dhft , &  
P, N, As, Sb, Bi
- i z 2 fuEu rRok dks muds vk; ru folko ds ?kVrs Øe ea0; ofLFkr dhft , &  
N, P, As, Sb, Bi
- i z 3 I eg 15 dsfdl rRo dk ?kuRo mPpre gS uke o I dsr fyf[k, &
- i z 4 OkLQkjI fdu ea ik; k tkrk gS
- i z 5 Bi ds nks mi ; ksx fyf[k, A
- i z 6 NO<sub>2</sub> dk pfc dh; 0; ogkj ds k gS
- i z 7 I eg 15 ds rRok ds gkbMRbM dks muds DoFkukad ds c<rs Øe ea0; ofLFkr dhft , A
- i z 8 NH<sub>4</sub>NO<sub>3</sub> dks xeZ djus I s dks I k vkDI kbM curk gS
- i z 9 v/kpkyd eafdl /kkrq dk mi ; ksx gsrk gS uke fyf[k, A
- i z 10 15oa I eg ds ml rRo dk uke fyf[k, tks fpdfRI dh; dk; Zeami ; ksx yk; k tkrk gS

### y?kprjh; itu & 3 vd

- i z 1 H<sub>3</sub>PO<sub>3</sub> , d f}{kkjh; vEy gS D; kA
- i z 2 PH<sub>3</sub> , d ncy {kkj gS tcf d NH<sub>3</sub> icy {kkj gS I e>kb, A
- i z 3 NO<sub>2</sub><sup>+</sup>, NO<sub>2</sub><sup>-</sup>, NO<sub>3</sub><sup>-</sup> dks N-O cak yEckbz ds c<rs Øe ea0; ofLFkr dhft , A
- i z 4 fuEu gkbMRbMka dks muds rki h; LFkkf; Ro ds vk/kkj ij ?kVrs Øe ea fyf[k, A
- i z 5 vkFkkZ , oaes/k QkllQksjd vEy dh I j puk cukb, A

- i z 6 yky QkVQkj I , oa'or QkVQkj I eadksu vf/kd fØ; k'khy gS dkj .k nhft , A
- i z 7 ukbVkst u v.kq i k; kfxd : i ea ; k 0; ogkj ea fØ; k'khy ugha gS D; k&

### Nitrogen Containing Compounds

- i z 1 , uhyhu dks iz kx'kkyk eadS s cuk, & 0; k[; k djA
- i z 2 vki dS siklr dj& & doy I ehdj .k n&
- (a) , uhyhu I sfQukV
- (b) , uhyhu I sDykj kcat hu
- i z 3 xfcz y FkSykekbM vfHkfØ; k }kj k i kFkfed , ehu dS siklr dj&A
- i z 4 D; k gsrk gS tc veksu; k dh vfHkfØ; k, QkefYMgkbM I s dh tk; A
- i z 5 ukbVkat hu cukus dh iz kx'kkyk fof/k dks fuEu fclnq/ka ea I e>kb; &
- (i) iz Dr jkl k; fud I ehdj .k
- (ii) ukekdr fp=
- (iii) I f{klr o.ku
- i z 6 tud , Ydsu I smI ds ukbVks Ydsu dk DoFkukad mPp gsrk gS D; k&
- i z 7 ukbVkat hu cukus dh iz kx'kkyk fof/k dk I fp= 0; k[; k dhft , A

### Oxygen Containing Compounds

- i z 1 jkst ueqM vfHkfØ; k dks I e>kb; A
- i z 2 , jkefVd dhVksu cukus dh QhMy ØkV vfHkfØ; k fyf[k, A
- i z 3 bEkj dh e/; ko; ork o fØ; kRed I eko; ork dks mnkgj .k I fgr I e>kb; A
- i z 4 jkl k; fud vfHkfØ; k n& &
- (i) i fØu vfHkfØ; k dks I e>kb; A
- (ii) QkefYMgkbM , oa , fl VFYMgkbM ds cgyhdj .k vfHkfØ; k fyf[k, A

i z 5 fuEufyf[kr vEyka dks mudsc < fsgq PKa dseku ds vuq i 0; ofLFkr dja & %dkj .k Hkh fy[kkz  
 HCOOH, CH<sub>3</sub>COOH, C<sub>6</sub>H<sub>5</sub>COOH

### Chemistry in Daily Life

i z 1 uk; ykll&6 vks uk; ykll&6] 6 ea dkbz pkj vrj fyf[k, A

i z 2 ; ks'khy , oa l akuu cgyhdj .k dks mnkgj .k l fgr l e>kb; A

i z 3 (i) , . Vhi k; jsvd %tojuk' kh½ D; k gS nks mnkgj .k nA

(ii) , . Vhl fIVd %i firj ks kh½ D; k gS nks mnkgj .k nA

i z 4 l ecgyd vks l gcgyd dks mnkgj .k l fgr l e>kb; A

i z 5 jat d vks o.kd ea dkbz rhu vrj fyf[k, A

i z 6 FkeklykLVd cgyd , oa Fkek fVx lykLVd ea dkbz pkj vrj fyf[k, A

i z 7 fuEufyf[kr cgydka ds cukus graq dny jkl k; fud vfHkfØ; k fyf[k, &

(i) uk; ykll&6

(ii) uk; ykll&6] 6

(iii) cslkybV

(iv) i klyhV%kyj ks bFkhyhu

i z 10 fuEufyf[kr cgydka ds ekukkj ¼, dyd½ dh i gpku djks &

(i) i klyhfoukby , l hvV

(ii) i klyh , Økbyks ukbVkyby

(iii) i klyh i ks hyhu

(iv) C; uk&s