

SCIENCE AND TECHNOLOGY (PART II)

Time : 2 Hours) **QUESTION PAPER : MARCH-2010** (Max. Marks : 40

Q. 1. (A) Select the proper alternative and rewrite the following statements. (2)

- (1) Plaster of Paris is prepared from
(a) burnt plaster (b) burnt alum (c) gypsum (d) copper sulphate
- (2) The flavour of adulterated ghee is improved by adding
(a) dextrin (b) animal fat (c) tributyrin (d) starch
- (3) Germ theory of disease was postulated by
(a) Robert Koch (b) Louis Pasteur (c) Pugh (d) MacMahon
- (4) Modern biotechnology operated at level.
(a) sub-atomic (b) atomic (c) molecular (d) matter

(B) Rewrite the second column so as to match the first column. (2)

Column I

Column II

- | | |
|----------------------------|----------------------|
| (1) Argemone oil | (a) Beri-beri |
| (2) Thiamin deficiency | (b) Pellagra |
| (3) Cholesterol deposition | (c) Epidemic dropsy |
| (4) Niacin deficiency | (d) Asteriosclerosis |

(C) State whether the following statements are true or false and rewrite. (2)

- (1) Hydrogen sulphide gas turns lime water milky.
- (2) Bleaching powder is used for disinfecting drinking water.
- (3) Infective agent for schistosomiasis is snail.
- (4) Protein injection is better than vaccination.

(D) Find the odd man out. (2)

- (1) Haematite, Limonite, Siderite, Bauxite. (2) Vitamin A, B, D, K.
- (3) Starch, Glucose, Fructose, Calcium. (4) Rice, Wheat, Gram, Maize.

Q. 2. (A) Give scientific reasons for any two. (4)

- (1) Nails should be kept clean and cut short periodically.
- (2) Dried food grains remain unspoiled for a long period.
- (3) Milk is considered as the complete food.
- (4) The common salt fortified with small quantities of sodium or potassium iodate is widely used throughout India.

(B) Answer any two of the following. (4)

- (1) How is cancerous tumour caused ?
- (2) Write the preventive measures of ascariasis (any four).
- (3) Give the names of nutritional programmes initiated by Government of India.
- (4) Give the disadvantages of excessive nutrient intake (any four):

Q. 3. (A) Explain the following chemical reactions with the help of balanced chemical equations. (Any two)

- (1) Carbon dioxide from air reacts with bleaching powder.
- (2) Calcium carbonate is strongly heated.
- (3) Sodium carbonate reacts with dil. hydrochloric acid.
- (4) The crystals of copper sulphate are strongly heated.

(B) Answer any one of the following.

- (1) Give the functions of water in our body (any four).
- (2) With a well-labelled diagrammatic representation of DNA, describe the structure of DNA.

Q. 4. (A) Draw neat diagrams of any two and label as given. (4)

- (1) Blast furnace : (a) Cup and cone, (b) Molten iron.
- (2) Laboratory preparation of Hydrogen Sulphide gas : (a) Iron sulphide and dil. acid (b) H₂S gas
- (3) Laboratory preparation of Ammonia Gas : (a) Ammonium chloride and slaked lime (b) Ammonia gas.
- (4) Structure of HIV virus : (a) Lipid envelope (b) Knob of protein.

(B) Answer any one of the following. (4)

- (1) How will you maintain : (a) Food hygiene (b) Personal hygiene in food preparation ?
- (2) Give the sources and functions of Proteins.

Q. 5. (A) Answer any four of the following. (4)

- (1) Write the structural formula of Benzene. (2) What are enzymes ?
(3) What is metallurgy ? (4) Name the disease caused due to deficiency of Insulin.
(5) Write the formula of Body Mass Index. (6) Define Personal Hygiene.

(B) Discuss in detail the factors affecting growth of organisms. (Any four) (4)

OR

What are Hydrocarbons ? Give the classification of the hydrocarbon.