

1. Action of hydrogen iodide on anisole gives,
- (A) Phenol and iodomethane
 - (B) Iodobenzene and methanol
 - (C) Phenol and methanol
 - (D) Iodobenzene and iodomethane
2. β -pleated sheets of polypeptide chains are present in
- (A) Secondary structure
 - (B) Primary structure
 - (C) Tertiary structure
 - (D) Quaternary structure
3. Which of the following is NOT an antiseptic compound?
- (A) Boric acid
 - (B) Iodoform
 - (C) Hydrogen peroxide
 - (D) Potassium sulphite
4. When propene reacts with HCl in presence of peroxide, the product is
- (A) 1-chloro propane
 - (B) 1,1-dichloro propane
 - (C) 2-chloro propane
 - (D) 1,2-dichloro propane
5. Which of the following polymers is used in paints ?
- (A) Gutta percha
 - (B) Melamine

- (C) Buna-S
- (D) Novolac

6. The conductivity of an electrolytic solution decreases on dilution due to

- (A) Decrease in number of ions per unit volume
- (B) Increase in ionic mobility of ions
- (C) Increase in percentage ionisation
- (D) Increase in number of ions per unit volume

7. Which of the following methods is used to separate wolframite and stannic oxide present in cassiterite?

- (A) Hydraulic washing using Wilfley table
- (B) Froth flotation
- (C) Hydraulic classifier
- (D) Magnetic separation

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9. When CuSO_4 solution in water is treated with concentrated HCl it turns

- (A) Violet
- (B) Yellow
- (C) Purple
- (D) Green

10. What happens when ionic hydrides of S-block elements in molten state are electrolysed?

- (A) Hydride ion migrates at cathode
- (B) Dihydrogen is liberated at cathode
- (C) Hydride ion reforms metal hydride
- (D) Dihydrogen is liberated at anode

11. How many isoprene units are present in abscisic acid ?

- (A) Three
- (B) Two
- (C) Four
- (D) Five

12. Bassemerization is used in the extraction of

- (A) Iron
- (B) Copper
- (C) Aluminium
- (D) Zinc

13. Which among the following is NOT a semi-synthetic polymer

- (A) Terylene
- (B) Viscose-Rayon
- (C) Cupra-ammonium silk
- (D) Acetate Rayon

14. Which among the following group 15 elements does not exhibit allotropy?

- (A) N
- (B) As

- (C) Sb
- (D) Bi

15. Which among the following solids shows the Frenkel defect ?

- (A) NaCl
- (B) C_sCl
- (C) KCl
- (D) AgCl

16. For the conversion of oxygen to ozone in the atmosphere, nitric oxide in gaseous phase acts as

- (A) Enzyme catalyst
- (B) Inhibitor
- (C) Homogeneous catalyst
- (D) Heterogeneous catalyst

16. Calculate Vant Hoff factor for 0.2 m aqueous solution of KCl which freezes at $-0.680^{\circ}C$. ($K_f=1.86 K kg mol^{-1}$)

- (A) 3.72
- (B) 1.83
- (C) 6.8
- (D) 1.86

17. ∞ - butylene when subjected to hydroboration oxidation reaction, yields

- (A) iso-butyl alcohol
- (B) sec-butyl alcohol
- (C) n-butyl alcohol
- (D) tert-butyl alcohol

18. What is the percentage of carbon in urea? (At mass C=12, H=1, N=14, O=16)
- (A) 20%
 - (B) 26.6%
 - (C) 6.67%
 - (D) 46.0%
19. Which among the following compounds is used as a selective weed killer?
- (A) Picric acid
 - (B) 2,4-dichlorophenoxy acetic acid
 - (C) 2,4,6- trichlorophenoxy acetic acid
 - (D) Salol
20. Which among the following compounds is used to decaffeinate coffee?
- (A) Iodoform
 - (B) Carbon tetrachloride
 - (C) Methylene dichloride
 - (D) Chloroform
21. Mandelonitrile is obtained by the reaction between hydrogen cyanide and
- (A) Propionaldehyde
 - (B) Benzaldehyde
 - (C) Acetaldehyde
 - (D) Acetone
22. The ionic charges on chromate ion and dichromate ion respectively is
- (A) -2,-2
 - (B) -3,-2

- (C) -2,-4
- (D) -4,-2

23. Which of the following sets of components form homogeneous mixture?

- (A) Phenol + Water
- (B) Sugar + Benzene
- (C) Silver chloride + Water
- (D) Ethyl alcohol + Water

24. Which of the following bonds has maximum bond length?

- (A) C - O
- (B) C - H
- (C) C - C
- (D) C - N

25. The bacteriostatic antibiotic from the following is

- (A) Tetracycline
- (B) Aminoglycosides
- (C) Penicillin
- (D) Ofloxacin

26. Which among the following solids shows the Frenkel defect?

- (A) NaCl
- (B) CsCl
- (C) KCl
- (D) AgCl

27. Calculate the difference between heat of combustion of carbon monoxide gas at constant pressure and at constant volume at 27°C? ($R = 2\text{Cal K}^{-1} \text{mol}^{-1}$)

- (A) 54 cal
- (B) -600 cal
- (C) -300 cal
- (D) 27 cal

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