

[A-12]

SARDAR PATEL UNIVERSITY
B.Sc. (Semester-VI) Examination, CBCS
Friday, 30th September, 2022
3:30 p.m. to 5:30 p.m.
US06CCHE01: - Organic Chemistry



Total Marks:70

Q.1 Choose the correct option for the following: 10

- 1 Which of the following is the ketohexose?
 a) Glucose b) Maltose c) Fructose d) Mannose
- 2 Which of the following is the common table sugar?
 a) Starch b) Sucrose c) Fructose d) Glucose
- 3 Which of the following is consider as an invert sugar?
 a) D (+) Glucose b) (+)-Maltose c) (+)- Sucrose d) D (+) Mannose
- 4 Nitration of Naphthalene gives _____ nitronaphthalene
 a) 1 b) 2 c) 9 d) 10
- 5 Which of the following is aromatic according to Huckel rule?
 a) Benzene b) Furan c) Pyrrole d) all
- 6 Electrophilic substitution reaction in phenanthrene occurs at _____ position
 a) 3 b) 1,3 c) 9 d) 9,10
- 7 Diels-Alder reaction is _____ cycloaddition reaction.
 a) [2+2] b) [4+2] c) [4+4] d) [6+6]
- 8 Which of following group is the consider as an auxochrome?
 a) -NH₂ b) -NO₂ c) -N=N- d) -N=O
- 9 Optical brighteners or whiteners which may be called _____.
 a) White dyes b) Red dyes c) Blue dyes d) Black dyes
- 10 Wool is the _____.
 a) Natural animal fibre b) Natural vegetable fibre
 c) Semi synthetic fibre d) Synthetic fibre

Q.2 Give your answer in form of True or False 8

- 1 Glucose and Mannose are epimers.
- 2 Honey is an invert sugar?
- 3 β -Naphthylamine can be prepared by Friedal – Craft synthesis
- 4 Vigorous catalytic hydrogenation of tetralin gives Naphthalene
- 5 Cyclopropenyl radical is an aromatic compound.
- 6 The diene must be in Trans configuration for Diels-Alder reaction.
- 7 Erythrosine dyes use as a food dyes.
- 8 Crystal violet dyes use as a medicinal dye.

Q.3 Answer the following in short (Attempt any Ten).

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1. What are carbohydrates? How they are classified?
- 2 Explain the osazone formation.
- 3 Explain the term Epimers.
- 4 Discuss the Nitration of Naphthalene with suitable example.
- 5 Write note on bucherer reaction.
- 6 Draw all resonance hybride structures of anthracene.
- 7 Write the characteristic of pericyclic reaction.
- 8 Explain the term symmetry allowed and symmetry forbidden.
- 9 Give the difference between Exo and Endo.
- 10 Difference between dye and pigment.
- 11 Define the term Bathochromic effect
- 12 What are the requisites for a true dye?

Q.4 Answer the following (Any Four)

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- 1 Explain, (+)- Glucose is a pyranose and not a furanose. Give the synthesis of (-)-meso Tartaric acid from (+)- glucose.
- 2 How will conform the structure of (+)- Glucose? Presence of -CHO group and Presence of 1^oalcoholic -OH group.
- 3 Give the synthesis of (i)1-methyl naphthalene from benzene (ii) Haworth Synthesis of Naphthalene.
- 4 Write a short note on aromatization.
- 5 Write note on: Sigmatropic reaction and Cope rearrangement.
- 6 Explain(i) Diels-Alder reaction with favourable condition (ii) Woodward-Hoffmann rules for electrocyclic reaction with suitable example.
- 7 What is fastness? Explain various Fastness properties.
- 8 Write short note on Witt's theory. Give the synthesis and application for the followings (a) Crystal violet (b) Hansa yellow.
