

NEET CHEMISTRY 2018-19 - Chennai

Test ID : 042

Number of questions: 50

Test date: 22.04.2019

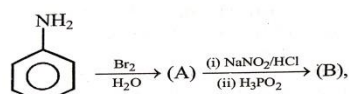
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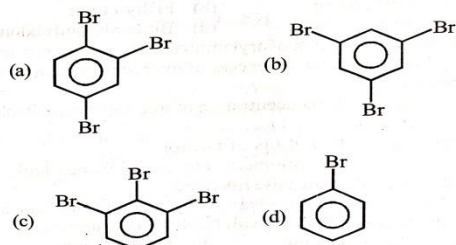
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Negative Marks : 4 marks for correct attempt & 1 mark deducted for every wrong attempt.

1.



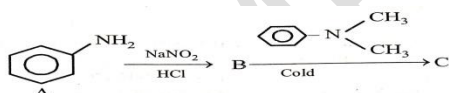
Product (B) in this reaction is:



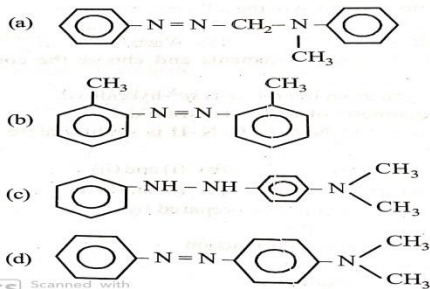
2. Which of the following reagents will convert *p*-methylbenzenediazonium chloride into *p*-cresol?

- Cu powder
- H₂O
- H₃PO₂
- C₆H₅OH

3. In a reaction of aniline a coloured product C was obtained.



The structure of C would be :



4. The correct order of increasing basicity in aqueous solution is

- $\text{NH}_3 < \text{C}_6\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_2\text{NH} < \text{C}_2\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_3\text{N}$
- $\text{C}_6\text{H}_5\text{NH}_2 < \text{NH}_3 < (\text{C}_2\text{H}_5)_3\text{N} < \text{C}_2\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_2\text{NH}$
- $\text{C}_6\text{H}_5\text{NH}_2 < \text{NH}_3 < \text{C}_2\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_3\text{N} < (\text{C}_2\text{H}_5)_2\text{NH}$
- None of the above

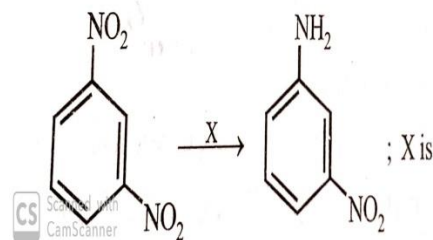
5. The reduction of nitro compounds is most preferred in the presence of

- Pd/H₂ in ethanol
- Sn + HCl
- finely divided Ni
- Iron scrap and HCl.

6. Gabriel's phthalimide synthesis is used for the preparation of

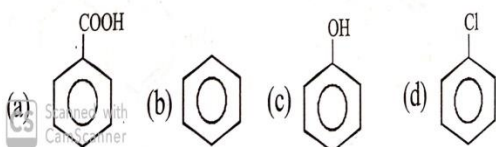
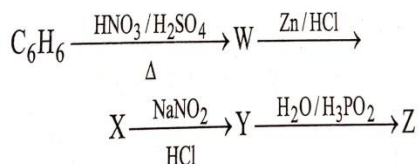
- Primary aromatic amines
- Secondary amines
- Primary aliphatic amines
- Tertiary amines

7. In the reaction:

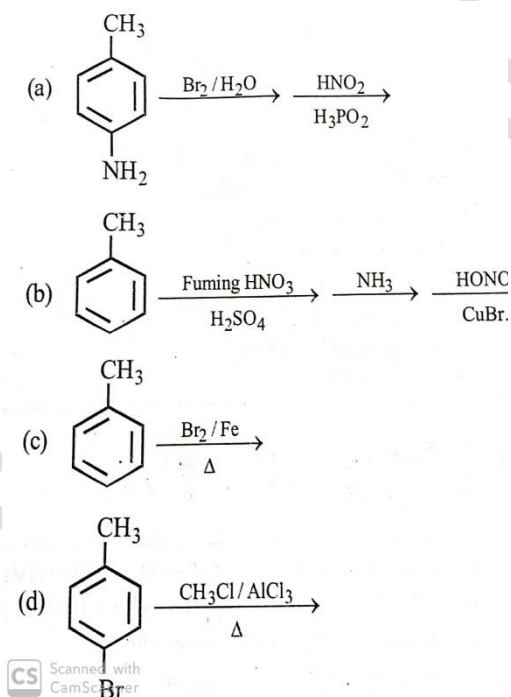


- (a) SiC
- (b) H₂SO₄
- (c) KMnO₄
- (d) NH₄HS

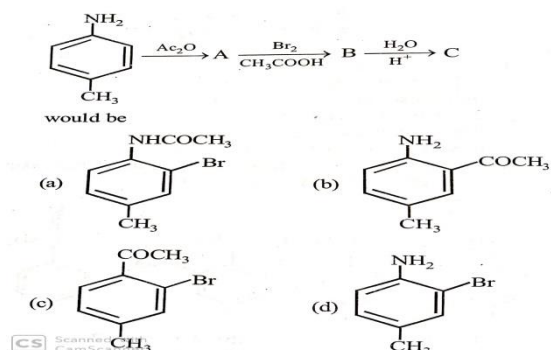
8. 'Z' in the following sequence of reaction is



9. 3, 5 – Dibromotoluene can be best synthesised by



10. The final product C, obtained in this reaction



11. The vapour pressure at the given temperature of an ideal solution containing 0.2 mol of a non-volatile solute and 0.8 mol of solvent is 60 mm of Hg. The vapour pressure of the pure solvent at the same temperature is

- a) 150 mm of Hg
- b) 60 mm of Hg
- c) 75 mm of Hg
- d) 120 mm of Hg

12. Formation of a solution from two components can be considered as

- i) Pure solvent → separated solvent molecules, ΔH_1
 - ii) Pure solute → Separated solute molecules, ΔH_2
 - iii) Separated solvent & solute molecules → solution ΔH_3
- Solution so formed will be ideal if,
- a) $\Delta H_{soln} = \Delta H_3 - \Delta H_1 - \Delta H_2$
 - b) $\Delta H_{soln} = \Delta H_1 + \Delta H_2 + \Delta H_3$
 - c) $\Delta H_{soln} = \Delta H_1 + \Delta H_2 - \Delta H_3$
 - d) $\Delta H_{soln} = \Delta H_1 - \Delta H_2 - \Delta H_3$

13. The molal cryoscopic constant for water is

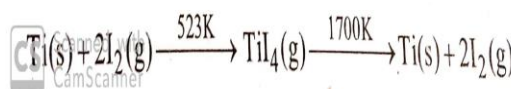
- a) 1.86 K molality⁻¹
- b) 5.26 K molality⁻¹
- c) 55.5 K molality⁻¹
- d) 0.52 k molality⁻¹

14. Which of the following has the lowest freezing point?
- 0.1m sucrose
 - 0.1m urea
 - 0.1m ethanol
 - 0.1m glucose
15. For which of the following parameters the structural isomers C_2H_5OH and CH_3OCH_3 would be expected to have the same values?(Assume ideal behavior)
- Boiling points
 - Vapour pressure at the same temperature
 - Heat of vaporization
 - Gaseous densities at the same temperature and pressure
16. Which one of the following is non-ideal solution
- Benzene + toluene
 - n- hexane+ n- heptane
 - Ethyl bromide + ethyl iodide
 - $CCl_4 + CHCl_3$
17. In 0.5 molal solution of KCl, KCl is 50% dissociated. The freezing point of solution will be ($K_f = 1.86K\text{ Kg mol}^{-1}$)
- 274.674 K
 - 271.60K
 - 273k
 - None of these
18. Which of the following salts will have the same value of van't Hoff factor (i) as that of $K_4[Fe(CN)_6]$
- $Al_2(SO_4)_3$
 - NaCl
 - $Al(NO_3)_3$
 - Na_2SO_4
19. Van't Hoff factor is given by the expression-----
- $$i = \frac{\text{Normal molar mass}}{\text{Abnormal molar mass}}$$
 - $$i = \frac{\text{Abnormal molar mass}}{\text{Normal molar mass}}$$
 - $$i = \frac{\text{Observed colligative property}}{\text{Calculated colligative property}}$$
 - Both (a) and (c)
20. At high altitude the boiling point of water decreases because:
- Atmospheric pressure is low
 - Temperature is low
 - Atmospheric pressure is high
 - None of the above
21. For adsorption of a gas on a solid, the plot of $\log x/m$ vs $\log P$ is linear with slope equal to (n being whole number)
- K
 - $\log K$
 - n
 - $1/n$
22. Which is adsorbed in maximum amount by activated charcoal?
- N_2
 - CO_2
 - Cl_2
 - O_2
23. At high pressure, the entire surface gets covered by a monomolecular layer of the gas follows
- Three – halved order
 - Second – order

- c) First – order
d) Zero – order
24. Adsorption is accompanied by
a) Decrease in enthalpy and increase in entropy
b) Increase in enthalpy and increase in entropy
c) Decrease in enthalpy and decrease in entropy
d) Increase in enthalpy and decrease in entropy
25. At 1 atm and 273K the volume of nitrogen gas required for adsorption, is found to be $1.30 \text{ cm}^3 \text{ g}^{-1}$ of the gel. The area occupied by a nitrogen molecule is 0.16 nm^2 . What is the surface area per gram of silica gel? [Given : $N_A = 6 \times 10^{23} \text{ mol}^{-1}$]
a) $5.568 \text{ m}^2 \text{ g}^{-1}$
b) $3.48 \text{ m}^2 \text{ g}^{-1}$
c) $1.6 \text{ m}^2 \text{ g}^{-1}$
d) None of these
26. Shape selective catalysis is a reaction catalysed by
a) Enzymes
b) Ziegler – Natta catalyst
c) Zeolites
d) Platinum
27. Ziegler – Natta catalyst is:
a) $(\text{ph}_3\text{p})_3 \text{ RhCl}$
b) $\text{K}[\text{PtCl}_3(\text{C}_2\text{H}_4)]$
c) $[\text{Al}_2(\text{C}_2\text{H}_5)_6] + \text{TiCl}_4$
d) $[\text{Fe}(\text{C}_2\text{H}_5)_2]$
28. Hydrolysis of urea is an example of
a) Homogenous catalysis
b) Heterogenous catalysis
c) Biochemical catalysis
d) Zeolite catalysis
29. Which of the following is true in respect of chemical adsorption?
a) $\Delta H < 0, \Delta S > 0, \Delta G > 0$
b) $\Delta H < 0, \Delta S < 0, \Delta G < 0$
c) $\Delta H > 0, \Delta S > 0, \Delta G < 0$
d) $\Delta H > 0, \Delta S < 0, \Delta G > 0$
30. In an experiment, 200 ml of 0.5M oxalic acid is shaken with 10g of activated charcoal and filtered. The concentration of the filtrate is reduced to 0.4M. The amount of adsorption $[x/m]$ is
a) 0.9
b) 1.8
c) 0.18
d) 0.09
31. An example of oxide ore is
a) Bauxite
b) Malachite
c) Zinc blende
d) Feldspar
32. Cinnabar is an ore containing
a) Ag_2S
b) HgS
c) Bi_2S_3
d) CdS
33. German silver is an alloy of
a) Ag and Ni
b) Cu, Zn and Ni
c) Au, Cu and Zn
d) Cu and Zn
34. Which of the following processes involve the roasting process?
a) $\text{ZnCO}_3 \rightarrow \text{ZnO} + \text{CO}_2$
b) $\text{Fe}_2\text{O}_3 + 3\text{C} \rightarrow 2\text{Fe} + 3\text{CO}$
c) $2\text{PbS} + 3\text{O}_2 \rightarrow 2\text{PbO} + 2\text{SO}_2$
d) $\text{Al}_2\text{O}_3 \cdot 2\text{H}_2\text{O} \rightarrow \text{Al}_2\text{O}_3 + 2\text{H}_2\text{O}$

35. Which one of the following ore is best concentrated by froth-floatation method?
- Galena
 - Cassiterite
 - Magnetite
 - Malachite

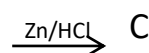
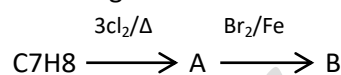
36. Which method of purification is represented by the following equation?



- Zone refining
 - Cupellation
 - Polling
 - Van arkel
37. In the cyanide extraction process of silver from argentite ore, the oxidizing and reducing agents used are
- O_2 and CO respectively
 - O_2 and Zn dust respectively
 - HNO_3 and Zn dust respectively
 - HNO_3 and CO respectively
38. Flux used in the smelting of copper ore is
- Coke
 - Magnesia
 - Silica
 - Lime stone
39. Aluminium is prepared in large quantities by
- Heating cryolite in a limited quantity of air
 - Reducing aluminium oxide with coke
 - Reducing aluminium oxide with sodium
 - Electrolyzing aluminium oxide dissolved in fused electrolyte

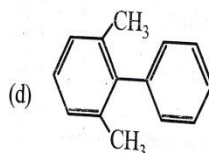
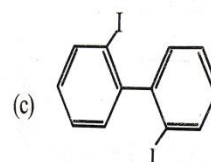
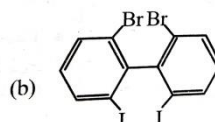
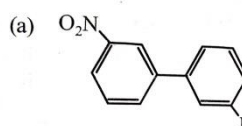
40. Steel contains carbon
- 0.12% to 0.25%
 - 2.5% to 4.5%
 - 1 to 2%
 - 0.5 to 1.5%

41. The compound C_7H_8 undergoes the following reactions

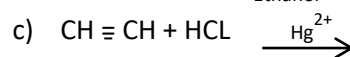
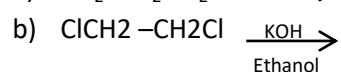
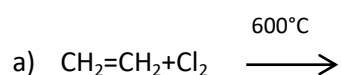


- m- bromotoluene
- o- bromotoluene
- p- bromotoluene
- 3-bromo- 2,4,6-trichlorotoluene

42. Which of the following biphenyls is optically active?



43. Which of the following will give vinyl chloride?



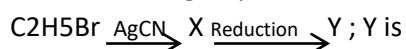
- d) All of these

44.

When $\text{CH}_3\text{CH}_2\text{CHCl}_2$ is treated with NaNH_2 , the product formed is

- (a) $\text{CH}_3-\text{CH}=\text{CH}_2$ (b) $\text{CH}_3-\text{C}\equiv\text{CH}$
 (c) $\text{CH}_3\text{CH}_2\text{CH} \begin{matrix} \text{NH}_2 \\ \text{NH}_2 \end{matrix}$ (d) $\text{CH}_3\text{CH}_2\text{CH} \begin{matrix} \text{Cl} \\ \text{NH}_2 \end{matrix}$

45. In the following sequence of reactions

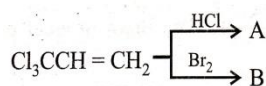


- a) n-propyl amine
 b) isopropylamine
 c) ethylamine
 d) ethylmethanamine

46. during debromination of meso-2,3-dibromobutane, the major compound formed is

- a) n-butane
 b) 1-butene
 c) cis-2-butene
 d) trans-2-butene

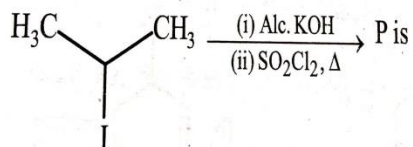
47.



Which of the following is correct ?

- (a) A on reaction with aq. KOH gives $\text{HOCH}_2\text{CH}_2\text{COI}$
 (b) B can be resolved into *d*- and *l*-forms
 (c) Both (a) and (b)
 (d) Neither (a) nor (b)

48.



- (a) 3-Chloropropene (b) 2-Chloropropene
 (c) 1-Chloropropene (d) 1,2-Dichloropropene

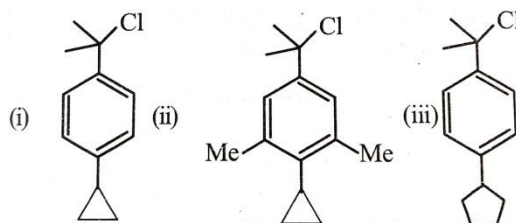
49.



- (a) $(\text{CH}_3)_3\text{CCOOH}$ (b) $(\text{CH}_3)_3\text{COH}$
 (c) $(\text{CH}_3)_3\text{COC}(\text{CH}_3)_3$ (d) All the three

50.

Identify correct reactivity order for $\text{S}_{\text{N}}1$ reaction



- (a) $\text{i} > \text{ii} > \text{iii}$ (b) $\text{ii} > \text{iii} > \text{i}$
 (c) $\text{i} > \text{iii} > \text{ii}$ (d) $\text{iii} > \text{i} > \text{ii}$