



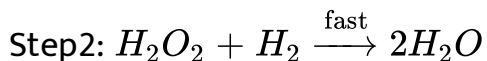
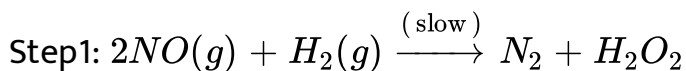
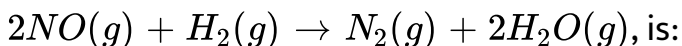
## CHEMISTRY

### BOOKS - NTA MOCK TESTS

#### NTA NEET TEST 85

#### Chemistry

1. The mechanism of the reaction



A. rate =  $k[NO]^2[H_2]^2$

B. rate =  $k[H_2O_2][H_2]$

C. on doubling the concentration of  $H_2$  , keeping the concentration of NO constant , the rate will become double

D. If the initial concentration of  $H_2$  and NO is  $C_0$  and after time 't' the concentration of  $N_2$  is  $x$  , then rate

$$= (C_0 - 2x)^x$$

**Answer: C**



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2. Select the correct relation between azimuthal quantum number ( $l$ ) and magnetic quantum ( $m$ )

A.  $l = \frac{m - 1}{2}$

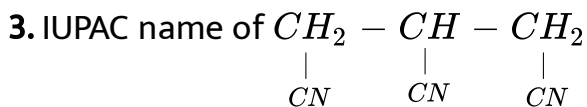
B.  $m = 1 + 2$

$$C. m = 2l^2 + 1$$

$$D. l = 2m + 1$$

**Answer: A**

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A. propane - 1, 2, 3 - tricarbonitrile

B. 3 - cyanopentane -1,5 - dinitrile

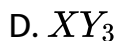
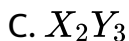
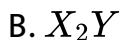
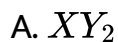
C. 1,2,3 - cyanopropane

D. propane -1,2,3 - trinitrile

**Answer: A**

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4. The simplest formula of a compound containing 50% of an element  $X$  (atomic weight 10) and 50% of element  $Y$  (atomic weight 20) is:

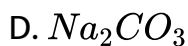
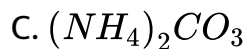
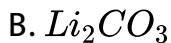
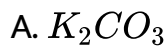


**Answer: B**



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5. Which of the following carbonate salt is soluble due to high entropy change?



**Answer: C**



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6. The compound which is not formed when a mixture of n-butyl bromide and ethyl bromide treated with sodium metal in the presence of dry ether is

A. Butane

B. Octane

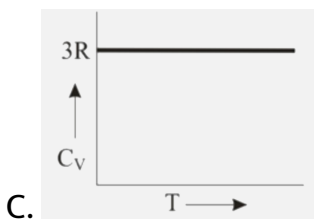
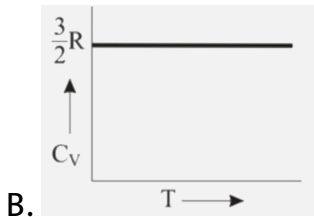
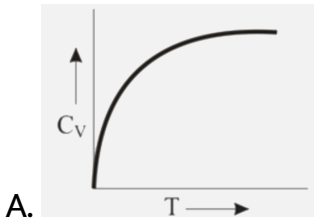
C. Hexane

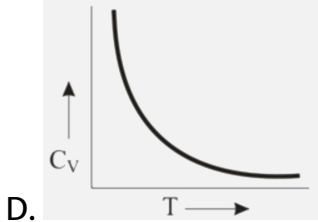
D. Ethane

Answer: D

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7. Graph for specific heat at constant volume for a monoatomic gas





**Answer: B**

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8. The rate determining step in electrophilic aromatic substitution is the

A. formation of intermediate arenium cation because it occurs faster

B. formation of intermediate arenium cation because it is usually slow

- C. elimination of  $H^+$  from arenium cation which occurs faster to restore aromaticity
- D. formation of the electrophile

**Answer: B**

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9. The dipole moment of  $H_2O_2$  is more than that of  $H_2O$  but  $H_2O_2$  is not a good solvent because :

- A. It has a very high dielectric constant so that ionic compounds cannot be dissolved in it
- B. It does not act as an oxidising agent
- C. It acts as a reducing agent



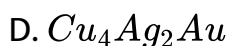
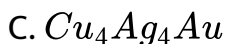
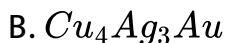
D. It dissociates easily acts as an oxidising agent in chemical reactions

**Answer: D**



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10. An alloy of copper, silver and gold is found to have copper constituting the ccp lattice. If silver atoms occupy the edge centres and gold is present at body centre, the alloy has a formula :



**Answer: B**



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**11.** When zeolite, which is hydrated sodium aluminium silicate, is treated with hard water the sodium ions are exchanged with

A.  $H^+$  ions

B.  $Ca^{2+}$  ions

C.  $Mg^{2+}$  ions

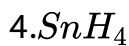
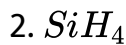
D. B and C

**Answer: D**



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12. Consider the hydrides of group 14 elements



The correct sequence of thermal stability is

A.  $1 < 2 < 3 < 4$

B.  $1 < 2 < 4 < 3$

C.  $1 > 2 > 3 > 4$

D.  $1 > 2 > 4 > 3$

**Answer: C**



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13. For the reaction ,  $N_2O_4(g) \rightleftharpoons 2NO_2(g)$  , if percentage dissociation of  $N_2O$  are 25% , 50% , 75% and 100, then the sequence of observed vapour densities will be

A.  $d_{25} > d_{50} > d_{75} > d_{100}$

B.  $d_{100} > d_{75} > d_{50} > d_{25}$

C.  $d_{25} = d_{50} = d_{75} = d_{100}$

D.  $(d_{25} = d_{50}) > (d_{75} = d_{100})$

**Answer: A**



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14. Which of the following element (M) react with  $HNO_3$  to form  $MO_2$  ?

A.  $P_4$

B. Mg

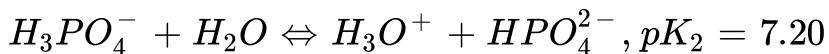
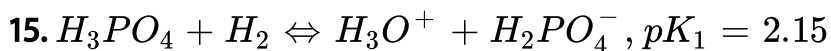
C. Zn

D. Sn

**Answer: D**



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Hence pH of 0.01 M  $NaH_2PO_4$  is

A. 9.35

B. 4.675

C. 2.675

D. 7.350

**Answer: B**

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16. Sulphonation of phenol with conc.  $H_2SO_4$  at 288-298 K gives

A. o - phenol sulphonic acid

B. p - phenol sulphonic acid

C. sulphanilic acid

D. picric acid

**Answer: A**

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17. For which of the following  $d^n$  configuration of octahedral complex(es), cannot exist in both high spin and low spin forms?

A. I, II and III

B. II, III and IV

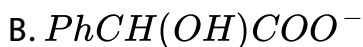
C. I and IV

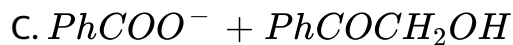
D. None of these

**Answer: C**

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18. The cannizzaro reaction of  $\text{PhCOCHO}$  forms the product(s)





D. Both A and C

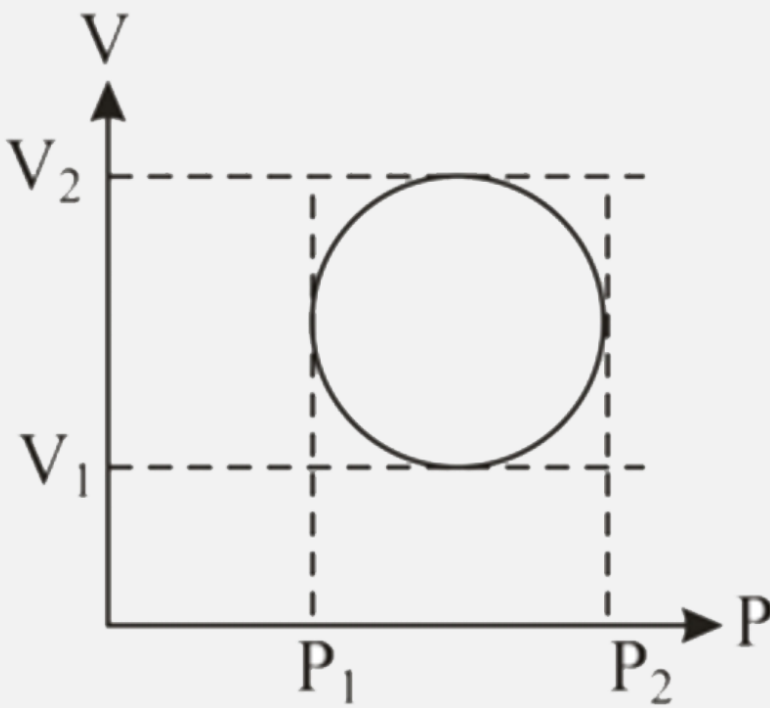
**Answer: B**



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**19.** In the cyclic process shown in P - V diagram, the magnitude of the work done is





- A.  $\pi \left( \frac{P_2 - P_1}{2} \right)^2$
- B.  $\pi \left( \frac{V_2 - V_1}{2} \right)^2$
- C.  $\frac{\pi}{4} (P_2 - P_1)(V_2 - V_1)$
- D.  $\pi (V_2 - V_1)^2$

**Answer: C**

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20. Assuming no change in volume, the time required to obtain solution of  $\text{pH} = 12$  by electrolysis of 50 mL 0.1 M NaCl (using current of 0.5 amp) will be

A. 65 sec

B. 96.5 sec

C. 965 sec

D. 9.65 sec

**Answer: B**



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21. Solid carbon dioxide is an example of

A. Metallic crystal

B. Covalent crystal

C. Molecular crystal

D. Ionic crystal

**Answer: C**



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22. The relative lowering of vapour pressure caused by dissolving 71.3 g of a substance in 1000 g of water is  $7.13 \times 10^{-3}$ . The molecular mass of the substance is (consider the solution is highly diluted )

A. 180 g/mol

B. 18 g/mol

C. 1.8 g/mol

D. 360 g/mol

**Answer: A**

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**23.** The screening effect of s, p, d and f subshells lies in the order

A.  $s > p > d > f$

B.  $s < p < d < f$

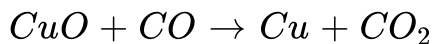
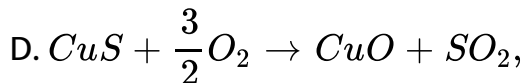
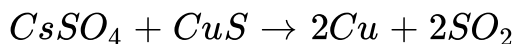
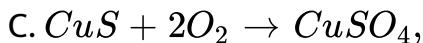
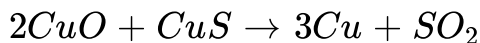
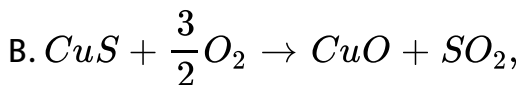
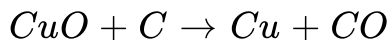
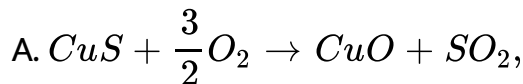
C.  $d > p > s > f$

D.  $s > f > d > p$

**Answer: A**

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24. Formation of metallic copper from sulphide ore in the normal thermometallurgical process essentially involves which of the following reactions



**Answer: B**



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25. The normality of 30 volume  $H_2O_2$  solution is :

A. 4.57 N

B. 7.35 N

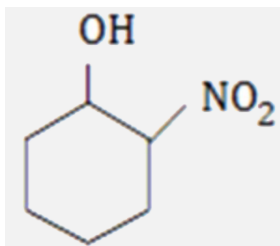
C. 5.63 N

D. 5.36 N

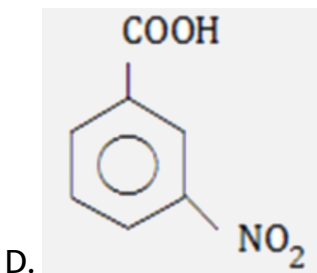
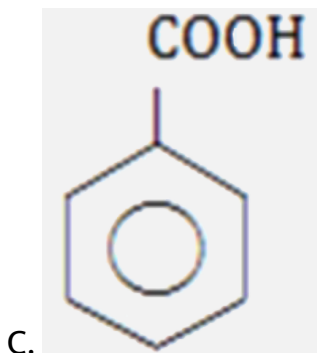
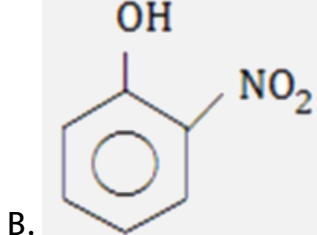
Answer: D

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26. Which of the following is most acidic here ?



A.



**Answer: D**



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27. The enthalpy and entropy of a reaction are  $-5.0\text{kJ/mol}$  and  $-20\text{JK}^{-1}\text{mol}^{-1}$  respectively and are independent of temperature. What is the highest temperature upto which the reaction is feasible?

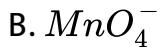
- A. 250 K
- B. 240 K
- C. 275 K
- D. 300 K

**Answer: A**

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28. The species which undergo disproportionation in alkaline medium is/ are





D. Both A and C

**Answer: D**



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29. when two half-cells of electrode potential of  $E_1$  and  $E_2$  are combined to form a half cell of electrode potential  $E_3$ , then (when  $n_1, n_2$  and  $n_3$  are no. of electrons exchanged in first second and combined half-cells:

A.  $E_3^\circ = E_1^\circ + E_2^\circ$

B.  $E_3^\circ = E_2^\circ - E_1^\circ$

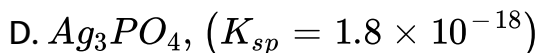
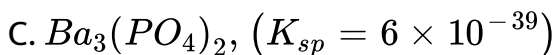
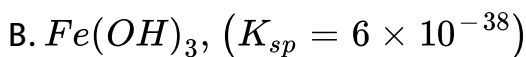
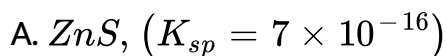
$$\text{C. } E_3^\circ = \frac{n_1 E_1^\circ + n_2 E_2^\circ}{n_3}$$

$$\text{D. } E_3^\circ = \frac{n_1 E_1^\circ + n_2 E_2^\circ}{n_3^2}$$

**Answer: C**

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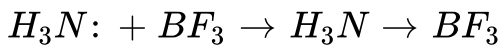
**30.** Which of the following is most soluble in water?



**Answer: D**

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31. Select the correct statements here



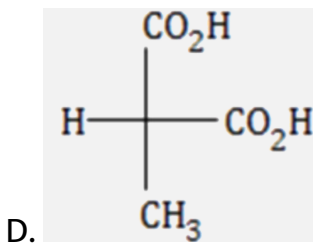
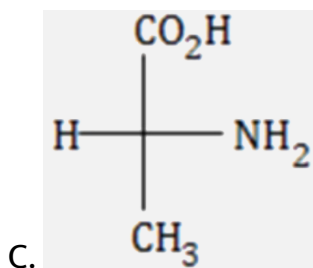
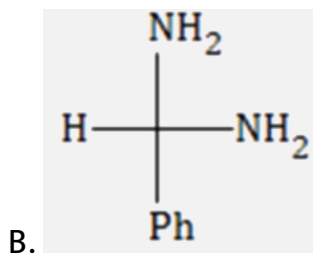
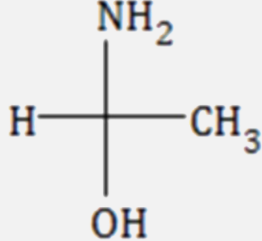
- A. Here  $NH_3$  is Lewis base while  $BF_3$  is Lewis acid
- B. Hybridisation of  $BF_3$  becomes  $sp^3$
- C. Shape of  $BF_3$  remains trigonal
- D. Both A and B

**Answer: D**



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32. Which of the following compounds can form a Zwitter ion ?



Answer: C

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33. Which mixture of the solutions will lead to the formation of negatively charged colloidal  $[AgI]^-$  sol. ?

A. 50 mL of 0.1 M  $AgNO_3$  + 50 mL of 0.1 M KI

B. 50 mL of 0.1 M  $AgNO_3$  + 50 mL of 0.2 M KI

C. 50 mL of 0.2 M  $AgNO_3$  + 50 mL of 0.1 M KI

D. 50 mL of 0.2 M  $AgNO_3$  + 50 mL of 0.2 M KI

**Answer: B**



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34. For the ideal gaseous reaction, the rate is generally expressed in terms of  $\frac{dP}{dt}$  instead of  $\frac{dC}{dt}$  or  $\frac{dn}{dt}$  (where  $C = \frac{n}{V}$  is concentration and n the no. of moles). What is the relation among these three expressions if T and V are constant?

$$A. \frac{dC}{dt} = \frac{dn}{dt} = \frac{V}{RT} \frac{dP}{dt}$$

$$B. \frac{dC}{dt} = \frac{1}{V} \frac{dn}{dt} = \frac{1}{RT} \frac{dP}{dt}$$

$$C. \frac{dP}{dt} = \frac{dn}{dt} = \frac{dc}{dt}$$

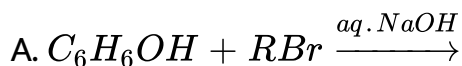
D. none of these

**Answer: B**

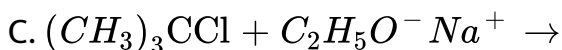
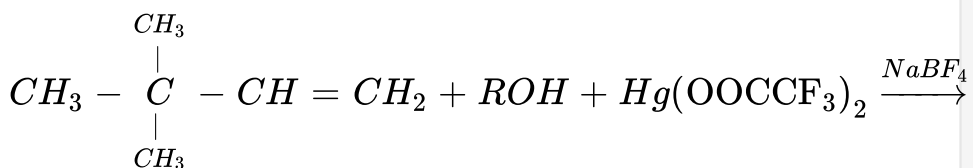


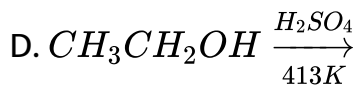
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**35. Which of the following reaction does not form an ether ?**



B.





**Answer: C**

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**36.** Match list I (reagents for reaction of nitrobenzene) with list II (products formed and select the correct answer using the codes given below .

	<b>List I</b>		<b>List II</b>
(p)	Sn and HCl	1.	Hydrazobenzene
(q)	Zn and $\text{NH}_4\text{Cl}$	2.	Azoxybenzene
(r)	Methanolic NaOMe	3.	Phenyl hydroxylamine
(s)	Zn and KOH	4.	Aniline

A. (p) - 4,(q) - 3, (r) - 1, (s) - 2

B. (p) - 4 , (q) - 3, (r) - 2 , (s) - 1

C. (p) - 3 , (q) - 4 , (r) - 1, (s) - 2

D. (p) - 3, (q) - 4 , (r) - 2, (s) - 1

**Answer: A**



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**37.** Write the formula and IUPAC name of prussian blue.

A. Iron (II) hexacyanoferrate (II)

B. Iron (II) hexacyanoferrate (III)

C. Iron (III) hexacyanoferrate (II)

D. Iron (III) hexacyanoferrate (III)



**Answer: C**



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**38.** When benzaldehyde (or any other aromatic aldehyde) is heated with anhydride of an aliphatic acid (containing two  $\alpha$  - hydroge atoms) in presence of its sodium salt, condensation takes place to form an unsaturated carboxylic acid. This reaction is called

- A. Perkin reaction
- B. Claisen - Schmidt reaction
- C. Witting reaction
- D. Benzoin condensation

**Answer: A**

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39. In the reaction,  $H_3PO_4 + Ca(OH)_2 \rightarrow CaHPO_4 + 2H_2O$ ,  
the equivalent mass of  $H_3PO_4$  is

- A. 49 g
- B. 32.7 g
- C. 196 g
- D. 98 g

**Answer: A**

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40. two electron are revolving around a nucleus at distance  $r$   
and  $4r$ . The ratio of their periods is

A. 1 : 4

B. 4 : 1

C. 8 : 1

D. 1 : 8

**Answer: D**



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**41.**  $C_3$ -epimer of D-Glucose is

A. D - Glucose

B. D - Allose

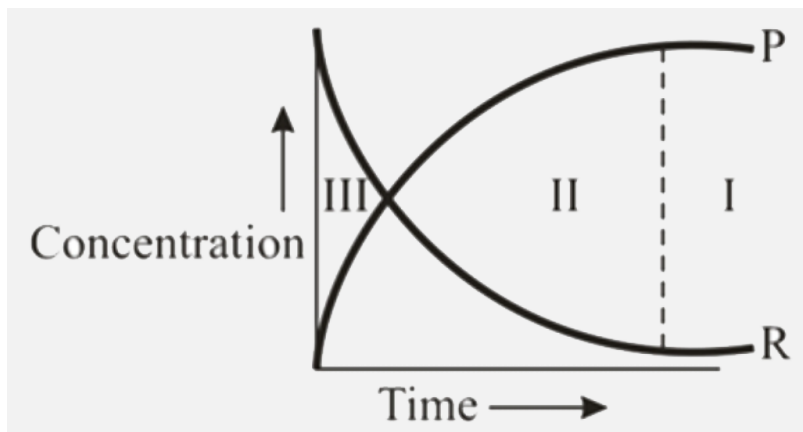
C. D - Altrose

D. D - Mannose

Answer: B

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42. For the reaction  $R \rightleftharpoons P$  Variation of concentration is plotted against time



Which of the following regions show (s) equilibrium ?

A. III

B. II

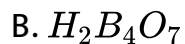
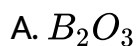
C. I

D. II and III both

**Answer: C**

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**43.** Orthoboric acid when heated to red hot gives :



D. B

**Answer: A**

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44. Leaching of  $Ag_2S$  is carried out by heating it with a dilute solution of:

- A. NaCN only
- B. HCl
- C. NaOH
- D. NaCN in presence of  $O_2$

**Answer: D**



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45. In which of the polymer the monomers used are not correctly given

A. Polyme → Nylon -6,6, Monomers → adipic acid,  
hexamethylene diamine

B. Polymer → Bakelite , Monomers → formaldehyde ,  
phenol

C. Polymer → Buna - N , Monomers → buta - 1,3 - diene ,  
nitrobenzene

D. Polymer → Buna - S, Monomers → buta 1,3- diene ,  
styrene

**Answer: C**



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