

A-0988

Total Pages : 3

Roll No.

MSCCH-601

M.Sc. Chemistry (MSCCH)

Solid State and Materials Chemistry

Examination February, 2026

Time : 2:00 Hrs.

Max. Marks : 70

Note :- This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

Section-A

Long Answer Type Questions (2×19=38)

Note :- Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

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(1)

P.T.O.

1. Write notes on the following.
 - (a) Critical micelle concentration (CMC)
 - (b) Reversed micelle
2. What is thermotropic mesophase ? Classify.
3. What are Bravais lattices ? Discuss seven crystal systems and fourteen space lattices in crystal structure.
4. Discuss the following :
 - (a) Planar defect
 - (b) Frenkel defect
5. Discuss the kinetics and give rate law's expression for solid state reaction.

Section–B

Short Answer Type Questions (4×8=32)

Note :- Section 'B' contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. What do you understand by microemulsion ?
2. What is meant by the catalytic activity at the surface ?
Explain with an example.

3. Explain the following :
 - (a) Electrical Double Layer
 - (b) Order Parameter
4. Write a note on Laue method.
5. Discuss the artificial photosynthetic devices.
6. Write a note on Fullerenes.
7. Discuss electrically conducting solids in brief.
8. Write a note on the advantage of liquid crystal polymer.
