



RAN-1903080203030003-A

M.Sc. (Sem. -III) Examination October - 2025

Organic Chemistry : Paper-III (Organic Chemistry in industry)

Time: 3 Hours]
[Total Marks: 70

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book (2) Figures to the right indicate full marks of the questions.	Seat No.: <table border="1"> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> Student's Signature						

- Q. 1. Answer any THREE of the following: 18**
- Explain preclinical testing and clinical testing of drug.
 - Describe the research activities in the development of new drug.
 - What are herbicides? Give classification of herbicides with examples.
 - Define insecticides. Give chemical classification of insecticides.
Explain inorganic insecticides.
- Q. 2. Answer any THREE of the following: 18**
- Give the classification of dyes based on chemical constitution.
 - Discuss medicinal dyes, leather dyes and photographic dyes with suitable examples.
 - Explain bathochromic, hypsochromic, hypochromic and hyperchromic effects.
 - Discuss the resonance theory regarding the colour and chemical constitution.
- Q. 3. Answer any THREE of the following: 18**
- What are drugs? Give the classification of drugs on the basis of their therapeutic action.
 - Explain partition coefficient, steric effect and ionization constant.
 - Discuss briefly biological defense and chemical defense.
 - Explain the different routes of drug administration.
- Q. 4. Answer any THREE of the following: 16**
- What is nitration? Name the different nitrating agents. Discuss the industrial applications of nitration unit process in the manufacture of perfumes.
 - Define sulphonation and sulphation. Name the different sulphonating agents. Discuss the industrial applications of sulphonation unit process in the manufacture of drugs.
 - What is halogenation? Discuss the industrially important chemicals obtained by chlorination unit processes.
 - Explain different types of amination unit processes. Discuss the industrial application of amination unit process in the manufacturing of dyes.