

M.Sc. - II (Chemistry) (CBCS Pattern) Semester-IV
PSCHT15.2 - Special Paper-II : Organic Chemistry-II

P. Pages : 2

Time : Three Hours



GUG/S/25/11456

Max. Marks : 80

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1. a) Discuss the mechanism of enzyme action with the help of Fischer's Lock and key model hypothesis. **8**
- b) Explain the reaction mechanism catalyzed by carboxypeptidase-A. **8**

OR

- c) Explain Baker Yeast Catalysed reaction. **4**
- d) Explain transition state theory for enzyme mechanism. **4**
- e) Give the role of NADP⁺ in biological system. **4**
- f) Discuss structure and biological functions of Vitamin-B12. **4**
2. a) Discuss structure, synthesis and chemical properties of pyrimidines. **8**
- b) How is indole synthesized? Discuss its basic character. Give two electrophilic substitution reaction in indol. **8**

OR

- c) Discuss the synthesis of oxazole. **4**
- d) Discuss the structure of imidazole. **4**
- e) Discuss the synthesis of pyrazines. **4**
- f) What is the action of following on isoquinoline. **4**
- i) Alk.kMnO_4 ii) Na in liq. NH_3
3. a) What are nucleic Acids? Give the difference between DNA & RNA with respect to structural and functional properties. **8**
- b) Explain the synthesis of vitamin A. **8**

OR

- c) Explain the methods of preparation of purines base of nucleic acid. **4**
- d) Discuss biosynthesis of Vitamin-H. **4**
- e) Write a note on lipids metabolism. **4**
- f) Explain β – oxidation of fatty acid. **4**

4. a) What are dyes? Discuss the classification of dyes based on their application. 8
- b) Discuss synthesis and application of 8
- i) Ciprofloxacin
- ii) Terfenadine

OR

- c) Write a note on cyanine dye. 4
- d) Give the classification of drugs. 4
- e) Discuss Ziegler-Natta polymerization with mechanism. 4
- f) Write a note on condensation polymerization. 4
5. a) Write the structure of thiamine pyrophosphate. 2
- b) Give any four application of enzyme in food and drug chemistry. 2
- c) Discuss the ring cleavage with suitable examples in Heterocyclic compound. 2
- d) Write any one synthesis of benzofuran. 2
- e) Write structure and function of lipoprotein. 2
- f) Write application of Vitamin-E. 2
- g) What are antifungal drugs? Give any two examples. 2
- h) What are syndiotactic and branched polymers? 2
