

SCIENCE AND TECHNOLOGY PAPER- II

Time : 2 Hours)

Question Paper - March 2008

(Max. Marks : 40

Note : (i) All questions are compulsory., (ii) All questions carry equal marks.
(iii) Draw neat and labelled diagrams wherever necessary.

Q. 1. (A) Fill in the blanks by choosing the correct alternative and rewrite the completed statements . (2)

- (i) Atherosclerosis is caused due to
(a) imbalance (b) overnutrition (c) specific deficiency of nutritives (d) undernutrition
- (ii) Insufficiency of insulin causes
(a) diabetes (b) malaria (c) sickle cell anaemia (d) gout
- (iii) The condition which is caused due to increase in blood pressure is
(a) dental fluorosis (b) atherosclerosis (c) hypertension (d) CHD
- (iv) For girls the minimum age for marriage is years.
(a) 21 (b) 25 (c) 18 (d) 20

(B) Select the correct words from Column II for the items in Column I and rewrite the correct pairs: (2)

Column 'I'

Column 'II'

- | | |
|---------------|-------------------------|
| (i) Methane | (a) Pickles |
| (ii) Freon | (b) Polymerisation |
| (iii) Vinegar | (c) Cooling agent |
| (iv) Ethylene | (d) Wood polish |
| | (e) Green-house effect. |

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

- (i) Natural mineral waters are derived from springs.
(ii) Albinism is a fungal disease.
(iii) ATP molecules supply energy for cellular synthetic processes.
(iv) Carbohydrates are the most abundant organic material in the living world.

(D) Identify the odd one out from the group : (2)

- (i) Headache, conjunctivitis, pneumonia, rickets.
(ii) Almonds, coconut, peas, cashewnut. (iii) Amylase, lipase, Fluorine, trypsin.
(iv) Headache, delayed healing of wounds, fever, cough.

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

- (i) The biomedical concept of health was found to be inadequate.
(ii) The common salt fortified with small quantities of sodium or potassium iodate is widely used throughout India.
(iii) Tight fitting clothing should be avoided.
(iv) Overnutrition is hazardous to health.

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

(i) Distinguish between saturated hydrocarbon and unsaturated hydrocarbon. 2(points)

(ii) State the two fundamental functions of food.

(iii) Explain why transgenic potatoes cannot be cooked.

(iv) Name any four compounds present in tobacco smoke.

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

(i) Sulphur is treated with hot concentrated sulphuric acid.

(ii) An ignited magnesium ribbon is held in a gas jar containing carbon dioxide.

(iii) Crystalline ferrous sulphate is heated.

(iv) Hydrochloric acid is added to sodium carbonate.

(B) Answer any one of the following questions : (4)

(i) Explain the role of biotechnology in agriculture (write four points).

(ii) Write two properties and two uses of calcium carbonate and copper sulphate.

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

(i) Ammonia fountain. (ii) Dropouts

(iii) Laboratory preparation of carbon dioxide gas. (iv) Structure of HIV

(B) Answer any one of the following questions : (4)

(i) Give the four modes of transmission of HIV.

(ii) Explain any four methods of food preservation.

Q. 5. (A) Answer in one sentence each (any four) : (4)

(i) How is phenylketonuria (PKU) caused ?

(ii) How is obesity expressed in terms of BMI ? (iii) What is epidemiological triad ?

(iv) What is balanced diet ? (v) What are petrochemicals ?

(vi) Name the disease caused by deficiency of Vitamin C.

(B) Answer the one of the following questions : (4)

(i) State four functions of dietary water.

(ii) Write the harmful effects of the following food adulterants:

(i) Lathyrus satvus (ii) Argemone oil (iii) White oil (mineral oil) (iv) Lead chromate