

12TH STD

Time : 1: 30 HRS

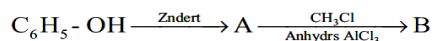
CHEMISTRY

Maximum Marks : 50

PART I

Answer any Six of the following questions. Question no 8 is compulsory 6 x 2 = 12

1. Calculate the spin only magnetic moment of Ti^{3+} and Mn^{2+} ions
2. Which is more stable? Fe^{3+} or Fe^{2+} explain.
3. Which metal in the 3d series exhibits +1 oxidation state most frequently and why?
4. Why does bleeding stop by rubbing moist alum
5. What is the difference between a sol and a gel?
6. Which will be adsorbed more readily on the surface of charcoal and why; NH_3 or CO_2 ?
7. How is identified phenol?
8. Identify A and B from the following reaction.



PART II

Answer any Six of the following questions. Question no 16 is compulsory 6 x 3 = 18

9. Why first ionization enthalpy of chromium is lower than that of zinc?
10. Explain why Cr^{2+} is strongly reducing while Mn^{3+} is strongly oxidizing.
11. Describe three features of catalysis by Zeolites.
12. Why are lyophillic colloidal sols are more stable than lyophobic colloidal sol.
13. Give three uses of emulsions.
14. Write the Schotten-Baumann reaction.
15. Is it possible to oxidize t – butyl alcohol using acidified dichromate to form a carbonyl compound.
16. Why Gd^{3+} is colourless?

PART III

Answer all the questions.

4 x 5 = 20

17. a) (i) What are actinides? Give three examples. (3)
(ii) Transition metal acting as a catalyst, Give the reason. (2)
(or)
b) What is the difference between homogenous and heterogenous catalysis? (5)
18. a) (i) Give three important characteristics of physisorption. (3)
(ii) What are enzymes? (2)
(or)
b) (i) Actinoid contraction is greater from element to element than the lanthanoid contraction, why? (3)
(ii) Give uses of potassium permanganate. (2)
19. a) (i) Compare the acidity of 1^o, 2^o and 3^o alcohols. (3)
(ii) Give uses of glycerol. (2)
(or)
b) Explain the Saytzeff's rule. (5)
20. a) (i) Write the given reaction of tertiary alcohol in the Lucas test. (3)
(ii) Give their IUPAC Names. A) $(C_2H_5)_3COH$ B) $CH_2 = C(Cl)-CH(OH)-CH_3$ (2)
(or)
b) Tertiary alcohols undergo dehydration by E_1 mechanism, write the reactions. (5)

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CHEMISTRY

Maximum Marks : 30

PART I

Answer any Four of the following questions. Question no 6 is compulsory 4 x 2 = 8

1. Calculate the spin only magnetic moment of Ti^{3+} and Mn^{2+} ions
2. Which is more stable? Fe^{3+} or Fe^{2+} explain.
3. Which metal in the 3d series exhibits +1 oxidation state most frequently and why?
4. Why does bleeding stop by rubbing moist alum
5. What is the difference between a sol and a gel?
6. Which will be adsorbed more readily on the surface of charcoal and why; NH_3 or CO_2 ?

PART II

Answer any Four of the following questions. Question no 12 is compulsory 4 x 3 = 12

7. Why first ionization enthalpy of chromium is lower than that of zinc?
8. Explain why Cr^{2+} is strongly reducing while Mn^{3+} is strongly oxidizing.
9. Describe three features of catalysis by Zeolites.
10. Why are lyophillic colloidal sols are more stable than lyophobic colloidal sol.
11. Give three uses of emulsions.
12. Why Gd^{3+} is colourless?

PART III

Answer all the questions.

2 x 5 = 10

13. a) (i) What are actinides? Give three examples. (3)
(ii) Transition metal acting as a catalyst, Give the reason. (2)
(or)
b) What is the difference between homogenous and heterogenous catalysis? (5)
14. a) (i) Give three important characteristics of physisorption. (3)
(ii) What are enzymes? (2)
(or)
b) (i) Actinoid contraction is greater from element to element than the lanthanoid contraction, why? (3)
(ii) Give uses of potassium permanganate. (2)