

Answer Paper - Part I

01. (3) 02. (4) 03. (1) 04. (1) 05. (4) 06. (4) 07. (1) 08. (1) 09. (3) 10. (4)
 11. (3) 12. (2) 13. (1) 14. (2) 15. (1) 16. (3) 17. (4) 18. (2) 19. (4) 20. (1)

Part II

(2 x 20 = 40)

- 01 (1) lipids/minerals/vitamin/nucleic acids (for 2 answers) (2 m.)
 (2) $C_x(HO)_y$ (2 m.) (3) glucose and fructose (1 m.)
 (4) Nitrogen/N (2 m.) (5) for 2 correct points. (2 m.)
 (6) (a) HCl acid/Benedict solution (2 m.) (b) correct colour changes (1 m.)
 (7) Nitrogen/Phosphorous (2 m.) (8) Correct answer (1 m.)
- 02 (1) (a) Change of the position of an object when moving / change of position takes place at a linear motion. (1 m.)
 (b) rate of change of displacement / displacement takes place within unit time. (1 m.)
 (2) (a) uniform acceleration (b) uniform velocity
 (c) uniform deceleration/negative acceleration (2 m.)
- (3) (a) $\text{acceleration} = \frac{\text{change of velocity}}{\text{time taken}} = \frac{20 - 0 \text{ ms}^{-1}}{4 \text{ s}} = 5 \text{ m}^{-2}$ (2 m.)
- (4) displacement = $20 \times 4 = 800$ (2 m.)
- (5) $\text{acceleration} = \frac{0 - 20}{2} = -10 \text{ ms}^{-2}$
 deceleration = 10 ms^{-2} (2 m.)
- (6) displacement = $\frac{1}{2} \times 2 \times 20 = 20 \text{ m}$ (2 m.)
- (7) Shape of the graph - (1 m.)
 correct values - (1 m.)
- 03 (1) electrons, protons, neutrons (3 m.) (2) ${}^A_Z X$ (2 m.)
 (3) Atoms with different mass numbers in the same element (2 m.) (4) 2 8 3 (2 m.)
 (4) minimum energy that should be supplied to an atom in gaseous state to remove an electron to form a unipositive gaseous ion. (2 m.)
 (5) (a) gradually decreases (1 m.) (b) gradually increased from 1st group to 8th group. From 3rd to 4th group and from 5th to 6th group it slightly decreases. (1 m.)
 (c) 1st group (1 m.)
 (d) An answer related to decreasing of atomic radius (1 m.)
- 04 (1) A-4, C-1 (2 m.) (2) B and E (2 m.) (3) BC_2 (2 m.)
 (4) F (1 m.) (5) (a) Protons - 19 (1 m.) (b) Neutrons - 20 (1 m.)
 B(1) KNO_3 (2 m.) (2) $(NH_4)_3PO_4$ (2 m.) (3) $MgCl_2$ (2 m.)
- 05 (1) Until an unbalanced force is applied on it, bodies at rest remain stationary and bodies in motion continue to move at uniform velocities. (2 m.)
 (2) $F = ma$ $a = \frac{1500 \text{ N}}{500 \text{ kg}}$ $a = 3 \text{ ms}^{-2}$ (2 m.)
 (3) Answer with correct diagrams (2 m.)
 (4) for 2 correct answers (2 m.)
 (5) momentum = mass x velocity = $(10000 \times 5) \text{ kgms}^{-1} = 50000 \text{ kgms}^{-1}$
 (1 m.) (1 m.)
 (6) nature of surfaces in contact normal reaction. (2 m.)
 (7) for a correct instance (1 m.) (8) for a correct instance (1 m.)
 (9) For a correct strategy (1 m.)