

SCIENCE AND TECHNOLOGY PAPER II

MARCH-2011

Time : 2 Hours

Max. Marks : 40

Note :— (i) All questions are compulsory.

(ii) All questions carry equal marks.

(iii) Draw neat and labelled diagrams wherever necessary.

1. (A) Fill in the blanks by selecting from the alternatives given below each statement and rewrite the completed statements : 2

(i) Pusa Gold is the developed variety of crop.

(a) Clover

(b) Rye

(c) Mustard

(d) Sunflower

(ii) The normal salt intake should be to avoid complications like hypertension, CHD etc.

(a) 7.8 gm/day

(b) 5.0 gm/day

(c) 2.5 gm/day

(d) 1.2 gm/day

(iii) Very rich source of energy is

- (a) Fats
- (b) Carbohydrates
- (c) Vitamins
- (d) Proteins

(iv) Alum is used for

- (a) making statues
- (b) manufacturing of glass and paint industry
- (c) electroplating
- (d) stopping bleeding

(B) Match the columns and rewrite the correct pairs : 2

Column A

- (i) Ice-cream
- (ii) Leprosy
- (iii) Black pepper
- (iv) Malaria

Column B

- (a) Papaya seeds
- (b) Plasmodium vivax
- (c) Paper pulp
- (d) Microbacterium leprae

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

- (i) Chikungunya is caused by fungus.
- (ii) Vitamin C is also called ascorbic acid.
- (iii) Proteins in our diet supply us necessary enzymes.
- (iv) Hereditary diseases are curable.

(D) **Identify the odd one out : 2**

- (i) Cholera, Typhoid, Paratyphoid, Amoebiasis.
- (ii) Vitamin A, Vitamin B, Vitamin E, Vitamin K.
- (iii) Hyperphosphatemia, Nausea, Diarrhoea, Mottled enamel.
- (iv) Chalk, Marble, Mohr's salt, Limestone.

2. (A) **Give scientific reasons for any two of the following 4**

- (i) Methane is also known as Marsh gas.
- (ii) Low temperature also prevents self-spoilage of food.
- (iii) Sharing of razors, needles, syringes, towels should be avoided.
- (iv) Protein injection is better than vaccination.

(B) **Answer the following (any two) : 4**

- (i) Distinguish between Open Chain Hydrocarbon and Closed Chain Hydrocarbon.

- (ii) What are the functions of cereals ?
- (iii) What are the preventive measures for Hypertension ?
- (iv) What are the uses of bleaching powder ?

3. (A) **Explain the following chemical reactions with balanced chemical equations (any two) :** 4

- (i) Ammonia is treated with hydrochloric acid.
- (ii) Copper sulphate reacts with Sodium hydroxide.
- (iii) Hydrogen Sulphide gas is passed through silver nitrate solution.
- (iv) Sodium bicarbonate is heated.

(B) **Answer any one of the following :**

- (i) What are the harmful effects of food adulteration ?
- (ii) Write the sources and functions of Vitamin A.

4. (A) **Draw neat and labelled diagrams of the following (any two) :** 4

- (i) Electrolytic reduction of Alumina.
- (ii) The dropouts of food pipeline.
- (iii) Ammonia fountain.
- (iv) Diagrammatic representation of DNA

(B) Answer in detail (any one) : 4

(i) Describe any eight personal hygiene habits.

(ii) Explain the four forms of malnutrition.

5. (A) Answer the following briefly (any four) :

(i) Define Catenation.

(ii) Which hazardous compounds are present in tobacco smoke ?

(iii) Write the formula for Body Mass Index.

(iv) Give two uses of Copper Sulphate.

(v) Name any two sexually transmitted diseases.

(vi) Write two functions of Iodine.

(B) Answer any one of the following in detail : 4

(i) Describe various factors affecting growth of micro-organisms.

(ii) What are Monogenic disorders ? Describe in detail.