

MANONMANIAM SUNDARANAR UNIVERSITY

DIRECTORATE OF DISTANCE AND CONTINUING EDUCATION

INTERNAL ASSIGNMENT FOR MAY 2025 EXAMINATIONS

M. Sc Chemistry – Second Semester

Organic Reaction Mechanism - II

Subject Code: SCHM21

- 1.) (A) i) Stereochemistry of pyrolytic elimination.
ii.) Hoffmann and saytzeff rules.

(OR)

- (B) Mechanism of Swern and corey-kim oxidation.

- 2.) (A) Write the mechanism of the following rearrangements:
i) Benzil – Benzilic acid
ii.) Baeyer – villager oxidation.

(OR)

- (B) Cross – coupling reactions and its applications
i) Heck
ii.) Suzuki
iii.) Stille

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M. Sc Chemistry – Second Semester

Physical Chemistry - I

Subject Code: SCHM22

- 1.) (A) Discuss the determination of activity and activity coefficients by vapour pressure and freezing point methods.

(OR)

- (B) Derive and compare Fermi Dirac & Bose-Einstein statistics.

- 2.) (A) i) Einstein and Debye models of heat capacity.
ii.) Onsager reciprocal relationship.

(OR)

- (B) i) Discuss the kinetics and mechanism of acid-base catalysis.
ii.) Derive the rate expression for $\text{H}_2 - \text{Br}_2$ reaction and discuss the kinetics of the chain reaction.

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M. Sc Chemistry – Second Semester

Green Chemistry

Subject Code: SCHE21

- 1.) (A) Twelve principles of Green Chemistry with examples.

(OR)

- (B) Green Reagents and green solvents.

- 2.) (A) Phase transfer catalysis.

(OR)

- (B) i) Microwave assisted green synthesis.

- ii.) Ultrasound assisted green synthesis.

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M. Sc Chemistry – Second Semester

Bio Inorganic Chemistry

Subject Code: SCHE22

1.) (A) Discuss the structural aspects and functions of any two metalloenzymes.

(OR)

(B) Give the structure and classification of cytochromes. Discuss the structure and catalytic cycle of cytochrome P-450.

2.) (A) Structure and functions of chlorophyll pigments in photo system I & II

(OR)

(B) i) Anticancer activity of cis-platin.

ii.) Why transplatin is inactive?

iii.) MRI imaging agents.

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INTERNAL ASSIGNMENT FOR MAY 2025 EXAMINATIONS

M. Sc Chemistry – Second Semester

Industrial Chemistry

Subject Code: SCHS21

- 1.) (A) Give the preparation and properties of red, yellow and green pigments.

(OR)

- (B) Discuss the composition and properties of soda lime glass, borosilicate and photosensitive glass.

- 2.) (A) i) Manufacture of Portland cement
ii.) Principle and process of Fraction distillation of petroleum.

(OR)

- (B) i) Classification of wastes based on source and composition.
ii.) Discuss the management of wastes.