

Date- 15/3/2008

# 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 if ..... 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
(ii) 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 of food pipeline.
  - (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 sativus (ii) Argemone oil (iii) White oil (mineral oil) (iv) Lead chromate.