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 $Xe O_3$, '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 O.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 tempereture, find the RMS Velocity of Éthane

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. '

$$Cr (OH)_3 + IO3_3 \xrightarrow{} I + CrO_4^{2-}$$

17) Write the corresponding equations for the following reactions and name the products.

$$C_2H_2 \xrightarrow[120^0C]{H2/N:} A \xrightarrow{Br_2/CCL_4} B$$
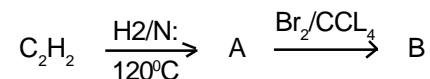
18) Explain with example positional and functional isomerisms.

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 diagrame.

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?