



B.TECH DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2013)

Second Semester

U13CHT204: CHEMISTRY FOR TEXTILES

(Common to TXT/FT)

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

- Chemical Treatment of natural water performed using
 - Alum
 - CaSO₄
 - Calgon
 - CaCl₂
- In Permutit process, only _____ are removed
- Polyacrylonitrile is prepared from
 - Free radical polymerization
 - Anionic Mechanism
 - Coordination mechanism
 - Cationic Mechanism
- _____ compound is used to prepare vinyl chloride monomer
- Predict the dye which is having 2 basic auxochrome with 1 quinoid chromophore
 - Malachite Green
 - Indigo
 - Congored
 - Alizarin
- _____ dye become linked to the fibre by chemical reaction
- Which one of the following is not a form of chemical bonding?
 - Covalent Bonding
 - H Bonding
 - Ionic Bonding
 - Metallic Bonding
- During the formation of covalent bond energy in the system _____
- Glass transition temperature increases with the presence of _____
 - High molecular weight
 - low chain length
 - degree of symmetry
 - non polar group
- The variation of levelling agents leads to the change in _____

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. How the exhausted zeolite bed is regenerated?
12. Differentiate scale and sludge.
13. Define degree of polymerization with examples.
14. Write the preparation of PVC,
15. Derive the Synthetic route for the preparation of Alizarin,
16. What is dye? How it be classified based on their structure?
17. Define ionic bond. Give the few conditions needed to form ionic bond.
18. Hydrogen sulphide (H₂S) is a gas and water (H₂O) is a high boiling liquid – Justify
19. What is leveling agents?
20. List few dye fixing agents.

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. (i) Explain the characteristics and types of H-bonding. (7)
(ii) Enumerate vanderwalls forces of attraction and list out the factors affecting on it. (7)
22. a) (i) Picture out the electrodialysis process to convert the sea water to fresh water. (10)
(ii) Write note on calgon and Phosphate conditioning process. (4)

(OR)

b) (i) Describe the process involved in the purification of water for municipal supply. (10)
(ii) How ion exchange resins are regenerated? (4)
23. a) (i) Explain the free radical mechanism involved in addition polymerization. (7)
(ii) Differentiate thermoplastics and thermosettings. (7)

(OR)

b) (i) How the polymer structure affects on properties? (7)
(ii) Write the preparation and properties of Nylon 6,6. (7)
24. a) (i) When the Compound **A** with **B** in the presence of Conc. H₂SO₄ to give leucobase **C**. Oxidation of **C** with **D** followed by the treatment of HCl yields the dye. Find **A, B, C, D** and write the reaction and structure of the dye. (7)

(ii) How dyes are classified based on their application? Give examples/ (7)

(OR)

b) (i) Discuss the colour and constitution theory. (7)

(ii) What is vat dye? How it is prepared? (7)

25. a) (i) What are dispersing agents? Explain the types with examples. (7)

(ii) Briefly account on covalent bond and its nature. (7)

(OR)

b) (i) Explain the mechanism of retarding agent. (7)

(ii) Write note on dye fixing agents and its types. (7)
