



C20-CHPP -303

7277

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DCHE – THIRD SEMESTER EXAMINATION

ORGANIC AND PHYSICAL CHEMISTRY

Time : 3 hours]

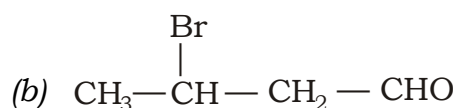
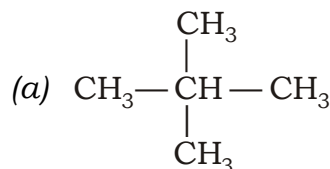
[Total Marks : 80

PART—A

3×10=30

- Instructions :** (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Write the IUPAC names of the following molecules :



2. Explain chlorination of methane.
3. What is HVZ (Hell-Volhard-Zelinsky) reaction?
4. What is Aromaticity? Explain.
5. Write any three differences between metallic conductors and electrolytic conductors.

6. Define the terms (a) Chemical Equivalent and (b) Faraday's constant.
7. Write any three characteristic properties of chemical equilibrium.
8. What are homogeneous and heterogeneous equilibria? Give examples.
9. State the 1st Law of Thermodynamics. Give mathematical formula for closed system.
10. What is heat of neutralization? Give one example.

PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. (a) Explain about types of stereoisomerism with examples.

(OR)

- (b) How do you prepare ethylene from C_2H_5OH and C_2H_5Cl ? How does it react with (i) Cold alk. $KMnO_4$ and (ii) Br_2/CCl_4 ?

12. (a) Describe the manufacture of Ethyl Alcohol from Molasses.

(OR)

- (b) How do you prepare (i) Chloroform from Ethyl Alcohol and (ii) Acetic acid from Ester?

13. (a) How do you prepare Aniline from Nitro Benzene? Write any three chemical properties of Aniline.

(OR)

- (b) Write any one method of preparation and two chemical properties of phenol.

14. (a) State and explain Faraday's 2nd law. During the electrolysis of an aqueous solution of NaCl, 10.3 g of Cl₂ is liberated at anode. Calculate the weight of H₂ liberated from acidulated water, if same quantity of electricity is used in the electrolysis of NaCl.

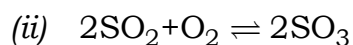
(OR)

- (b) What are Electrolytes? Explain different types of electrolytes with examples.

15. (a) State and explain law of Mass Action.

(OR)

- (b) Derive the equilibrium constants for the following reactions :



PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

16. Explain the following terms :

(a) Aldol Condensation

(b) Fehling Test

(c) Silver Mirror Test

★★★