

Second Semester FYUGP Degree (Reg/Sup/Imp) Examination
April 2026

KU2DSCCHE114 - FOUNDATIONS IN PHYSICAL AND
ORGANIC CHEMISTRY

2024 Admission onwards

Time : 1.5 hours

Maximum Marks : 50

Section A

Answer any 6 questions. Each carry 2 marks.

1. What is iodometry? Give an example
2. What is Mohr's salt? What is its equivalent mass?
3. Explain position isomerism with an example?
4. Explain Metamerism with an example.
5. What is the IUPAC name of a) Formaldehyde b) Acetic acid
6. What is heterolysis? Give an example.
7. What is meant by a closed system. Give an example
8. Give an example each for acidic and basic buffers.

Section B

Answer any 4 questions. Each carry 6 marks.

9. Explain the classification of organic compounds.
10. Explain the general characteristics of a homologous series?
11. Which one among the following is aromatic. a) cyclopropenyl cation b) cyclopentadienyl anion c) tropylium cation. Justify your answer.
12. State the first law of thermodynamics and what are its limitations.
13. Compare the different concepts of acids and bases.
14. Explain the range of pH of the aqueous salt solution of a) sodium acetate b) ammonium chloride.

Section C

Answer any 1 questions. Each carry 14 marks.

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15. (a) Analyse the impact of solvent selection on the efficiency and selectivity of solvent extraction processes.
(b) Distinguish between a) Iodometry and iodimetry b) external and internal indicator in dichrometry.
16. (a) Draw the enantiomers and diastereomers of tartaric acid.
(b) Compare the stability of different conformers of ethane and propane