

## Chemistry

Note: Time allowed for Section-B and Section-C is 2 Hours and 40 minutes.

SECTION-B

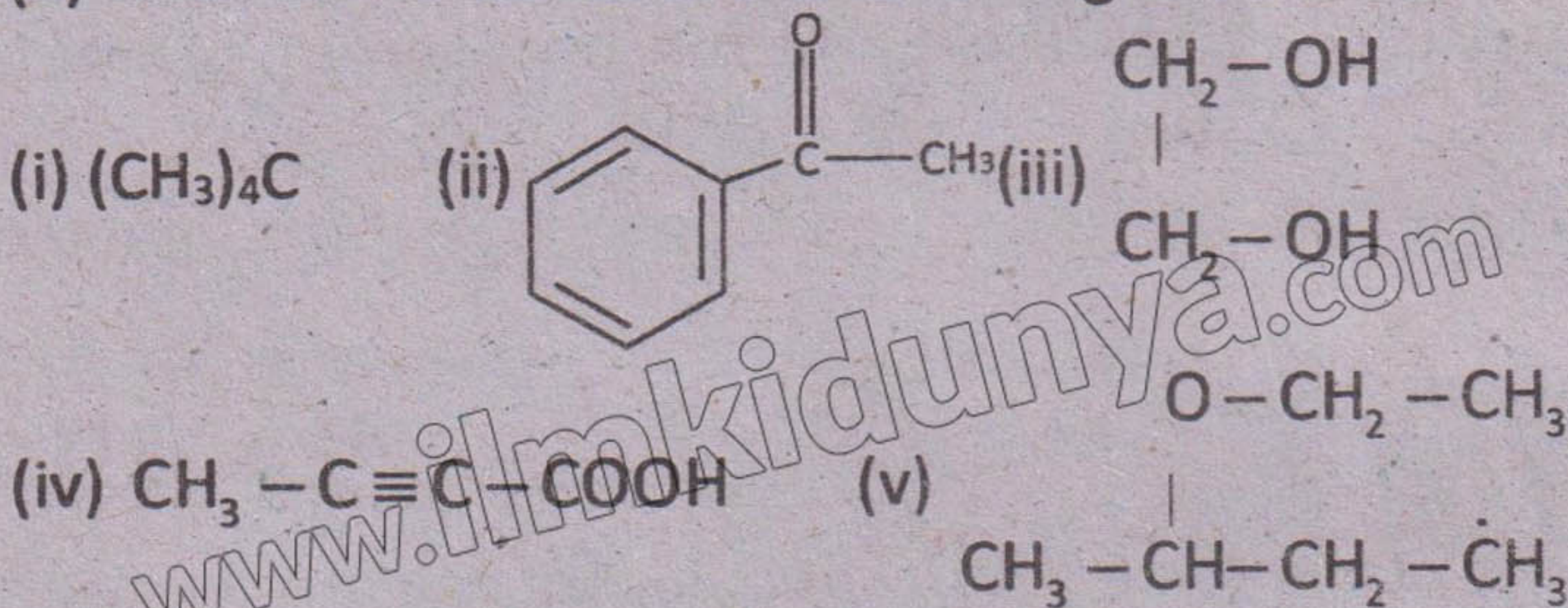
Q2: Answer any TEN parts. Each part carries FOUR marks.

- 1) How Beryllium differs from the other members of its own group?
- 2) Explain the catalytic behavior of transition elements?
- 3) Differentiate between partial and total synthesis?
- 4) Describe any two methods of preparation of alkynes?
- 5) What is meant by chirality? Give an example.
- 6) Why tertiary carbocation is more stable than secondary and primary carbocation?
- 7) What is Lucas Test?
- 8) Explain briefly which tests can be used for identification of aldehydes from ketones in laboratory?
- 9) Why chloro acetic acid is stronger acid than acetic acid?
- 10) Differentiate between DNA and RNA.
- 11) What are the uses of PVC and Nylon?
- 12) Why is acid rain considered as a threat to historical monuments?
- 13) Why modern method of analysis is superior over classical methods of analysis?

SECTION-C

Note: Attempt any THREE questions. All questions carries equal marks.

Q3: (a) Give IUPAC names to the following structures.



(b) What is meant by inert pair effect? Explain inert pair effect in formation of ionic and covalent bond.

Q4: (a) Starting from alkene how would you prepare the following compounds?

- (i) Vicinal dihalide (ii) Alcohol (iii) Aldehyde (iv) Epoxide
- (b) Discuss the mechanism to  $\text{SN}^1$  and  $\text{SN}^2$  reactions.

Q5: (a) Write the four different methods of preparation of Phenols.

(b) Define enzymes. Describe the role of enzymes in digestion of carbohydrates and proteins.

Q6: (a) What is greenhouse effect? How is it causing global warming?

(b) Explain the construction and working of mass spectrometry?