

SCIENCE AND TECHNOLOGY (PART II)

Time : 2 Hours) **QUESTION PAPER : OCTOBER-2009** (Max. Marks : 40

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

(1) Electronic configuration of Al is

(a) (2, 8, 7) (b) (2, 8, 5) (c) (2, 8, 4) (d) (2, 8, 3)

(2) Ferrous Ammonium Sulphate is known as

(a) Washing soda

(b) Baking soda

(c) Soda ash

(d) Mohr's salt

(3) Cells are made up of

(a) Organelles

(b) Cellulose

(c) Tissues

(d) Macromolecules

(4) Vitamin..... is necessary mainly for blood clotting.

(a) A (b) B (c) C (d) K

(B) Rewrite the second Column so as to match the first Column : 2

Column 'I'	Column 'II'
(1) Jaundice	(a) Mental retardation
(2) Down syndrome	(b) Beriberi
(3) Thiamine deficiency	(c) Dental caries
(4) Fluorine deficiency	(d) Serum bilirubin

(C) State whether the following statements are True or False : 2

(1) Air is lighter than ammonia gas.

(2) Alum is used for setting fractured bones.

(3) Epidemic dropsy is also known as crippling disease.

(4) Proteins are major constituents of our cells and tissues.

(D) Find the odd one out : 2

(1) Headache, Delayed healing of wound, Fever, Cough.

(2) Rickets, Leprosy, Scurvy, Pellagra.

(3) Typhoid, Cholera, Cancer, Poliomyelitis.

(4) Adenine, Guanine, Cytosine, Uracil.

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

(1) Spoilage of onions, potatoes is prevented by gamma radiation.

(2) Deficiency of vitamin K does not occur normally.

(3) White colour clothes are more suitable in hot weather.

(4) Regular consumption of contaminated mustard oil is dangerous.

(B) Answer any two of the following : 4

(1) Give any two effects of insistent smoking.

(2) Name four types of undesirable changes in food.

(3) Mention the various methods for the loss of nutrients in food by the cooking practice.

(4) What is obesity ? Write down any two preventive measures to reduce obesity.

- 3. (A) Explain the following chemical reactions with the help of balanced chemical equations : (any two)** **4**
- (1) Explain polymerisation of ethylene.
 - (2) Washing soda is exposed to air.
 - (3) Calcium carbonate reacts with dil. hydrochloric acid.
 - (4) Copper sulphate reacts with sodium hydroxide.
- (B) Answer any one of the following :** **4**
- (1) Describe the laboratory process to prepare hydrogen sulphide gas with the help of the following points
 - (a) Name the chemicals used.
 - (b) Name the method of collection of the gas.
 - (c) Physical properties (any two).
 - (d) Uses (any two).
 - (2) Mention one food item and one function of the following food groups
 - (a) Cereals.
 - (b) Pulses and legumes.
 - (c) Milk and milk products.
 - (d) Fruits.
- 4. (A) Draw neat and labelled (as given below) diagrams of (any two) :** **4**
- (1) Electrolytic Reduction of Alumina
 - (a) Power supply (b) Carbon anode
 - (2) The dropouts of food pipeline :
 - (a) Producer (b) Consumers.
 - (3) Kipp's Apparatus (In action)
 - (a) FeS (b) Stop Cock (Open).
 - (4) Structural formula of benzene :
 - (a) Carbon atom (b) Hydrogen atom.
- (B) Describe any one of the following :** **4**
- (1) What are vitamins ? Mention the two categories of vitamins and give their examples.
 - (2) How has modern biotechnology helped in the environmental balance? Describe with the help of the following points
 - (a) Waste water
 - (b) Solid organic waste
 - (c) Remediation
 - (d) Genetically engineered plants.
- 5. (A) Answer any four of the following :** **4**
- (1) What are minerals?
 - (2) Write the chemical formula of alum.
 - (3) Write the structural formula of methane.
 - (4) Which sugar is present in milk?
 - (5) Define disease.
 - (6) What is atherosclerosis?
- 6. Answer any one of the following :** **4**
- (1) Give the preventive and control measures of leprosy (any four).
 - (2) Write short notes on :
 - (a) Albinism
 - (b) Environmental pollution hazards.