M.Sc. - II (Chemistry) Fourth Semester Old

MSc2433B - Paper-XV - Organic Chemistry Special-II

P. Pages : 2 **GUG/W/18/2458**

Time : Three Hours Max. Marks : 80

Notes : 1. All questions are compulsory and carry equal marks.

1. a) Explain Lock and key model for the mechanism of enzyme action with suitable example. **8**

b) Explain the following terms : **8**
i) Acid-Base catalysis.
ii) Orientation and steric effect.

OR

c) Explain the Baker's yeast catalyst reaction. **4**

d) Write a note on apo-enzyme. **4**

e) Give the important general properties of enzymes. **4**

f) Discuss the application of enzymes in food and drugs. **4**

2. a) Discuss the structure, synthesis and chemical properties of pyrazines. **8**

b) Give the method of preparation of Indole. Explain its biological importance. **8**

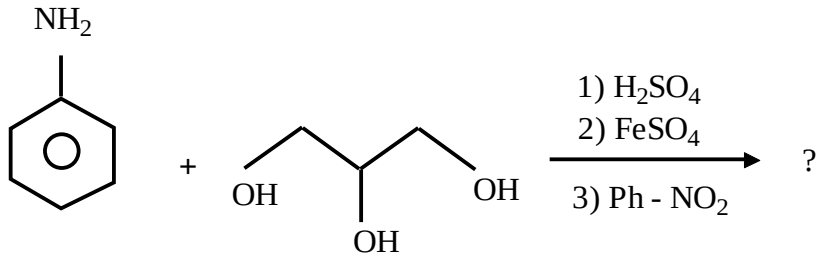
OR

c) Give any two method for the synthesis of thiazoles. **4**

d) What are fused heterocyclic compounds ? Give methods for the synthesis of isoquinoline. **4**

e) Write a note on nucleophilic and electrophilic substitution reaction of pyridazine. **4**

f) Give the mechanism for following reaction. **4**



3. a) Discuss primary and secondary structure of DNA. **8**

b) Discuss the structure of Vitamin A with synthesis. **8**

OR

c) Write the structure and function of triglyceride. **4**

d) Write a note on function of m-RNA. **4**

e) Write a note on β-oxidation of fatty acid. **4**

f) Give the synthesis of Vitamin-E. **4**

4. a) What are dyes ? Explain direct dying, vat dying and dispersive dying with suitable example. **8**

b) i) What are drugs ? Give the classification of drugs. **8**

ii) Give synthesis and application of Benzocaine and ciprofloxacin.

OR

c) Explain Ziegler - Natta polymerization with mechanism. **4**

d) Write a note on methylene blue. **4**

e) Give the synthesis and application of acyclovir. **4**

f) Explain co-polymerization with mechanism. **4**

5. a) What are enzymes inhibitors. **2**

b) Write a note on coenzymes. **2**

c) Write a note on Electrophilic substitution reaction of benzo-thiophene. **2**

d) Explain aromaticity of pyrazole. **2**

e) Write a structures of purines and pyrimidine bases. **2**

f) Write a note on micelles. **2**

g) Give the structures of quinoline yellow and cyamine-green. **2**

h) Write a note on condensation polymerization. **2**

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