

MODEL QUESTION PAPER
PART - III
CHEMISTRY, PAPER - I
(English version)

Time: 3 hours

Max. Marks: 60

Instructions to candidate :

- 1) Answer all questions of Section 'A'. Answer any six questions in Section 'B' and any two questions in Section 'C'.
- 2) In Section 'A', questions from Sr. Nos. 1 to 10 are of "Very short answer type". Each question carries two marks. Every answer may be limited to 2 or 3 sentences. Answer all these questions at one place in the same order.
- 3) In Section 'B', questions from Sr. Nos. 11 to 18 are of "Short Answer type". Each question carries four marks. Every answer may be limited to 75 words.
- 4) In Section 'C', questions from Sr. Nos. 19 to 21 are of "Long answer type". Each question carries eight marks. Every answer may be limited to 300 words.
- 5) Draw labelled diagrams wherever necessary for questions in Sections B and C.

SECTION - A

Note : Answer "all" the questions

10 x 2 = 20 Marks

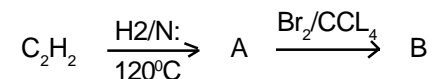
- 1) Calculate the wavelength of a particle having 10 mg. of mass and 4×10^5 Cm/Sec. Velocity?
- 2) Calculate the Oxidation number of sulphur in H_2SO_4 and $H_2S_2O_8$.
- 3) In XeO_3 , 'Xe' shows Sp^3 hybridisation but the shape is Pyramidal. Give the reason?
- 4) Why Na^+ is having more IP than Na.
- 5) The molecular weight of a unknown hydrocarbon gas is equal to the mass of 11.2 lit of O_2 at STP. Name the hydrocarbon.
- 6) What is the Co-ordination number of ionic crystal with limiting radius ratio of 0.732 to 0.999.
- 7) What is hyperol? Give its formula.
- 8) What is ammonal and give its use?
- 9) Write any two effects of depletion of ozone layer.
- 10) Name two gases which are responsible for global warning.

SECTION - B

NOTE: Attempt any "Six" questions

6 x 4 = 24 Marks

- 11) Define RMS Velocity? If the RMS Velocity of CO_2 gas is 4.4×10^4 Cm/Sec. At a given temperature, find the RMS Velocity of Ethane
- 12) Explain Boyle's and Charle's Lawas basing on the postulates of kinetic molecular theory of gases.
- 13) How Hydrogen peroxide renovates the old spoiled oil paintings Explain it with relevent reaction.
- 14) Explain the stages with equations that are involved in the production of an hydrous magnesium chloride from carnallite.
- 15) What is allotrophy? Explain the Structure of anyone of the Crystalline forms of Carbon.
- 16) Balance the following ionic equation (redox reaction) in basic medium by ion-election method.
 $Cr(OH)_3 + IO_3^- \rightarrow I + CrO_4^{2-}$
- 17) Write the corresponding equations for the following reactions and name the products.



- 18) Explain with example positional and functional isomerisms.

SECTION - C

Note : Attempt "any two" questions

2 x 8 = 16 Marks

- 19) State the Principles involved in writing the electronic configuration of atoms Explain them with example and necessary diagram.
- 20) Explain the classification of elements into S, P, d, f blocks present in the periodic table.
- 21) Define hybridisation of atomic orbitals? Explain the Sp^3 and Sp^2 hybridisations with respect to ethane and ethylene molecules?

