

**NORTH GAUHATI COLLEGE**  
**SESSIONAL EXAMINATION-2025**

**B SC SEMESTER-VI**  
**SUB: CHEMISTRY (HC)**  
**Paper name: Organic Chemistry**  
**Paper code: CHE-HC-6026**

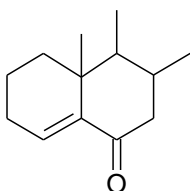
**TOTAL MARKS: 30**

**TIME: 1 Hr**

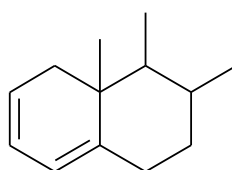
*The figures in the margin indicate full marks for the questions.*

1. Write the theory and application of infrared spectroscopy. 6
2. What is Lambert-Beer's law? Give different types of transition in UV spectroscopy. 6
3. Using Woodward-Fisher rule determine the  $\lambda$ -max for the following compound. 3x2=6

a)



b)



4. Draw the NMR spectrum of Bromoethane (not to the scale). Why tetramethylsilane is used as reference substance in NMR spectroscopy? 3+3=6

Or,

- a) How will you confirm the presence of aldehyde, hydroxyl and terminal  $-\text{CH}_2\text{OH}$  group in glucose? 3
- b) How can you convert a glucose to a fructose? 3
5. a) What do you mean by number average molecular weight and weight average molecular weight? 3

or

What is the difference between homopolymer and copolymer? Give example.

- b) What are plasticizers? Give one example of condensation polymer. 3

Or,

Give the preparation of Methyl orange or Malacite green.

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