

No of printed pages: 02

Seat No.:



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester IV) External Examination - 2026
US04MACHE01 : ORGANIC CHEMISTRY

Date: 24-03-2026, (TUESDAY)
Time: 01:45 PM to 04:15 PM

Total Marks : 50

Note: Figures to the right indicate marks of the question

Q-1 Write the most appropriate answer for the following multiple-choice questions. [10]

- (1) Which of the following instrument is used to detect optical activity?
(A) Glucometer (B) Polarimeter
(C) Barometer (D) None of the above
- (2) Which of the following is side view representation?
(A) Saw horse (B) Newman
(C) Wedge-Dess (D) Fischer
- (3) Which of the following is optically active compound?
(A) n-propanol (B) n-butanol
(C) 2-chlorobutane (D) 3-hydroxy pentane
- (4) Which of the following is known as table sugar?
(A) Glucose (B) Fructose
(C) Galactose (D) Sucrose
- (5) Glucose and mannose are epimers.
(A) C-1 (B) C-2
(C) C-3 (D) C-4
- (6) By use of which reagent you will get gluconic acid from glucose?
(A) Br₂ (B) PhNHNH₂
(C) Conc. HNO₃ (D) Ac₂O
- (7) Which of the following information can be derived by UV spectroscopy?
(A) Functional group (B) Type of H
(C) Unsaturation (D) Type of C
- (8) Which of the following transition occurs at highest wavelength?
(A) n to π (B) σ to σ^*
(C) π to π^* (D) n to π^*
- (9) Which of the following is most acidic?
(A) Acetic acid (B) Dichloroacetic acid
(C) Monochloroacetic acid (D) Trichloroacetic acid
- (10) Which will be the product of Hell-Vohard-Zelinsky reaction?
(A) Halo ester (B) β -Halo carboxylic acid
(C) α -Halo carboxylic acid (D) None of above



Q-2 Draw all the conformation of cyclohexane and discuss their stability with potential energy diagram. [10]

OR

Q-2 What is conformation? By using Newmann formula, draw various conformation of n-butane and explain their stability. [10]

Q-3 Discuss detail about various types of electronic transitions and arrange them into decreasing order of energy. [10]

OR

Q-3 Write a note on auxochrome and chromophore, also give detail classification with its functions. Also state Lambert beer law and its limitation. [10]

Q-4 Prove that glucose is pyranose not the furanose. [10]

OR

Q-4 Write a note on Cellobiose. [10]

Q-5 What is transesterification ? Give mechanism of acid catalyzed transesterification. [10]

OR

Q-5 Discuss in detail about (i) Hell-Vohard-Zelinsky reaction (ii) Inductive effect with suitable examples. [10]

XX

