Reg. No. | | | | | | | | | |

OCS 554

IV Semester M.Sc. Degree Examination, September/October 2022
(CBCS : 2016 – 17 Syllabus)
(Freshers and Repeaters)
ORGANIC CHEMISTRY
Synthetic Polymers, Dyes and Pesticides

Time : 3 Hours Max. Marks : 70

PART – A

Answer **all** the following sub-divisions. **(9×2=18)**

1. a) Outline the preparation of resole and novolac resins.
   b) What are cationic initiators ? How are they useful for polymerization reactions ?
   c) Give the composition of Zeigler-Natta catalyst. Mention its use in polymerisation.
   d) Write the structure of phenolphthalein. Why it is used as an indicator in volumetry ?
   e) What are reactive dyes ? Write their characteristics.
   f) Write the structure of Methyl orange and Bismark brown.
   g) Write the environmental impact of halogenated insecticides using an example.
   h) Give classification of insect pheromones giving suitable examples.
   i) What are fumigants ? Give any two examples and their applications.

PART – B

Answer **any four full** questions. **(4×13=52)**

2. a) Explain the various factors affecting glass transition temperature of polymers by taking suitable examples.
   b) Classify polymers based on their applications giving suitable examples for each type.
   c) Describe the method of preparation, properties and applications of acrylic polymers. **(3+5+5)**

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3. a) Distinguish the features between addition and condensation polymerization reactions.
   b) Describe the preparation and structure of synthetic rubber. Why does it possess superior properties over natural rubber ?
   c) Write a note on preparation, properties and applications of PVC and epoxy polymers. **(3+5+5)**

4. a) Explain various methods used for applying dyes to fabrics.
   b) Provide the synthetic scheme for Orange-II and Congo red dye.
   c) Describe modern theory of colour giving suitable examples. **(3+5+5)**

5. a) Give an account on pigments, write the structure and properties of Lake red pigment.
   b) Write the structure and synthesis of Rosaniline and Quinaldine.
   c) Explain the synthesis and applications of Tinapal and Blankophor. **(3+5+5)**

6. a) Explain the classification of insecticides giving suitable examples.
   b) Describe the synthesis and mode of action of chlordane and parathion.
   c) Write the synthesis of disparlure and bomykol. **(3+5+5)**

7. a) Differentiate natural and synthetic insecticides using suitable examples.
   b) Give an account of synthesis and application of sulphonyl ureas and sulphonamide based herbicides.
   c) Give an overview of systemic fungicides and its types using examples. **(3+5+5)**
