

This question paper contains 3 printed pages]

NA—05—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (First Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(CBCS/New)

CHEMISTRY

Paper-I

(Organic and Inorganic Chemistry)

(Monday, 4-12-2023)

Time : 10.00 a.m. to 12.00 noon

Time—2 Hours

Maximum Marks—40

N.B. :— (i) Attempt all questions.

(ii) Figures to the right indicate full marks.

(iii) All questions carry equal marks.

1. Solve any *three* out of five : 3×5=15

(a) Write a note on general characteristics of s-block elements.

(b) Explain any *two* factors affecting on ionisation energy.

(c) Write a note on Paulling's method.

(d) Explain electronic configuration of noble gases.

(e) Explain any *two* preparations of XeF₂ (xenon difluoride) and explain the structure of XeF₂.

P.T.O.

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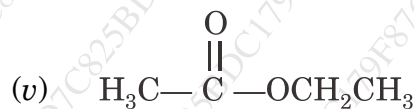
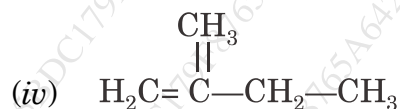
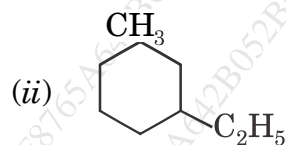
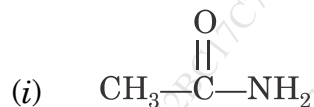
(2)

NA—05—2023

2. Solve any *three* of out of five :

3×5=15

(a) Write the IUPAC name of the following compounds :

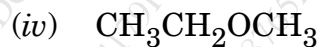
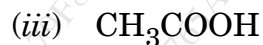
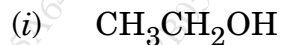


(b) Distinguish between electrophiles and nucleophiles.

(c) Give the mechanism of addition of bromine to ethylene.

(d) Explain inductive effect with a suitable example.

(e) Give the IUPAC names of the following compounds :



3. Solve any *two* of the following :

2×5=10

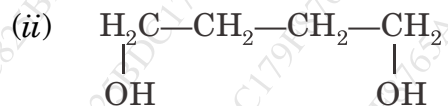
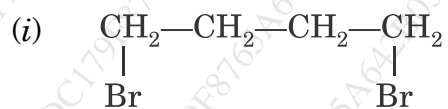
(a) How will you prepare acetylene from :

(i) Iodoform

(ii) Calcium carbide.

(b) Discuss ring opening reaction of cyclopropane with H_2 & HI.

(c) How will you prepare 1, 3-butadiene from :



(d) Explain mesomeric effect in detail.