

B.Sc. Semester - 5 (CBCS) Examination

Oct/Nov.- 2024 (Old Course)

ORGANIC CHEMISTRY AND SPECTROSCOPY (CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

- Que.1(A) Answer the following question. (04)
Define Carbohydrates? Discuss classification of Carbohydrates.
- Que.1(B) Answer the following questions. (Any Two) (10)
 1. Write note on osazone formation of Glucose and Fructose.
 2. Write any five reactions of Glucose.
 3. Explain mutarotation of D (+) glucose.
- Que.2(A) Answer the following question. (04)
Write difference between C_n and S_n.
- Que.2(B) Answer the following questions. (Any Two) (10)
 1. Construct multiplication table for C_{2v} point group.
 2. Write difference between σ_h and σ_v .
 3. Give examples of each point group for C₁, C_s, C_i, T_d, and O_h.
- Que.3(A) Answer the following question. (04)
Give Synthesis and uses of Ibuprofen.
- Que.3(B) Answer the following questions. (Any Two) (10)
 1. Discuss aromaticity of Furan.
 2. Write electrophilic substitution reaction of Pyrrole.
 3. Discuss relative basicity of aliphatic amines with Pyridine and Pyrrole.
- Que.4(A) Answer the following question. (04)
Write note on Fingerprint Region.
- Que.4(B) Answer the following questions. (Any Two) (10)
 1. Discuss Arndt Eistert Reaction.
 2. Write a note on various stretching and bending vibrations in IR.
 3. Explain factors affecting IR spectra of carbonyl group.
- Que.5(A) Answer the following question. (04)
Define: Chromophore, Auxochrome, Bathochromic Shift and Hypsochromic Shift.
- Que.5(B) Answer the following questions. (Any Two) (10)
 1. Give synthesis of Papaverine.
 2. Explain constitution of Coniine.
 3. Write note on applications of UV.
