

## Sample Paper - 1

### GENERAL INSTRUCTIONS

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Attempt all the questions and follow the instructions given in each question.

Q. No. 1 is MCQs type, choose the correct option.

Q. No. 2 are Very Short Answer Type Questions, carry one mark each.

Q. No. 3 to Q. No. 9 are Short Answer Type Questions-I, carry 2 marks each.

Q. No. 10 to Q. No. 19 are also Short Answer Type Questions-II, carry 3 marks each.

Q. No. 20 to Q. No. 23 are Long Answer Type Questions, carry 5 marks each

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### Multiple Choice Type Questions

[1 mark each]

1. Choose the correct option :

[1 x 10 = 10]

- (i) Cheek cells do not have  
(a) cell membrane (b) golgi apparatus  
(c) nucleus (d) plastids
- (ii) Which of the following secondary sexual character is not present in male?  
(a) Growth of facial hair  
(b) Hair grows under the arms  
(c) Hair grows in the region above thighs  
(d) Development of breasts.
- (iii) 1 hertz is equal to  
(a) 1 vibration per minute  
(b) 10 vibrations per minute.  
(c) 60 vibrations per minute  
(d) 600 vibrations per minute
- (iv) The earth's plate responsible for causing earthquakes is:  
(a) The crust of the earth  
(b) The mantle of the earth  
(c) The inner core of the earth  
(d) The outer core of the earth.
- (v) The outer planet is  
(a) Mercury (b) Venus  
(c) Earth (d) Jupiter

- (vi) The substance that does not burn with flame is  
 (a) LPG (b) camphor  
 (c) dry gas (d) charcoal.
- (vii) Pitch of sound is determined by its  
 (a) frequency (b) amplitude  
 (c) speed (d) loudness
- (viii) The number of nuclei present in zygote is:  
 (a) None (b) One  
 (c) Two (d) Four
- (ix) Green colour of leaves is due to presence of the pigment.  
 (a) Chlorophyll (b) Mitochondria  
 (c) Ribosomes (d) Chloroplast
- (x) Coal tar contains about \_\_\_\_\_ substances.  
 (a) 400 (b) 300  
 (c) 100 (d) 200

### Very Short Answer Type Questions

[1 mark each]

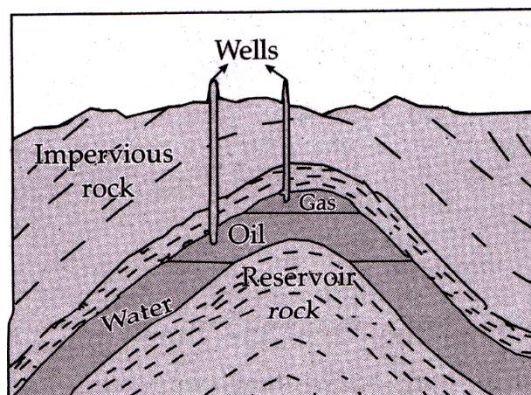
2. (i) Name the hormone which controls metamorphosis in frog. [1]
- (ii) While sieving grains, small pieces fall down which force pulls them down. [1]
- (iii) Fishes move easily in water. How? [1]
- (iv) Define 1 Hertz. [1]
- (v) Plastic straws A and B are rubbed with dry cotton cloth. What will happen, if they are brought near each other? [1]
- (vi) Why does banana appear yellow?

### Short Answer Type Questions-I

[2 mark each]

3. A bucket made up of plastic does not rust like a bucket made up of iron. Why? [2]
4. In what form is magnesium found in plants? [2]

5. Look at the following figure where petroleum and natural gas deposits are shown. Why do we find oil layer above water layer? [2]

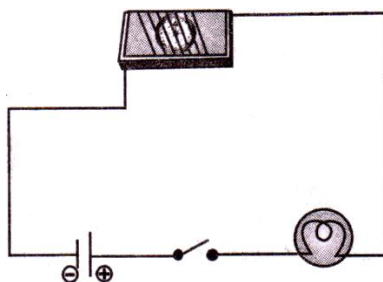


6. The calorific values of petrol and CNG are 45000 kJ/kg, and 50000 kJ/kg respectively. If you have vehicle which can run on petrol as well as CNG, which fuel will you prefer and why? [2]
7. Write any two consequences of deforestation. [2]
8. Draw a labelled diagram of human ovum. [2]
9. Name the hormone which would be released during the following situations : [1/2 x 4]
- (i) a frightened person.
  - (ii) growth of a child to adult.
  - (iii) development of caterpillar to moth.
  - (iv) development of tadpole to frog.

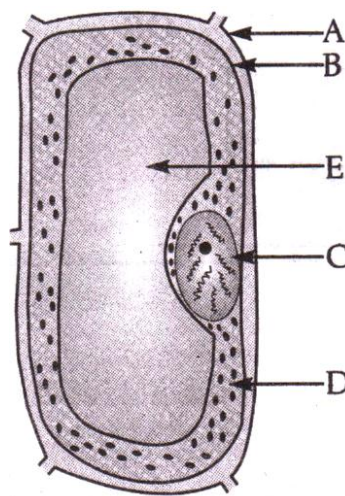
### Short Answer Type Questions-II

[3 mark each]

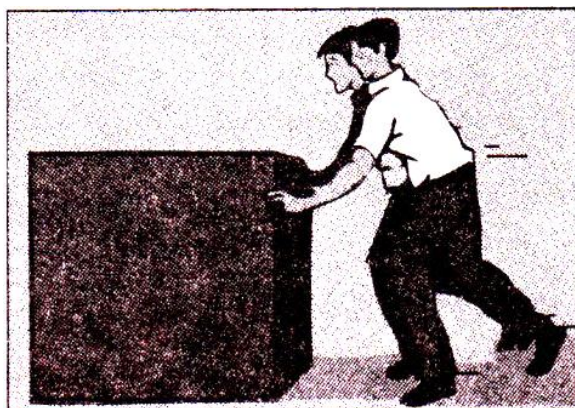
10. In the circuit shown in Fig. when the key is closed, the compass needle placed in the match box deflects. [3]
- Name the force which causes this deflection.



11. Name two methods of reducing friction with examples. [3]
12. Write difference between regular and irregular reflection. [3]
13. What is natural gas? What are the advantages of using CNG? [1+2]
14. Give two examples each for a solid, liquid and gaseous fuel along with some important uses. [3]
15. Why are endemic organisms in greater danger of becoming extinct? [3]
16. Label the parts A to E in the given diagram. [3]



17. Draw a labelled diagram of female reproductive organs. [3]
18. Write four ways through which AIDS is transmitted. [3]
19. Two friends are trying to push a heavy load as shown in fig. Suggest a way which will make this task easier for them. [3]

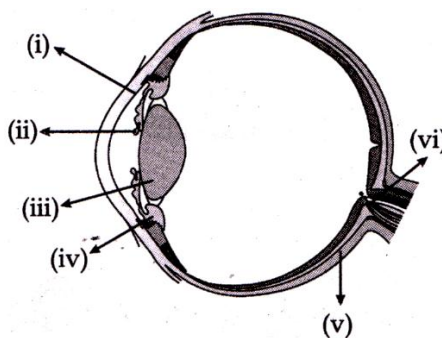


## Long Answer Type Questions

[5 mark each]

20. Write down the names of parts of the eye in the blank spaces shown in fig. below.

[5]



21. Write a short note about planets of the solar system.

[5]

22. It is said, “ $\text{CO}_2$  Contributes to global warming”. Explain.

[5]

23. Explain the use of Bacteria, Fungi and Algae.

[5]

## Solutions

### Multiple Choice Type Questions

[1 mark each]

- 1.
- |        |                                 |     |
|--------|---------------------------------|-----|
| (i)    | (d) plastids                    | [1] |
| (ii)   | (d) Developments of breasts     | [1] |
| (iii)  | (c) 60 vibrations per minute    | [1] |
| (iv)   | (d) The outer core of the earth | [1] |
| (v)    | (d) Jupiter                     | [1] |
| (vi)   | (d) Charcoal                    | [1] |
| (vii)  | (a) frequency                   | [1] |
| (viii) | (b) One                         | [1] |
| (ix)   | (a) Chlorophyll                 | [1] |
| (x)    | (d) 200                         | [1] |

### Very Short Answer Type Questions

[1 mark each]

- 2.
- |       |   |     |
|-------|---|-----|
| (i)   | Thyroxine hormone which is produced by thyroid controls the metamorphosis in frogs.       | [1] |
| (ii)  | It is the force of gravity which is responsible for the grains to fall down.              | [1] |
| (iii) | Fishes are having streamlined shape, so they can move easily in the water.                | [1] |
| (iv)  | 1 Hz is one oscillation per second.   | [1] |
| (v)   | The straws will acquire the similar charge and hence they will repel each other.          | [1] |
| (vi)  | The banana appears yellow because it reflects red and green light but absorbs blue light. | [1] |

### Short Answer Type Questions-I

[2 marks each]

3. Plastic is non-reactive material. When left exposed to moisture and air, it does not react with air and water which are essential for corrosion, therefore does not rust. [2]
4. Magnesium is found in plants in the form of ionic salts in chlorophyll. Due to its deficiency, plants are unable to produce enough chlorophyll and as a result, leaves develop yellowish colour. [2]
5. Oil is lighter than water, hence it will float over water. [2]

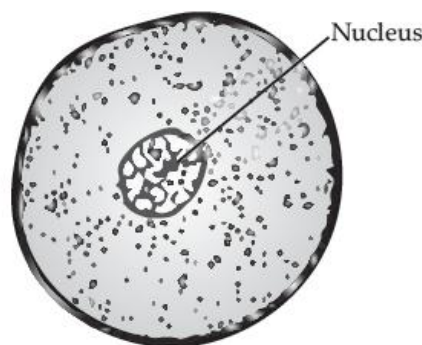
6. We will prefer CNG (Compressed Natural Gas) because the calorific value of CNG is higher than that of petrol. Therefore, CNG will be more economical. CNG will produce larger amount of heat energy than petrol. At the same time, it produces the least air pollutants. [2]

7. Consequences of deforestation :

(i) Deforestation increases the temperature and pollution level on the earth. It increases the level of carbon dioxide in the atmosphere. [1]

(ii) It also disturbs the balance in nature and increases chances of natural calamities such as floods and droughts. [1]

8.



Human Ovum

[2]

9. (i) Adrenaline is secreted from adrenal gland during the stress conditions. [1/2]

(ii) Growth hormone is secreted from pituitary gland to regulate the normal growth of a person. [1/2]

(iii) Insect hormones control the development of caterpillar to moth. [1/2]

(iv) Thyroxine is produced by thyroid gland to control the development of tadpole to frog. [1/2]

## Short Answer Type Questions-II

[3 marks each]

10. On closing the switch, the current starts flowing in the wire and due to this current, a magnetic field gets established around the wire which exerts magnetic force on the needle and it gets deflected. [3]

11. (i) **Rolling:** The rolling wheels attached to luggage bags make it comfortable for passengers to carry them because rolling reduces friction and is smaller than sliding friction. [1½]

(ii) **Sliding:** By polishing surfaces or by applying a lubricant. [1½]

**12. Difference between Regular and Irregular reflection :**

S. No.	Regular reflection	Irregular reflection
(i)	It takes place on a smooth and shining surface.	It takes place on rough surface.
(ii)	All rays are parallel after reflection.	Reflected rays are in different directions.

[3]

**13. Natural gas is a very important fossil fuel. It is stored under high pressure as compressed natural gas (CNG).**

[1]

**Advantages of CNG:**

(i) It is easy to transport.

(ii) It does not produce any pollution.

(iii) No residue is left after burning of CNG.

(iv) It burns completely in the air.

[2]

**14. Solid Fuels:** Examples are wood and coal. These are used to cook food in homes. Coal is also used in industries.

[1]

**Liquid Fuels:** Examples are kerosene and petrol. Kerosene is used in stoves and in lamps to cook food and petrol is used as a fuel in automobiles.

[1]

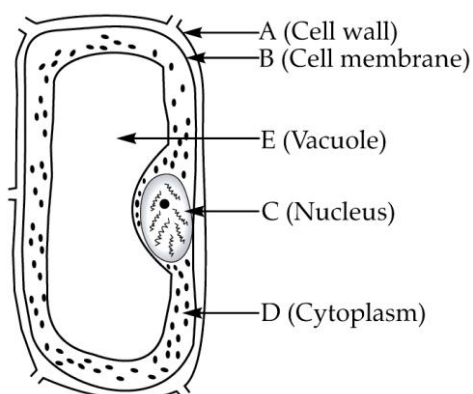
**Gaseous Fuels:** Examples are natural gas and petroleum gas. These are used in industries. CNG is used to run automobiles.

[1]

**15. Endemic organisms are confined to a limited geographical area. They cannot adapt or live outside their natural habitat; any disturbance to their habitat will adversely affect them. Thus, they are in greater danger of becoming extinct.**

[3]

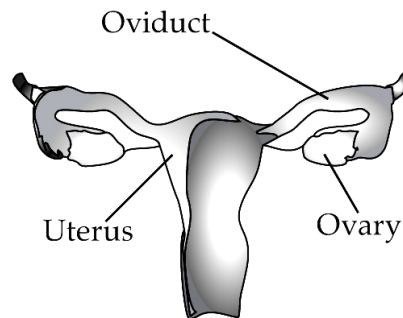
**16.**



[3]



17.



**Female reproductive organs**

[3]

18. Four ways through which AIDS is transmitted are-

(i) Sharing the syringes for injecting drugs.

(ii) Unprotected sex with an infected person.

(iii) Transfusion of blood into a healthy person from an infected person.

(iv) Through milk from an infected mother to Infant.

[3]

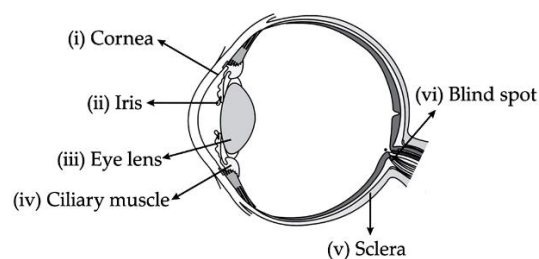
19. The friends can put rollers below the heavy load. Since the rolling friction is smaller than the sliding friction, therefore, putting rollers below the heavy load will make this task easier for them.

[3]

## Long Answer Type Questions

[5 marks each]

20.



[5]

21. **There are eight planets in our solar system:**

(i) **Mercury (*Budh*)**: It is nearest to the Sun. It is the smallest planet of our solar system. It is very difficult to visualize because it is near to the Sun. It has no satellite.

(ii) **Venus (*Shukra*)**: It is nearest to the Earth. It is the brightest planet. It is also called as morning and evening star due to its appearance. It also has no moon or satellite. It rotates from East to West.

**(iii) Earth (Prithvi):** The earth is the only planet where life exists. It has special environmental conditions, right distance from the Sun, so has right temperature, presence of water and blanket of ozone that makes life possible here.

**(iv) Mars (Mangal):** It is the first planet outside the orbit of the Earth. It appears reddish, so is called red planet. It has two small natural satellites.

**(v) Jupiter (Brihaspati):** It is the largest planet. It rotates very rapidly on its axis. It has large number of satellites. It also has faint rings and large moons.

**(vi) Saturn (Shani):** Saturn is yellowish in colour. It has beautiful rings. It has large number of satellites. It is least dense, density is less than water.

**(vii) Uranus and Neptune:** They are outermost planets of our solar system. Uranus rotates East to West, and has high rotation speed.

[5]

- 22.** Plants utilise  $\text{CO}_2$  from the atmosphere for photosynthesis, thereby decreasing the amount of  $\text{CO}_2$  in the air. Deforestation leads to an increase in the amount of  $\text{CO}_2$  in the air because the number of trees which consume  $\text{CO}_2$  is reduced. Human activities thus contribute to the accumulation of  $\text{CO}_2$  in the atmosphere.  $\text{CO}_2$  traps heat and it doesn't allow it to escape into space. As a result, the average temperature of the atmosphere is gradually increasing. This is called global warming. Thus, increased  $\text{CO}_2$  contributes to global warming.

[5]

**23. Uses of Bacteria :**

**(i)** They are used to increase soil fertility by fixing nitrogen.

**(ii)** Some bacteria are used to produce antibiotics.

**(iii)** *Lactobacillus* bacterium converts milk into curd.

**(iv)** Some bacteria help in many functions of our body.

[2]

**Uses of Fungi:**

**(i)** Yeasts are used to prepare alcohol and vinegar by fermentation.

**(ii)** Mushrooms are eaten as food.

**(iii)** Penicillin is an antibiotic formed by a fungus called *Penicillium*.

[1½]

**Uses of Algae:**

**(i)** Algae are used to make jellies.

**(ii)** *Chlorella* is used to obtain proteins.

**(iii)** Silica from diatoms are used in toothpastes.

[1½]