

AS/2110

5193/HH

Paper - III
Physical chemistry

Max. Marks : 26 Marks

Max. Time: 3 hrs

Min. Pass Marks : 35%

Candidates are required to attempt two questions (4 marks each) selecting each from section A & B. Section C is compulsory (2 marks each question).

SECTION - A

1. Differentiate the following functions w.r.t. x ?
(i) ax^2+bx+c , (ii) $\sin 2x$, and (iii) $\log(ax)$
2. What is the chance that a leap year selected at random will contain 52 Sundays?
3. Discuss various types of errors?
4. Explain clearly how to test two sets of results to determine if they differ significantly or not (F-test)?

SECTION - B

5. Discuss nematic and cholesteric liquid crystals?
6. What is kinetic gas equation? Derive Boyle's and Charles' law from it?
7. Differentiate between paramagnetic and diamagnetic solids?
8. Write a note on: (a) seven segment cell, (b) reduced equation of state?

SECTION - C

9. (a) Define maximum and minimum value of a function at a point?
(b) What do you mean by accuracy and precision?
(c) Discuss intermolecular forces?
(d) Write a note on collision number and collision diameter?
(e) Discuss optical activity?