Model Question Paper

Atomic Structure - II -Part I

12th Standard

Chemistry

Reg.No. : | | | | | | |

I.Answer all the Questions.
II.Use blue pen only.

Time : 01:00:00 Hrs

Total Marks : 56

Section-A

4 x 1 = 4

1) $E_n = -\frac{313.6}{n^2}$, If the value of Ei = -34.84 to which value 'n' corresponds

   (a) 4 (b) 3 (c) 2 (d) 1

2) Dual character of an electron was explained by

   (a) Bohr (b) Heisenberg (c) de-Broglie (d) Pauli

3) De-Broglie equation is

   (a) $\lambda = \frac{mv}{h}$ (b) $\lambda = hmv$ (c) $\lambda = \frac{hv}{m}$ (d) $\lambda = \frac{h}{mv}$

4) The value of Bohr radius for hydrogen atom is

   (a) 0.529×10^{-8}cm (b) 0.529×10^{-10}cm (c) 0.529×10^{-6}cm (d) 0.529×10^{-12}cm

Section-B

4 x 3 = 12

5) Distinguish particle and wave

6) Explain the significance of de-Broglie waves.

7) State Bohr's quantum condition.

8) What is node? How many nodes are present in ns orbital?

Section-C

4 x 5 = 20

9) What is hybridisation?Explain the salient features of hybridisation?

10) Write notes on intermolecular forces.

11) Explain intermolecular hydrogen bonding with suitable examples.

12) Explain intramolecular hydrogen bonding with examples. Explain the consequences of intramolecular hydrogen bonding.

Section-D

2 x 10 = 20

13) a) Explain the formation of N_2 molecule by using molecular orbital theory.

    b) Write notes on the shapes of d-orbitals.

14) a) How is wave character of an electron verified by Davisson and Germer experiment?

    b) How will you verify the particle character of an electron?

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