

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: B. PHARMACY
BRANCH: PHARMACY**

**SEMESTER: III
SESSION: MO2022**

SUBJECT: BP301T PHARMACEUTICAL ORGANIC CHEMISTRY II

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
 2. Before attempting the question paper, be sure that you have got the correct question paper.
 3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
 4. This question paper consists of (03) three parts. Read the part wise instructions before attempting the questions.
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PART-I

Objective types questions (Instruction: Answer all questions)

Q1. (10 x 2 = 20 Marks)

- A. Write the canonical structures of Benzene.
- B. Define electrophiles with two examples.
- C. Write the structure of Saccharin. What for it is being used?
- D. Write the general structure for an oil or fat.
- E. What do you meant by rancidity of oil?
- F. Define saponification value.
- G. How will you number anthracene and phenanthrene?
- H. Identify the basic nucleus present in the following compounds: Menadione, Aloe emodin, bisphenol, co-trimazole
- I. Draw the chair and boat conformation for cyclohexane, labelling axial and equatorial hydrogens
- J. Write the structure for the following: Phenol, Catechol, Aniline, o-phenylenediamine

PART-II

Short Answers

(Instruction: Answer seven out of nine questions)

(7 x 5 = 35 Marks)

- Q2. Briefly discuss Huckel's rule for aromaticity.
- Q3. Explain electrophilic substitution in benzene through sulphonation reaction.
- Q4. Write a note on (i) BHC and (ii) Chloramine
- Q5. Phenol is less acidic than 4-nitrophenol. Explain why?
- Q6. With equation discuss the azo-dye test for phenols.
- Q7. Define acid value and discuss the significance for the same.
- Q8. Briefly discuss about unsaponifiable matter in oils and fats.
- Q9. Discuss in detail the sulphonation in anthracene.
- Q10. Discuss any one method each for the synthesis of diphenyl methane and triphenyl methane.

PART-III

Long Answers

(Instruction: Answer two out of three questions)

(2 x 10 = 20 marks)

- Q11. Starting with benzene explain the synthesis of the following:
 - a) 4-methyl acetophenone
 - b) 3-methyl acetophenone
 - c) 4-nitro toluene
 - d) 3-nitro toluene
- Q12. Define Iodine value, discuss about its significance and in detail explain the determination of Iodine Value
- Q13. Write the synthesis of Naphthalene, discuss in general on the electrophilic substitution of naphthalene and provide the structure and medicinal uses of two compounds containing naphthalene ring.