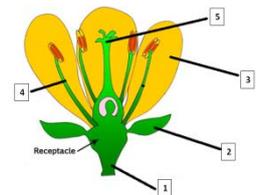
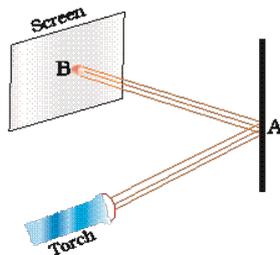
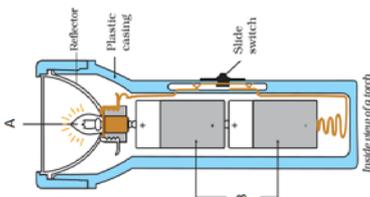




**- Teachers' Handbook**  
**(Based on learning outcomes)**

**CLASS-VIII**

**SCIENCE**



## **FOREWORD**

### **CLASSES VI TO VIII**

### **SUBJECT – SCIENCE**

This document is prepared with a notion to enable the teachers to ascertain learning skills accurately in the subject of science for classes VI to VIII so that the minimum level of learning (MLL) may be attained by the children and their periodic assessment can be done to maintain the record of their progress.

### **ABOUT THE DOCUMENT**

- The document includes Learning Outcomes prepared by NCERT distinctively for classes VI, VII and VIII in Science and learners achievement sheet for the assessment of learners.
- It covers the full syllabus for each class and gives an insight into the progress made in each class by the students.
- The material in the documents can be used as an assessment tool for classes VI to VIII in the subject of science and it is meant both for teachers and the students.
- The document provides the crux of the Learning Outcomes and efforts are made to avoid direct information, definition and description, and instead an opportunity is provided to the children to correlate experience and explore the environment in its surroundings.
- This document reaches the desired Learning Outcomes targeting the competencies through multiple choice and open ended questions to access the learning levels of the students in each class.
- The language in the document is simple for the children to read and understand and the Progress sheet has been given to record the growth of every student by the teacher.
- In spite of the fact that all efforts are made to give full freedom to the child to explore but there might have been some discrepancies. Therefore, this document should be considered suggestive document and constructive suggestions as per the need can be incorporated.

**NOTE: These assessment tools are only suggestive for teachers. The teacher can modify these tools according to the need and level of students.**

## **TEAM MEMBERS**

**VENUE COORDINATOR**

**MS. RAVINDERKAUR**

**PRINCIPAL – GMSSS 35 D CHANDIGARH**

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Mr Amit Kumar Sood	TGT Science	GMHS 49
Mr Mohinder Kumar	TGT Science	GMSSS Behlana
Ms Suman	TGT Science	GMSSS 19
Ms Sukhreet	TGT Science	GMSSS 47

## CLASS VIII

	<b>The learner —</b>
<b>SCI801</b>	<ul style="list-style-type: none"> <li>differentiates materials and organisms, such as, natural and human made fibres; contact and non-contact forces; liquids as electrical conductors and insulators; plant and animal cells; viviparous and oviparous animals, on the basis of their properties, structure and functions.</li> </ul>
<b>SCI802</b>	<ul style="list-style-type: none"> <li>classifies materials and organisms based on properties/ characteristics, e.g., metals and non metals; <i>kharif</i> and <i>rabi</i> crops; useful and harmful microorganisms; sexual and asexual reproduction; celestial objects; exhaustible and inexhaustible natural resources, etc.</li> </ul>
<b>SCI803</b>	<ul style="list-style-type: none"> <li>conducts simple investigations to seek answers to queries, e.g., What are the conditions required for combustion? Why do we add salt and sugar in pickles and <i>murabbas</i>? Do liquids exert equal pressure at the same depth?</li> </ul>
<b>SCI804</b>	<ul style="list-style-type: none"> <li>relates processes and phenomenon with causes, e.g., smog formation with the presence of pollutants in air; deterioration of monuments with acid rain, etc.</li> </ul>
<b>SCI805</b>	<ul style="list-style-type: none"> <li>explains processes and phenomenon, e.g., reproduction in human and animals; production and propagation of sound; chemical effects of electric current; formation of multiple images; structure of flame, etc.</li> </ul>
<b>SCI806</b>	<ul style="list-style-type: none"> <li>writes word equation for chemical reactions, e.g., reactions of metals and non-metals with air, water and acids, etc.</li> </ul>
<b>SCI807</b>	<ul style="list-style-type: none"> <li>measures angles of incidence and reflection, etc.</li> </ul>
<b>SCI808</b>	<ul style="list-style-type: none"> <li>prepares slides of microorganisms; onion peel, human cheek cells, etc., and describes their microscopic features</li> </ul>
<b>SCI809</b>	<ul style="list-style-type: none"> <li>draws labelled diagram/ flow charts, e.g., structure of cell, eye, human reproductive organs; experimental set ups, etc.</li> </ul>
<b>SCI810</b>	<ul style="list-style-type: none"> <li>constructs models using materials from surroundings and explains their working, e.g., <i>ektara</i>, electroscope, fire extinguisher, etc.</li> </ul>
<b>SCI811</b>	<ul style="list-style-type: none"> <li>applies learning of scientific concepts in day to-day life, e.g., purifying water, segregating, biodegradable and non-biodegradable wastes; increasing crop production; using appropriate metals and non-metals for various purposes; increasing/ reducing friction; challenging myths and taboos regarding adolescence, etc.</li> </ul>
<b>SCI812</b>	<ul style="list-style-type: none"> <li>discusses and appreciates stories of scientific discoveries</li> </ul>
<b>SCI813</b>	<ul style="list-style-type: none"> <li>makes efforts to protect environment, e.g., using resources judiciously; making controlled use of fertilisers and pesticides; suggesting ways to cope with environmental hazards, etc.</li> </ul>
<b>SCI814</b>	<ul style="list-style-type: none"> <li>exhibits creativity in designing, planning, making use of available resources, etc.</li> </ul>
<b>SCI815</b>	<ul style="list-style-type: none"> <li>exhibits values of honesty, objectivity, cooperation, freedom from fear and prejudices</li> </ul>

## Major parameters for evaluation:

PARAMETER	SUB PARAMETER	LEARNING OUTCOME
Identify	-----	-----
Differentiate/Classify	-----	SCI801, SCI802
Explain	Discuss and Appreciate	SCI805,SCI812
Draw/ Measure	Writes word equations	SCI806,SCI807
Construct/Exhibit/ Conduct	Prepare	SCI803,SCI808, SCI809, SCI810,SCI814,SCI815
Application/Relate	Make efforts to protect environment	SCI804,SCI811, SCI813





## INDEX

<b>CHAPTER</b>	<b>CHAPTER NAME</b>	<b>PAGE NUMBER</b>
1.	CROP PRODUCTION AND MANAGEMENT	1-5
2.	MICROORGANISMS: FRIEND AND FOE	6-11
3.	SYNTHETIC FIBRES AND PLASTICS	12-16
4.	MATERIALS: METALS AND NON METALS	17-22
5.	COAL AND PETROLEUM	23-28
6.	COMBUSTION AND FLAME	29-33
7.	CONSERVATION OF PLANTS AND ANIMALS.	34-39
8.	CELL STRUCTURE AND FUNCTIONS	40-46
9.	REPRODUCTION IN ANIMALS	47-53
10.	REACHING THE AGE OF ADOLESCENCE	54-58
11.	FORCE AND PRESSURE	59-65
12.	FRICTION	66-71
13.	SOUND	72-77
14.	CHEMICAL EFFECTS OF ELECTRIC CURRENT	78-83
15.	SOME NATURAL PHENOMENA	84-90
16.	LIGHT	91-96
17.	STARS AND THE SOLAR SYSTEM	97-102
18.	POLLUTION OF AIR AND WATER	103-108





## MCOs

1. Which of the following is used as a weedicide?

- a) Aldrin      b) BHC      c) Malathion      d) 2,4-D

2. Tick the modern methods of irrigation.

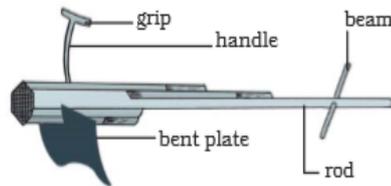
- a) Rahat   b) Moat      c) Sprinkles      d) Dhekli

3. Moat is

- a) a traditional method of irrigation  
b) harvesting  
c) an agricultural implement to remove weeds  
d) a method for crop storage

4. The agricultural implement shown in the picture is :

- a) Plough      b) Tractor      c) seed drill      d) Hoe



5. Which of the following is not harmful for the environment?

- a) Manure      b) pesticide      c) fertilizer      d) weedicide

6. Advance technique for storing large quantity of grain.

- a) Granaries      b) Silos      c) Both a & b      d) None of these

7. Number of steps involved in agricultural practice in correct sequence are

- a) preparation of soil  
b) sowing  
c) adding manure

To complete this sequence arrange the following step in order



1

2

3

4

- a- 4,3,2,1  
b- 4,3,1,2  
c- 1,2,3,4  
d- 3,2,4,1

**8. In a field, many other undesirable plants grow naturally along with crop and compete for water, nutrients, space and light and this affects, growth of the crop.**

**The undesirable plants are**

- a) Wheat                      b)weeds                      c)Maize                      d) Paddy

**9. Animals reared at home or in farms are provided with proper food shelter and care. When this is done at large scale, it is called**

- a) Poultry farm              b) Animal husbandry              c)Pisciculture              d)Diary farm

**10. Paheli saw her mother putting some dried neem leaves in an iron drum containing wheat. She wondered why? The purpose for putting neem leaf is**

- a) Protection from weeds              b) Protection from microorganisms and insects  
c) Protection from birds              d) Protection from rats

**11. Eating Fish is good for health. We get cod liver oil from fish which is rich in**

- a) Vitamin A              b) Vitamin D              c) Vitamin C              d) Calcium

**12. In which season Rabi crops are grown:**

- a) Winter                      b) summer                      c) Rainy                      d) spring

**13. Crops grown in rainy season are called.**

- a) Rabi                      b) Kharif                      c) Summer (Jethi)                      d) None of these

**14. In the month of October, farmer has to grow Rabi crops in his field. Which of the following crops he should not grow in his field?.**

- a) Wheat                      b) Maize                      c) gram                      d) Pea

**15. \_\_\_\_\_ is an example of Rabi crop.**

- a) Paddy                      b) Soybean                      c) groundnut                      d) gram

**16. Paddy cannot be grown in winter season because**

- a) it requires plenty of water  
b) it requires high temperature.  
c) availability of water in winter is less  
d) all of the above

## Answer Key (Chapter 1)

<b>Q</b>	<b>ans.</b>	<b>Q.</b>	<b>ans.</b>
<b>1</b>	<b>d</b>	<b>13</b>	<b>b</b>
<b>2</b>	<b>c</b>	<b>14</b>	<b>b</b>
<b>3</b>	<b>a</b>	<b>15</b>	<b>d</b>
<b>4</b>	<b>d</b>	<b>16</b>	<b>d</b>
<b>5</b>	<b>a</b>		
<b>6</b>	<b>b</b>		
<b>7</b>	<b>b</b>		
<b>8</b>	<b>b</b>		
<b>9</b>	<b>b</b>		
<b>10</b>	<b>b</b>		
<b>11</b>	<b>b</b>		
<b>12</b>	<b>a</b>		





## MCOs

1. \_\_\_\_\_ microbe is used to make curd.

- a) Fungi    b) Virus                      c) Lactobacillus                      d) Amoeba

2. Small pox has been eradicated from our country altogether, who amongst the following is responsible for discovering a vaccine for small pox.

- a) Edward Jenner    b) Alexander Fleming                      c) Louis Pasteur                      d) Robert Koch

3. Which of the following is not correctly matched

Microorganism	Disease
a) Bacteria	Cholera
b) Protozoa	Malaria
c) Virus	Influenza
d) Fungus	AIDS

4. Which of the following is not correctly matched?

Microorganism	Plant Disease
a) Bacteria	Citrus canker
b) Fungi	Rust of wheat
c) Virus	Yellow mosaic of Okra.
d) Algae	Yellowing of leaf (Rotting of fruit)

5. We can drink Verka milk without boiling, as it is pasteurized at the following temperature to kill harmful microbes.

- a) 100° C                      b) 50° C                      c) 70° C                      d) 170° C

6. Rhizobium bacteria helps in:-

- a) Killing microbes                      b) Antibiotics    c) Pathogen                      d) Nitrogen fixation

7. Which group amongst the following represents micro-organisms?

- a) Bacteria, Fungi, protozoa, virus and algae  
b) Bacteria, fungi, mammals, amoeba, blue green algae  
c) Paramecium, amoeba, polio virus, hydra.  
d) None of above

**8. Aanchal saw that her mother added a little curd to warm milk to set curd for the next day. She wondered why? Her mother told her that this was necessary for curdling of milk. This process involves**

- a) a bacterium lactobacillus present in curd promotes the formation of curd.
- b) spiral bacteria is responsible for setting of curd
- c) plasmodium present in curd promotes the formation of curd.
- d) all of the above

**9. Match the scientist in column A with their discovery in column B**

<b>Column A</b>	<b>Column B</b>
1. Louis Pasteur	I Bacillus anthracis'
2. Alexander Fleming	II Vaccine for small pox
3. Edward Jenner	III Fermentation
4. Robert Koch	IV Penicillin

	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
a)	4	3	1	2
b)	3	4	2	1
c)	1	2	3	4
d)	4	2	1	3

**10. Why are children/infants given polio drops?**

- a) to enhance immunity
- b) To protect from TB
- c) to prevent from polio
- d) a & c

**11. Some microorganisms are our friends and some are foe. Which of the following causes disease in both plants and animals?**

- a) Lactobacillus
- b) Algae
- c) Pathogen
- d) Rhizobium

**12. Salt and sugar are added to pickles and murabbas because**

- a) to enhance the taste/increase the shelf life
- b) to reduce moisture content.
- c) to inhibit the growth of unwanted microorganism
- d) all the above

**13. Match the right pairs from the two columns**

<b>Column A</b>	<b>Columns B</b>
1. Milk	I Processed food
2. Potato	II pasteurization
3. Sugar	III Fungicide
4. Malathion	IV cold storage

- a) 1-II, 2- IV, 3-I, 4-III
- b) 1-I, 2- III, 3-II, 4-IV
- c) 1-III, 2-II, 3-IV, 4-I
- d) 1-IV, 2-III, 3-II, 4-I

**14. Which of the following is a correct match?**

- a) Potato - dry storage
- b) Insect - abiotic
- c) Bird -biotic
- d) Humidity -Insecticide.

**15. Anil is suffering from dengue. Which of the following is a carrier of Dengue virus?**

- a) Female Aedes aegypti
- b) Female Anopheles
- c) Cockroach
- d) House Fly

## Answer Key (Chapter 2)

Q	ans.	Q.	ans.
1	c	13	a
2	a	14	c
3	d	15	a
4	d		
5	c		
6	d		
7	a		
8	a		
9	a		
10	d		
11	c		
12	d		





## MCQs

### 1. Find out the artificial fibre

- a) silk                      b) wool                      c) cotton                      d) nylon

### 2. Full form of PET is

- a) Polyethylene terephthalate                      b) Polyethylene trichloride  
c) Polyethylene tetrachloride                      d) Polythene

### 3. Full form of PVC is

- a) Polyvinyl                      b) Polyvinyl chloride  
c) Plastics                      d) Polythene

### 4. Basic unit of synthetic fibre is

- a) Monomer                      b) polymer                      c) polythene                      d) polyester

### 5. \_\_\_\_\_ fibre was used for making parachute during the Second World War.

- a) Rayon                      b) Polyester                      c) Nylon                      d) acrylic

### 6. Which of the following fibres is called artificial silk

- a) Nylon                      b) Rayon                      c) Polyester                      d) Polycot

### 7. Choose the material made up of thermosetting plastic from your household material.

- a) Cooker handles, switchboards                      b) bucket and mugs  
c) Table and chair                      d) Polythene bag

### 8. As a responsible citizen we should follow 4 R principle, Reduce, Reuse, Recycle and \_\_\_\_\_.

- a) Rest                      b) Recover                      c) Reunion                      d) Redeposit/Refine

### 9. Plastic takes several years to decompose. Given below are few examples of waste which take different time periods to degenerate. Arrange the following material in increasing order of time taken to degenerate

- i) Tin, aluminium                      ii) Peels of vegetable and fruits  
iii) Cotton cloth                      iv) Plastic bags

### The correct sequence of regenerative time in increasing order is

- a) (ii), (iii), (iv), (i)                      b) (i), (ii), (iii), (iv)  
c) (ii), (iv), (iii), (i)                      d) (iv), (i), (iii), (ii)

**10. Match the terms of column A correctly with the phrases given in column B**

<b>Column A</b>	<b>Column</b>
1. Nylon	I Fabrics do not wrinkle easily
2. Rayon	II Used to make non-stick cook wares
3. Teflon	III Used for making parachutes and stocking
4. Polyester	IV Prepared by using wood pulp

**The correct sequence is**

- |                            |                             |
|----------------------------|-----------------------------|
| a) 1-III, 2-IV, 3- II, 4-I | b) 1-III, 2- II, 3- IV, 4-I |
| c) 1-IV, 2- III, 3-I, 4-II | d) 1-I, 2-II, 3-III, 4-IV   |

**11. Polycot is obtained by mixing**

- |                       |                         |
|-----------------------|-------------------------|
| a) Nylon and wool     | b) Nylon and cotton     |
| c) Polyester and wool | d) Polyester and cotton |

**12. Which of the following represents the correct match for items in column A with those in column B**

<b>Column A</b>	<b>Column B</b>
I Nylon	i) Thermoplastic
II PVC	ii) Thermosetting plastic
III Bakelite	iii) Fibre
a) I-(ii), II-(iii), III-(i)	b) I-(iii), II-(i), III-(ii)
c) I-(ii), ii-(i), III-(iii)	c) I-(iii), II-(ii), III-(i)

**13. Which of the following groups contain all synthetic substance?**

- |                           |                             |
|---------------------------|-----------------------------|
| a) Nylon, Terylene, Wool  | b) PVC, Polythene, Bakelite |
| c) Cotton, Polycot, Rayon | d) Acrylic, Silk, Wool      |

**14. Select the articles from the following list which are biodegradable.**

- |                              |                              |
|------------------------------|------------------------------|
| a) peels of vegetables, wood | b) aluminium can             |
| c) Plastic bag, paper        | d) Thermocoal, woolen cloths |

**15. Choose the correct statement.**

- a) Most of the plastics are biodegradable.
- b) synthetic fibres do not melt on heating
- c) Polywool is a mixture of polyester and wool
- d) Synthetic fibres are not durable.

### Answer Key (Chapter 3)

<b>Q</b>	<b>ans.</b>	<b>Q.</b>	<b>ans.</b>
<b>1</b>	<b>d</b>	<b>13</b>	<b>b</b>
<b>2</b>	<b>a</b>	<b>14</b>	<b>a</b>
<b>3</b>	<b>b</b>	<b>15</b>	<b>c</b>
<b>4</b>	<b>a</b>		
<b>5</b>	<b>c</b>		
<b>6</b>	<b>b</b>		
<b>7</b>	<b>a</b>		
<b>8</b>	<b>b</b>		
<b>9</b>	<b>a</b>		
<b>10</b>	<b>a</b>		
<b>11</b>	<b>d</b>		
<b>12</b>	<b>b</b>		





## MCOs

**1. Which property of metal is used in making chocolate wrappers?**

- a) Ductility                      b) Malleability                      c) sonorous                      d) None of these

**2. Choose the correct pair of metal and non-metal, existing in liquid state at room temp.**

- a) Mercury, bromine                      b) Magnesium, Iodine  
c) copper, sulphur                      d) Sodium chlorine

**3. Which of the following metals and non- metals are solid at room temperature?**

- a) Magnesium, Iron, Aluminium – Phosphorus, carbon and Sulphur  
b) Mercury, Sodium, Potassium -- Nitrogen, Chlorine and oxygen  
c) Copper, Silver, Aluminium-- Bromine, Iodine, and Hydrogen.  
d) None of these.

**4. Raman's mother had beautiful copper vessels but after few years they acquired a dull green coating on them, she was upset about it. The green coating on the vessel is due to formation of**

- a)  $\text{Cu}(\text{OH})_2$                       b)  $\text{CuO}$                       c)  $\text{CuCO}_3$                       d)  $\text{Cu}(\text{OH})_2$  and  $\text{CuCO}_3$

**5. Non-metals are used in our life. Select correct order.**

Column A	Column B
1. Chlorine	I Fertilizers
2. Oxygen	II Antiseptic
3. Nitrogen	III Breathing
4. Iodine	IV Bleaching

- a) 1-IV,2-III,3-I,4-II                      b) 1-I,2-IV,3-II,4-II  
c) 1-II,2-II,3-III,4-III                      d) 1-I,2-I,3-IV,4-III

**6. Which of the following displacement reaction is not possible?**

- a)  $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$                       b)  $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$   
c)  $\text{Cu} + \text{FeSO}_4 \rightarrow \text{CuSO}_4 + \text{Fe}$                       d)  $\text{Zn} + \text{FeSO}_4 \rightarrow \text{ZnSO}_4 + \text{Fe}$

**7. The reactivity of aluminium, zinc, iron and copper towards water is in the following order choose the correct option.**

- a)  $\text{Al} > \text{Cu} > \text{Fe} > \text{Zn}$                       b)  $\text{Al} > \text{Zn} > \text{Fe} > \text{Cu}$   
c)  $\text{Cu} > \text{Fe} > \text{Zn} > \text{Al}$                       d)  $\text{Al} > \text{Fe} > \text{Zn} > \text{Cu}$

**8. Diwali is the festival of lights, but many people celebrate it by burning crackers, which leads to air and noise pollution. Crackers are made up of chemicals which on burning release harmful gases causing pollution. Which among the following non-metals is used in the crackers?**

- a) Nitrogen      b) Oxygen      c) Gold      d) Sulphur

**9. When Zinc reacts with Sulphuric Acid, a gas is evolved, when burning match stick is brought near it, a pop sound is heard due to which of the following**

- a) Oxygen      b) Hydrogen      c) Nitrogen      d) Carbon dioxide

**10. Anita has learnt that non-metals on beating with a hammer are generally broken into pieces. Which of the following is a non-metal.**

- a) iron nail      b) copper plate  
c) aluminium wire      d) piece of coal

**11. Which of the following non-metals reacts and catches fire on exposure to air?**

- a) Phosphorus      b) Sulphur      c) nitrogen      d) hydrogen

**12. Generally metallic oxides are basic and non-metallic oxides are acidic in nature. Solution of which of the following oxides in water will change the colour of blue litmus to red?**

- a) Sulphur dioxide      b) Iron Oxide  
c) Magnesium oxide      d) Copper oxide

**13. Choose the incorrect statement**

- a) The property of metals by virtue of which they can be drawn into wires is called ductility.  
b) Oxides of non-metals are acidic in nature.  
c) A less reactive metal replaces a more reactive metal from its salt solution in water  
d) metals are good conductors of heat and electricity.

**14. Complete the following word equation :-**



- a) Zinc Chloride      b) Zinc sulphate      c) Zinc carbonate      d) Zinc Sulphide

**15. Read the following paragraph and choose correct option for fill ups:**

**The name of the product formed in the reaction of sulphur and \_\_\_\_\_ is sulphur Dioxide gas. When sulphur dioxide is dissolved in \_\_\_\_\_, sulphurous acid is formed, The sulphurous acid turns \_\_\_\_\_ litmus paper to \_\_\_\_\_.**

- a) oxygen, water, blue, red.      b) oxygen, water, red, blue  
c) Water, oxygen, blue, red      d) red, blue, water, oxygen

**16. Reeta went to a jeweller's shop with her mother. Her mother gave an old gold jewellery to the goldsmith to polish. Next day when they bought the jewellery back, they found there was a slight loss in its weight. The reason for loss in weight is that the goldsmith cleaned the jewellery in aqua regia. This solution is a mixture of concentrated hydrochloric acid (HCL) and concentrated nitric acid (HNO<sub>3</sub>). Choose the correct option of ratio of acids in aqua regia:**

a) HCl:HNO<sub>3</sub>:: 3:1

b) HCl : HNO<sub>3</sub> :: 1:3

c) HCl : HNO<sub>3</sub>:: 2:1

d) None of these

## Answer Key (Chapter 4)

Q	ans.	Q.	ans.
1	b	13	c
2	a	14	b
3	a	15	a
4	d	16	a
5	a		
6	c		
7	b		
C	d		
9	b		
10	d		
11	a		
12	a		







**The correct record, out of these, is of student**

- a) A                      b) B                      c) C                      d) D

**6. Naphthalene balls are obtained from coal tar and are used as**

- a) mosquito repellent    b) moth repellent  
c) snake repellent    d) none of these

**7. Coal is processed in industries to get some useful products. Which of the following is obtained from coal?**

- a) coke                      b) coal gas                      c) coal tar                      d) All of these

**8. Various materials which are obtained from nature are called natural resources. Which of the following is a natural resource**

- a) minerals                      b) sun light                      c) petroleum                      d) all of these

**9. Petroleum, a crude oil, is a complex mixture of substances. It is refined by the process called.**

- a) decomposition                      b) sublimation                      c) evaporation                      d) fractional distillation

**10. Choose the correct statement from the following**

- a) It is difficult to transport natural gas through pipes  
b) The disadvantage of natural gas is that it can not be used directly for burning in homes  
c) Natural gas is stored under high pressure as compressed natural gas.  
d) Natural gas cannot be used for power generation.

**11. Match the two columns**

**Column A**

1. Black gold  
2. Vaseline and candles  
3. Bitumen  
4. CNG

**Column B**

- I used for road surfacing  
II natural gas  
III petroleum  
IV paraffin wax.

a 1-III, 2-IV, 3-I, 4-II

b 1-III, 2-I, 3-II, 4-IV

c 1-I, 2-II, 3-III, 4-IV

d 1-II, 2-IV, 3-I, 4-III

**12. A fuel with high calorific value and least emission of gases is termed as ideal fuel. Identify the fuel that has minimum calorific value.**

- a) Wood                      b) CNG                      c) LPG                      d) Charcoal

**13. The prices of petrol or diesel are increasing day by day. Which of the following is the correct way to save fuel while driving?**

- a) switch off the engine at traffic lights or at a place where you have to wait.  
b) ensure correct tyre pressure  
c) ensure regular maintenance of the vehicle  
d) all of these

**14. Many useful substances are obtained from petroleum and natural gas. These are termed as 'Petrochemicals'.**

These are used in the manufacture of

- a) detergents
- b) fibres (Polyester, nylon, acrylic etc).
- c) polythene
- d) All of these.

**15. Coal gas was used for street lighting for the first time in \_\_\_\_\_ in the year 1810 and in \_\_\_\_\_ around 1820.**

- a) London, New York
- b) New York, China
- c) China, London
- d) None of these

## Answer Key (Chapter 5)

<b>Q</b>	<b>ans.</b>	<b>Q.</b>	<b>ans.</b>
<b>1</b>	<b>d</b>	<b>13</b>	<b>d</b>
<b>2</b>	<b>c</b>	<b>14</b>	<b>d</b>
<b>3</b>	<b>d</b>	<b>15</b>	<b>a</b>
<b>4</b>	<b>a</b>		
<b>5</b>	<b>a</b>		
<b>6</b>	<b>b</b>		
<b>7</b>	<b>d</b>		
<b>8</b>	<b>d</b>		
<b>9</b>	<b>d</b>		
<b>10</b>	<b>c</b>		
<b>11</b>	<b>a</b>		
<b>12</b>	<b>a</b>		





## MCOs

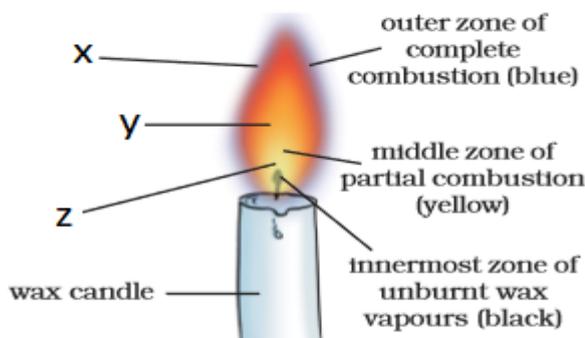
1. "Sun is the ultimate source of energy." Which of the following is not ultimately derived from the sun's energy?

- a) Hydro Energy   b) Wind energy   c) Nuclear energy   d) bio-mass

2. Source of vast energy of the sun is

- a) nuclear fusion of hydrogen nuclei into helium along with release of energy.  
 b) combustion of fossil fuel leading to release of energy.  
 c) nuclear fission of uranium nuclei along with release of energy  
 d) both fission as well as fusion processes taking place simultaneously.

3. Four students A,B,C and D make the records given below for the parts marked X,Y, Z in this diagram



Student	X	Y	Z
A	Hottest part	Moderately hot	Least hot
B	Least hot	Moderately hot	Hottest part
C	Moderately hot	Least hot	Hottest part
D	Least hot	Hottest part	Moderately hot

The correct record, out of these, is of the student

- a) A                      b) B                      c) C                      d) D

4. In a war between two countries, chemical weapons are used which releases a large amount of Sulphur dioxide gas, that will result in:

- a) global warming  
 b) change of seasons  
 c) increase of acid rain  
 d) None of these

5. Carbon dioxide is one of the normal constituents of air. It is estimated that its world wide concentration is increasing at the rate of 0.7 ppm every year. This increase may have serious effects on the climate and as a result, the atmospheric

- a) humidity may increase  
 b) temperature may increase  
 c) temperature may decrease  
 d) temperature is not affected

**6. Which of the following is ordinarily not considered a pollutant?**

- a) CO                      b) NO                      c) SO<sub>2</sub>                      d) O<sub>2</sub>

**7. Which of the following gas causes air pollution?**

- a) CO                      b) H<sub>2</sub>                      c) O<sub>2</sub>                      d) N<sub>2</sub>

**8. The abbreviation 'ppm' is often used to express concentration of gaseous pollutants. It stands for**

- a) parts per metre                      b) parts per millions  
c) parts per mile                      d) parts per minute

**9. The nature of rain water collected from an industrial town which is highly polluted with oxides of sulphur and nitrogen is \_\_\_\_\_.**

- a) Acidic                      b) neutral                      c) alkaline                      d) Highly basic

**10. The substances which have very low ignition temperature and can easily catch fire with a flame are called.**

- a) luminous substances                      b) combustible substances  
c) Inflammable substances                      d) All of the these

**11. The conditions which are required for combustion to take place are**

- a) fuel                      b) ignition temperature                      c) oxygen                      d) all of these

**12. Pick the odd one out on the basis of their source**

- a) Petrol                      b) diesel                      c) kerosene                      d) coke

**13. Which of the following is not a gaseous fuel.**

- a) Natural gas                      b) LPG                      c) CNG                      d) gasoline

**14. Name the compounds present in the head of match stick.**

- a) Antimony disulphide  
b) Potassium chlorate and antimony trisulphide  
c) White phosphorus and potassium chloride  
d) Red phosphorus and potassium chlorate

**15. The amount of heat energy produced on complete combustion of 1 kg of a fuel is called its calorific value. The calorific value of a fuel is expressed in unit called.**

- a) Joules                      b) kilogram per kilo joule  
c) kilo joule per kilogram                      d) kilogram

## Answer Key (Chapter 6)

<b>Q</b>	<b>ans.</b>	<b>Q.</b>	<b>ans.</b>
<b>1</b>	<b>c</b>	<b>13</b>	<b>d</b>
<b>2</b>	<b>a</b>	<b>14</b>	<b>b</b>
<b>3</b>	<b>a</b>	<b>15</b>	<b>c</b>
<b>4</b>	<b>c</b>		
<b>5</b>	<b>b</b>		
<b>6</b>	<b>d</b>		
<b>7</b>	<b>a</b>		
<b>8</b>	<b>b</b>		
<b>9</b>	<b>a</b>		
<b>10</b>	<b>c</b>		
<b>11</b>	<b>d</b>		
<b>12</b>	<b>d</b>		





## MCQs

**1. The " Red Data Books " Published by the International union for conservation of Nature and National resources (IUCN) contain list of**

- I Endemic plant and animal species present in the biodiversity hotspots.
- II Threatened plants and animal species
- III Extinct plants and animal species

**Choose the correct statement**

- a) I & II                      b) only II                      c) II & III                      d) only III

**2. Which one is in the correct order**

<b>National park</b>	<b>State</b>
A Satpura National park	i) Gujarat
B Gir National park	ii) West Bengal
C Sundarbans National park	iii) Rajasthan
D Keoladeo National park	iv) Madhya Pradesh

- a. A-i, B-ii, C-iii, D-iv                      b. A-iv, B-i, C-ii, D-iii  
c. A-iv, B-ii, C-ii, D-i                      d. A-iv, B-i, C-ii, D-iii

**3. Fauna & Flora found in Panchmarhi Biosphere reserve are:-**

- a) Leopard, chinkara (fauna), mango and arjun (flora)
- b) Elephant and Giant squirrel (Fauna), apple and orange (flora)
- c) Both a & b
- d) only a

**4. An area where all the animals, plants and microorganism live together and interact with abiotic factors of environment is called.**

- a) Habitat                      b) Ecosystem                      c) Land                      d) Forest

**5. Ankit lives in Haryana. He told Arun that his grandfather always talks about a dense forest, which was located near their village. Now it has turned into bad land. What may be the reason of this situation?**

- a) Forest fire                      b) flood                      c) drought                      d) all of above

**6. If we have to retain our green wealth for future generation. What should we do?**

- a) cutting down of trees                      b) Use of Forest land for agriculture  
c) Plantation of more trees                      d) None

**7. "Project Elephant" to save Asian elephants had been launched by which of the following states?**

- a) Karnataka                      b) Gujarat                      c) Rajasthan                      d) Punjab

**8. Ram and his friend went to Sukhna lake in the morning and they also visited a wildlife Sanctuary located in Shivalik foot hills. Which one is this?**

- a) Panchmarhi wildlife sanctuary                      b) Boli wild life sanctuary  
c) Sukhna wild life sanctuary                      d) a & b

**9. How many times a paper can be recycled for use:-**

- a) two to three times
- b) four to five times
- c) five to seven times
- d) more than seven times

**10. Sita and Geeta discussed about the present atmospheric conditions. They found that the temperature and pollution levels on the earth were increasing day by day. These are the consequences of:-**

- a) afforestation
- b) Deforestation
- c) Desertification
- d) All of the above

**11. Rohan went to Bharatpur in Rajasthan to attend the marriage party of his friend. After party he wanted to relax himself for some time so he reached to Bharatpur bird sanctuary with another friend, Arun. Arun observed some different birds in the sanctuary. Then, Rohan told him about migratory birds. Why these birds reached here?**

- a) For laying eggs
- b) their own habitat becomes very cold and inhospitable
- c) They want to fly from one part to another part of the world
- d) a & b

**12. The reasons for deforestation are :**

- a) procuring land for agriculture
- b) building houses and factories
- c) Making furniture or using as fuel.
- d) All of the above.

**13. Match the right pairs from the two columns.**

<b>Column I</b>	<b>Column II</b>
A. Deforestation	i Conversion of fertile land into deserts
B. Aforestation	ii Areas meant for conservation of biodiversity
C. Desertification	iii Cutting of forests
D. Biosphere reserve	iv planting new trees

- (a) A- iii, B-i, C-iv, D-ii
- (b) A- iv, B-iii, C- ii, D- i
- (c) A- iii, B-iv, C-i, D-ii
- (d) A-i, B-ii , C-iii, D-iv

**14. The Kaziranga National park is famous for**

- a) Asiatic lions
- b) Tigers
- c) Asian elephant
- d) one horned rhinoceros

**15. A group of population which is capable of interbreeding with each other is called.**

- a) Family
- b) species
- c) genius
- d) sub family.

**16. Living and non-living factors are part of :-**

- a) Biotic community
- b) population
- c) Ecosystem
- d) atmosphere

**17. Pick the odd one out:-**

- a) sun                                      b) plants                                      c) Animals                                      d) Man

**18. Forest conservation:-**

- a) maintains ground water level and prevents soil erosion  
b) provides a home for wild life  
c) provides many useful products  
d) All of the above

**19. The Pachmarhi Biosphere Reserve consists of one national park named \_\_\_\_\_ and two wildlife sanctuaries named \_\_\_\_\_ and \_\_\_\_\_.**

- a) Satpura, Bori, Pachmarhi                                      b) Pachmarhi, Bori, Satpura  
c) Kaziranga, Bori, Pachmarhi                                      d) Pachmarhi, Satpura, Bori

**20. Which of the following sentences is not true?**

- a) Biotic community has non-living entities.  
b) Wildlife sanctuaries, national parks, biosphere reserves etc. are protected areas for conservation of plants and animals present in that area  
c) Endemic species are those which are at the verge of extinction.  
d) Plants found in a particular area are called flora.

**21. The biosphere includes**

- a) lithosphere  
b) hydrosphere  
c) atmosphere  
d) All of the above

**22. The 'producer' in general are:-**

- a) autotrophic animals  
b) heterotrophic plants  
c) heterotrophic animals  
d) autotrophic plants

**23. On whom do the consumers directly depend for their food?**

- a) plants or producers  
b) Bacteria or decomposers  
c) Both a) and b)  
d) None of these

**24. One of the large products obtained in photosynthesis, apart from starch, is**

- a) CO<sub>2</sub>                                      b) O<sub>2</sub>                                      c) N<sub>2</sub>                                      d) H<sub>2</sub>O

## Answer Key (Chapter 7)

<b>Q</b>	<b>ans.</b>	<b>Q.</b>	<b>ans.</b>
<b>1</b>	<b>b</b>	<b>13</b>	<b>c</b>
<b>2</b>	<b>b</b>	<b>14</b>	<b>d</b>
<b>3</b>	<b>a</b>	<b>15</b>	<b>b</b>
<b>4</b>	<b>b</b>	<b>16</b>	<b>c</b>
<b>5</b>	<b>d</b>	<b>17</b>	<b>a</b>
<b>6</b>	<b>c</b>	<b>18</b>	<b>d</b>
<b>7</b>	<b>a</b>	<b>19</b>	<b>a</b>
<b>8</b>	<b>c</b>	<b>20</b>	<b>a</b>
<b>9</b>	<b>c</b>	<b>21</b>	<b>d</b>
<b>10</b>	<b>b</b>	<b>22</b>	<b>d</b>
<b>11</b>	<b>d</b>	<b>23</b>	<b>a</b>
<b>12</b>	<b>d</b>	<b>24</b>	<b>b</b>





## MCOs

**1. In 1665, A British scientist observed slices of cork under a simple magnifying device. He noticed honey comb like compartment in the cork slice. He observed that every compartment is separated from each other. Then he coined the term for each compartment. Choose the name of scientist and the term coined by him.**

- a) Robert brown- Tissue  
c) Robert hook – nucleus
- b) Robert hook – cell  
d) Robert brown – accedes

**2. Our brain controls all body activities like wise, which cell organelle controls all the functions of cell?**

- a) Chromosomes                      b) nucleus                      c) cytoplasm                      d) Golgi bodies

**3. Some bacterial cells do not have well organized nucleus. Their nuclear material lies in the cytoplasm without any nuclear membrane. These cells are called:**

- a) Eukaryotic cells                      b) Prokaryotic cells                      c) Both                      d) None

**4. Some cell organelles are found in animal cell as well as in plant cell. Choose the correct option(s):-**

- i) Nucleus                      ii) cytoplasm                      iii) chloroplast                      iv) Mitochondria
- a) i), ii) & iv)                      b) only i)                      c) iii)& iv)                      d) i), ii), iii) & iv

**5. Ram observed that the colour of his eyes is brown just like his father, but the texture of his hair is curly like his mother. How is it possible?**

- a) These are hereditary characteristics transferred from parents to their offspring and controlled by genes.  
b) These are naturally visible characters  
c) These are the acquired characteristics  
d) All of the above

**6. A cell which receives and transfers messages in animal body is called:-**

- a) Muscle cell                      b) blood cell                      c) nerve cell                      d) Bone cell

**7. A porous membrane that allows the movement of substances inwards and outwards of the animal cell and also separates cells from one another is called:-**

- a) cell wall                      b) nuclear membrane                      c) plasma membrane                      d) all

**8. A kitchen of plants where they prepare their food is \_\_\_\_\_**

- a) Root                      b) Flower                      c) Leaves                      d) Fruit

**9. DNA stands for**

- a) Denitro Acid                      b) Deoxyribonucleic acid  
c) Denitrifying Acid                      d) None

**10. Amoeba is a single cell organism which moves and feed with the help of**

- a) Pseudopodia      b) Vacuoles      c) cell membrane      d) None

**11. Geeta knows that a group of cells which are similar in structure and performs a specific function is called tissue but she doesn't know what a group of tissues is called? help her-**

- a) Organ System      b) Organ      c) nucleus      d) b & c

**12. Bhawna is a very talented teacher. She always teaches science by co- relating one thing to other. For example Our mother Earth has three main layers crust, mantle and core. Our body has three parts like skin, body cavity and bone. She asks the students to tell about the right order in fundamental unit of life.**

- a) Cell membrane, cytoplasm, nucleus  
b) Cytoplasm, cell membrane, nucleus  
c) Cell membrane, nucleus, cytoplasm  
d) None of the above

**13. The longest cell, size of 170 mm x130 mm is \_\_\_\_\_.**

- a) Amoeba      b) Paramecium  
c) The egg of an Ostrich.      d) The egg of a Peacock

**14. RBCs are red in colour whereas WBCs are white in colour. Which Protein is responsible for the red colour of RBCs.**

- a) Fibrous protein      b) Globular proteins  
c) Haemoglobin      d) Enzymatic proteins

**15. Amoeba and yeast both are unicellular organisms. How can you differentiate them?**

- a) By observing cell membrane      b) By observing cell wall  
c) By observing nucleus      d) None of the above

**16. All animals are made up of cells but their appearance is different because of:-**

- a) Different Number of cells      b) Different Number of chromosomes  
c) Different genes      d) All

**17. Number of chromosome found in human:-**

- a) 48      b) 46      c) 23 pairs      d) b& c

**18. Number of Nucleus found in Paramecium.**

- a) 1      b) 2      c) 3      d) all

**19. Size of the smallest cell**

- a) 0.1 to 0.5 micrometre      b) 01 to 0.5 Nanometre  
c) 0.1 to 0.2 centimetre      d) 0.5 to 0.7 micrometre

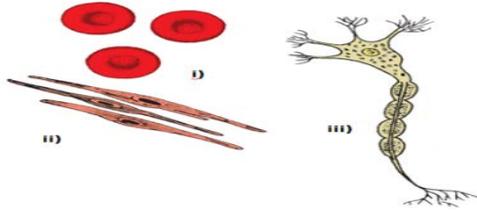
**20. Name the largest cell found in our body**

- a) muscles cell      b) nerve      c) blood      d) skin cell

**21. Powerhouse of the cell is**

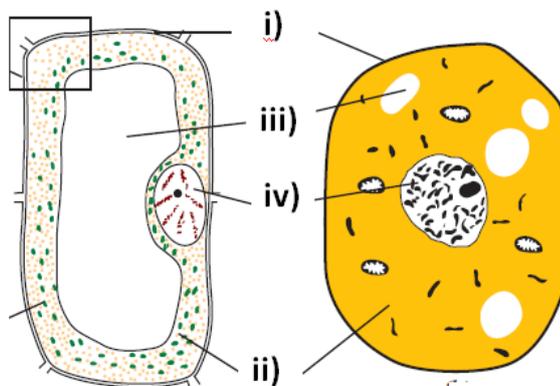
- a) mitochondria      b) golgi complex      c) centrosome      d) vessel

**22. Different types of cell having different shape are shown in given figure. Identify them according to given number .**



- a) i-Nerve cell, ii-Muscle cell, iii-Red blood cell  
 b) i-Muscle cell, ii-Red blood cell, iii-Nerve cell  
 c) i-Red blood cell, ii-Muscle cell, iii-Nerve cell  
 d) None of the above

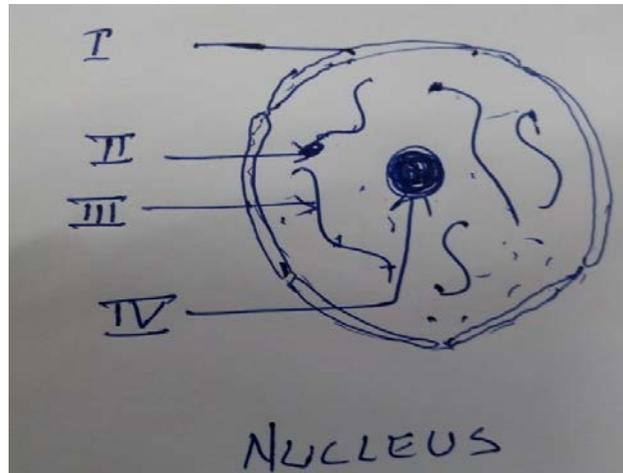
**23. Plant cell and animal cell are shown in given figure. Labelling of similar parts is done by codes- i,ii,iii,iv .**



**Choose the correct name of codes.**

- a) i- Cytoplasm, ii- Vacuole, iii- Cell Membrane, iv- Nucleus  
 b) i- cell membrane, ii- Cytoplasm, iii- Vacuole, iv- Nucleus  
 c) i- Vacuole, ii- Nucleus, iii- Cell Membrane, iv- Cytoplasm  
 d) i- Nucleus, ii- Cytoplasm, iii- Vacuole, iv- Cell Membrane

24. Nucleus of cell is shown in given figure. Its labeling is done by code- i, ii, iii, iv. Choose the correct option.



- a) i- nuclear membrane, ii- chromosomes, iii-nucleolus, iv- genes
- b) i- chromosomes, ii- genes, iii-nuclear membrane, iv- nucleolus
- c) i- nucleolus, ii- nuclear membrane, iii- genes, iv- chromosomes
- d) i- nuclear membrane, ii-genes, iii- chromosomes, iv- nucleolus

## Answer Key (Chapter 8)

Q	ans.	Q.	ans.
1	b	13	c
2	b	14	c
3	b	15	b
4	a	16	d
5	a	17	d
6	c	18	b
7	c	19	a
8	c	20	b
9	b	21	a
10	a	22	c
11	b	23	b
12	a	24	d





## MCOs

1. List I (Name of living beings), list II (their mode of reproduction). Match the following using the correct option given below:

List I		List II	
A.	algae	1.	Budding
B.	Hydra	2.	Binary fission
C.	Amoeba	3.	Sexual reproduction
D.	Human	4.	fragmentation

	A	B	C	D
a.	2	3	4	1
b.	4	3	2	1
c.	4	1	2	3
d.	3	2	1	4

2. In which part of plant and human body, the internal fertilization takes place. Select the correct match

Plant Body		Human Body	
A.	Stigma	1.	Ovary
B.	Petals	2.	Oviduct
C.	Ovary	3.	Uterus
D.	Stamen	4.	Testis

a.	C & 2	b.	A & 4	c.	B & 1	d.	D & 3
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3. IVF stands for

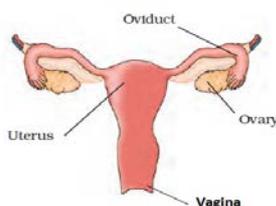
- |                              |                           |
|------------------------------|---------------------------|
| a. Inter virus force         | b. In vitro fertilization |
| c. Inner vitro fertilization | d. none of the above      |

4. Given below is the group of living beings who reproduces through Internal fertilization  
Choose the correct option

- Human being, hen, cow, and dog
- Human being, frog, fish and amoeba
- cockroach, fish, earthworm and Elephant
- Human being, aquatic animals, whale and crow.

5. Mention the place in the given diagram where egg is produced and the baby is developed :-

- |                       |                     |                      |                       |
|-----------------------|---------------------|----------------------|-----------------------|
| a) vagina and oviduct | b) ovary and uterus | c) uterus and vagina | d) oviduct and uterus |
|-----------------------|---------------------|----------------------|-----------------------|



**6. Ram and Geeta are husband and wife. After 15 year of their marriage they do not have any kid. Mohan suggested them to contact an expert doctor who has opened a new hospital in their city. They met the said doctor. After a long treatment doctor advised them for test tube baby. Name the technique involved in test tube baby?**

- a) IVF (in vitro Fertilization)                      b) External fertilization  
c) Internal fertilization                              d) a & b

**7. Aman was very surprised when he saw his newborn sister. Because on the same day his teacher taught them that human beings are developed from a single cell. What is the right sequences of our development inside the female body.**

- a) young one → zygote → foetus → embryo  
b) zygote → embryo → foetus → young one  
c) zygote → foetus → embryo → young one  
d) Foetus → zygote → young one → embryo

**8. Choose the group of viviparous organism**

- a) Fish, frog, birds and cow                      b) dog, cow, human being and frog  
c) birds, frog, fish and snake                      d) None of these

**9. During spring and rainy season . Aakansha and Aashima went to Sukhna Lake.**

**Aakansha observed that white jelly was floating on the water surface. She was surprised to know that this jelly holds the eggs of frog and asked Aashima why frog lays eggs in hundreds whereas a hen lays only one egg at a time.**

- a) frogs reproduce through external fertilizations  
b) lots of eggs are damaged  
c) lots of eggs are eaten by fishes  
d) All of the above

**10. Inside the uterus what is the right orientation of developing foetus**

- a) Erect                      b) Inverted                      c) Right oriented                      d) Left oriented.

**11. Dolly is cloned sheep. When was she born**

- a) 5<sup>th</sup> July 1990                      b) 5<sup>th</sup> July 1996                      c) 10<sup>th</sup> July 1996                      d) 15<sup>th</sup> March 2000

**12. Number of chromosomes found in male and female gametes are:**

- a) 23 pair                      b) 23                      c) 46                      d) 22

**13. Tick the right part of male reproductive system where sperms are produced:**

- a) Penis                      b) sperm duct                      c) Testis                      d) urethra

**14. Which one is not an oviparous:-**

- a) Lizard                      b) Butterfly                      c) Crow                      d) Whale

**15. During a visit to silk Industry, Science teacher enlightened the students of class VIII that silk is obtained from cocoon of silkworm. Sunaina asked her teacher if her sari was also made up of silk fibre? She replied yes. Then the teacher asked all the students to recall the life cycle of silk moth which they have studied in class VII and choose the correct sequence of all stages.**

- a) egg→larva→ adult→ pupa  
b) larva→ adult →egg→ pupa  
c) egg→ larva→ pupa→ adult  
d) pupa→larva→egg→adult

**16. Amoeba is an unicellular organism and hydra is a multicellular organism but both reproduce in the same manner. Which type of reproduction it is?**

- a) asexual reproduction              b) Sexual reproduction  
c) both                                      d) None

**17. Other than Hydra which unicellular living being reproduces by budding?**

- a) yeast                      b) paramecium                      c) amoeba                      d) euglena

**18. Match list I with list II and select the correct answer by using the codes given below**

- | <b>List I</b>  | <b>List II</b> |
|----------------|----------------|
| A. Pseudopodia | 1. Amoeba      |
| B. flagella    | 2. Sperm       |
| C. cilia       | 3. Paramecium  |
| D. tail        | 4. Euglena     |
- A – B – C- D**
- a) 4 3 2 1  
b) 1 4 3 2  
c) 2 3 4 1  
d) 1 2 3 4

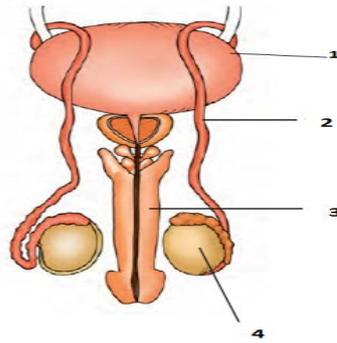
**19. Name the tissue through which developing embryo gets nourished from mother's uterus**

- a) blood                      b) placenta                      c) cartilage                      d) adipose

**20. Another term for the fertilized egg.**

- a) Foetus                      b) Embryo                      c) zygote                      d) None

21. Male reproductive system of human being is shown in given figure, its labelling is done by 1,2,3,4. Choose the correct option



- a) 1- testes ,2-penis , 3-sperm duct,4- urinary bladder
- b) 1- penis ,2-urinary bladder , 3-testes,4- sperm duct
- c)1- urinary bladder ,2-penis , 3-testes,4- sperm duct
- d)1- urinary bladder ,2-sperm duct , 3-penis,4- testes

## Answer Key (Chapter 9)

<b>Q</b>	<b>ans.</b>	<b>Q.</b>	<b>ans.</b>
<b>1</b>	<b>c</b>	<b>13</b>	<b>c</b>
<b>2</b>	<b>a</b>	<b>14</b>	<b>d</b>
<b>3</b>	<b>b</b>	<b>15</b>	<b>c</b>
<b>4</b>	<b>a</b>	<b>16</b>	<b>a</b>
<b>5</b>	<b>b</b>	<b>17</b>	<b>a</b>
<b>6</b>	<b>a</b>	<b>18</b>	<b>b</b>
<b>7</b>	<b>b</b>	<b>19</b>	<b>b</b>
<b>8</b>	<b>d</b>	<b>20</b>	<b>c</b>
<b>9</b>	<b>d</b>	<b>21</b>	<b>d</b>
<b>10</b>	<b>b</b>		
<b>11</b>	<b>b</b>		
<b>12</b>	<b>b</b>		





## MCOs

**1. The period of life when the body undergoes changes, leading to reproductive maturity is called**

- a. oldage      b) childhood      c) adolescence      d) grown up

**2. The human body undergoes several changes during adolescence like increase in height, change in body shape, voice change, development of sex organ etc. These changes mark the onset of**

- a) ageing      b) prematurity      c) puberty      d) post adolescent

**3. Geeta had a very soft and smooth skin during her childhood. As she entered adolescence, she developed pimples on her face. Doctor advised her to wash her face at regular intervals. These pimples on the face is due to secretion of**

- a) bile from liver      b) thyroxin from liver  
c) oil glands during puberty      d) acid in stomach

**4. When a sperm containing y chromosomes fertilize an egg with x chromosomes, the zygote develop into a \_\_\_\_\_ child.**

- a) Female      b) male      c) Either male or female      d) no child

**5. If the water in which the tadpoles are growing does not contain sufficient \_\_\_\_\_ The tadpoles cannot become adults**

- a) Chlorine      b) carbon      c) sulphur      d) iodine

**6. The structure present in cell which is responsible for determination of the sex of a baby is**

- a) cytoplasm      b) cell membrane      c) nucleus      d) chromosomes

**7. Chemical which controls changes in boys and girls at adolescence age is**

- a) chlorine      b) hormones      c) iodine      d) None of these

**8. Our government has legalized the age for marriage in boys 21 years and in girls 18 years. Why one should get married after certain age**

- a) Boys and girls become capable of reproduction  
b) Death may occur during pregnancy in girl below 18 years  
c) Human attain puberty only after certain age  
d) All of the above

**9. When do noticeable changes begin in human beings and till when they last?**

- a) begins around 10 years and lasts up to 15 years?
- b) begins around 11 years and lasts up to 18 or 19 years
- c) begins around 14 years and lasts up to 20 years
- d) begins around 9 years and lasts up to 16 years

**10. Our Indian meal of roti/rice, dal and vegetables is a balanced meal that includes:**

- a) protein and fat only
- b) carbohydrate, protein, fat, vitamins and minerals
- c) fat and protein only
- d) carbohydrate and vitamins only

**11. In parts of rural India, there is a myth that women cannot enter the kitchen, puja room and cannot offer prayers and touch holy books during menstruation due to belief of impurity. It is:-**

- a) True
- b) False

**12. You must have heard about AIDS which can pass on to a normal person from an infected person by sharing the syringes, to an infant from the infected mother through her milk and through sexual contact with person infected with**

- a) Bacteria
- b) HIV
- c) Fungus
- d) All of above

## Answer Key (CHAPTER 10)

Q	ans.
1	C
2	C
3	C
4	B
5	D
6	D
7	B
8	D
9	B
10	B
11	B
12	B





## MCQs

1.



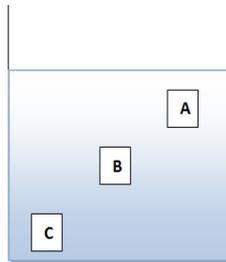
Two boys A and B are applying force on a block in opposite directions. If the block moves towards the right, which one of the following statements is correct?

- (a) Magnitude of force applied by A is greater than that of B.
- (b) Magnitude of force applied by A is smaller than that of B.
- (c) Net force on the block is towards A.
- (d) Magnitude of force applied by A is equal to that of B.

2. During dry weather, while combing hair, sometimes we experience hair flying apart. The force responsible for this is

- (a) force of gravity
- (b) electrostatic force
- (c) force of friction
- (d) magnetic force

3. The figure shows a container filled with water. Which of the following statements is correct about pressure of water?

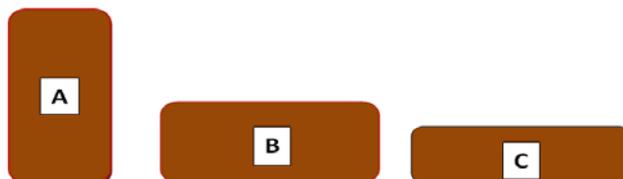


- (a) Pressure at A > Pressure at B > Pressure at C
- (b) Pressure at A = Pressure at B = Pressure at C
- (c) Pressure at A < Pressure at B > Pressure at C
- (d) Pressure at A < Pressure at B < Pressure at C

4. Which one of the following forces is a contact force?

- (a) force of gravity
- (b) force of friction
- (c) magnetic force
- (d) electrostatic force

5. A brick is kept in three different ways on a table as shown in fig. The pressure exerted by the brick on the table will be



- (a) maximum in position A  
(b) maximum in position B
- (c) maximum in position C  
(d) equal in all cases.

**6. A ball of dough is rolled into a flat chapatti. Name the force exerted to change the shape of the dough**

- (a) gravitational force  
(b) frictional force
- (c) magnetic force  
(d) muscular force

**7. A girl is pushing a box towards east direction. In which direction should her friend push the box so that it moves faster in the same direction?**

- (a) towards east  
(b) towards west
- (c) towards north  
(d) in perpendicular direction

**8. During dry weather, clothes made of synthetic fibre often stick to the skin. Which type of force is responsible for this phenomenon?**

- (a) force of gravity  
(b) electrostatic force
- (c) force of friction.  
(d) magnetic force.

**9. Fruits detached from a tree fall down due to force of gravity. We know that a force arises due to interaction between two objects. Name the objects interacting in this case.**

- (a) fruits and tree  
(b) tree and earth
- (c) earth and fruit  
(d) earth and moon

**10 Two women P and Q are of the same weight. Woman P wears sandals with pointed heels while the woman Q wears sandals with flat soles. Which one would feel more comfortable while walking on a sandy beach?**

- (a) P  
(b) Q
- (c) Does not matter  
(d) Both equal

**11. In the circuit of an electric bell, when the circuit is completed, the hammer strikes the gong. Which of the following force is responsible for the movement of hammer?**

- (a) gravitational force alone  
(b) electrostatic force alone
- (c) magnetic force alone  
(d) frictional force alone



**12 While walking on ice, one should take small steps to avoid slipping. This is because smaller steps ensure :**

- a) larger friction  
b) smaller friction
- c) larger normal force  
d) smaller normal force

**13. When your friend pushes your bike from behind, what will happen to the speed of the bike?**

- a) Speed decreases
- b) No change
- c) Speed increases
- d) None of the above

**14. We all know that there are different units to measure different quantities.**

<b>Quantity</b>	<b>Unit</b>
i) Mass	(A) Newton
ii) Velocity	(B) Pascal
iii) Force	(C) m/s
iv) Pressure	(D) Kg

**In the given columns, the correct match of quantities with their respective units will be**

- a) (i)-(B),(ii)-(A),(iii)-(D),(iv)-(C)
- b) (i)-(A),(ii)-(D),(iii)-(B),(iv)-(C)
- c) (i)-(B),(ii)-(A),(iii)-(C),(iv)-(D)
- d) (i)-(D),(ii)-(C),(iii)-(A),(iv)-(B)

**15. The proper example(s) to prove that force on an object may change its shape is /are**

- a) Making model using clay
- b) Pressing a rubber ball kept on table
- c) a ball of dough rolled into chapatti
- d) all off the above

**16. An example of a non-contact force is**

- a) force exerted by a magnet
- b) force exerted by us to lift a bucket
- c) push a stationary car
- d) hit a cricket ball for sixer

**17. Name the force that always opposes motion.**

- a) Electrostatic force
- b) magnetic force
- c) Frictional force
- d) muscular force

**18. Which of the following is not a type of force?**

- a) Muscular
- b) Magnetic
- c) Chemical
- d) Pulling a bucket of water from a well

**19. Force of friction between two bodies is \_\_\_\_\_.**

- a) parallel to contact surface
- b) perpendicular to contact surface
- c) inclined to contact surface
- d) a non contact force

**20. When we press the bulb of a dropper with its nozzle kept in water, air in dropper is seen to escape in form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to**

a) shape of rubber bulb

c) atmospheric pressure

b) pressure of water

d) gravity of the earth

## Answer Key (Chapter 11)

<b>Q</b>	<b>Ans.</b>	<b>Q.</b>	<b>Ans.</b>
<b>1</b>	<b>a</b>	<b>11</b>	<b>c</b>
<b>2</b>	<b>b</b>	<b>12</b>	<b>a</b>
<b>3</b>	<b>d</b>	<b>13</b>	<b>c</b>
<b>4</b>	<b>b</b>	<b>14</b>	<b>d</b>
<b>5</b>	<b>a</b>	<b>15</b>	<b>d</b>
<b>6</b>	<b>d</b>	<b>16</b>	<b>a</b>
<b>7</b>	<b>a</b>	<b>17</b>	<b>c</b>
<b>8</b>	<b>b</b>	<b>18</b>	<b>c</b>
<b>9</b>	<b>c</b>	<b>19</b>	<b>a</b>
<b>10</b>	<b>b</b>	<b>20</b>	<b>c</b>





## MCOs

**1. Whenever the surfaces in contact tend to move or move with respect to each other, the force of friction comes into play**

- (a) only if the objects are solid.
- (b) only if one of the two objects is liquid.
- (c) only if one of the two objects is gaseous.
- (d) irrespective of whether the objects are solid, liquid or gaseous.

**2. To sharpen the blade of a knife by rubbing it against a surface, which of the following will be most suitable?**

- (a) stone
- (b) plastic block
- (c) wooden block
- (d) glass block

**3. A toy car released with the same initial speed will travel farthest on**

- (a) muddy surface
- (b) cloth
- (c) cemented surface
- (d) brick surface

**4. A boy rolls a rubber ball on a wooden surface. The ball travels a short distance before coming to rest. To make the same ball travel longer distance before coming to rest, he may**

- (a) spread a carpet on the wooden surface.
- (b) cover the ball with a piece of cloth.
- (c) sprinkle talcum powder on the wooden surface.
- (d) sprinkle sand on the wooden surface.

**5. If we apply oil on door hinges, the friction will**

- (a) increase
- (b) decrease
- (c) disappear altogether
- (d) will remain unchanged

**6. Which of the following statements is incorrect?**

- (a) Friction acts on a ball rolling along the ground.
- (b) Friction acts on a boat moving on water.
- (c) Friction acts on a bicycle moving on a smooth road.
- (d) Friction does not act on a ball moving through air.

**7. The handle of a cricket bat or a badminton racquet is made usually rough in order to**

- a) Decrease friction between hand and handle
- b) increase friction between hand and handle
- c) look good
- d) increase price

**8. While travelling on a rickshaw, you might have experienced that if the seat cover is very smooth, you tend to slip when brakes are applied suddenly. This is because of**

- a) More friction between your body and smooth seat
- b) Less friction between your body and smooth seat
- c) Rickshaw puller is negligent
- d) Road is not smooth

**9. It is difficult to walk on any oily floor because**

- a) Force of friction is very less
- b) Force of friction is high
- c) There is more resistance
- d) Floor gets spoiled

**10. We often see treads on tyre according to the use of vehicle. For example tractor has more big treads on rear tyres as compared to other vehicles. These big treads are used to**

- a) look good
- b) Increase friction
- c) To increase its longevity
- d) To increase weight of the tyre

**11. Lubricants are substances which**

- a) Increases friction
- b) Are used to light fire
- c) Reduces friction
- d) Are used to put off fire

**12. Four children were asked to arrange forces due to rolling, static and sliding frictions in a increasing order. Their arrangements are given below. Choose the correct arrangement.**

- a) Rolling, Static, Sliding
- b) Static, Rolling, Sliding
- c) Rolling, sliding, static
- d) Sliding, Static, Rolling

**13. The sole of the shoes becomes plain after wearing it for several months. The reason is**

- a) Wearing out due to friction
- b) Wearing out due to no friction
- c) Sole is of bad quality
- d) None of the above

**14. The frictional force exerted by fluids is also called \_\_\_\_\_**

- a) drug
- b) drag
- c) drop
- d) drown

**15. Out of the following, the better lubricant to be used in the moving parts of a machine,**

- (a) water
- (b) air
- (c) chalk powder
- (d) turpentine oil

**16. Spikes are provided in the shoes of athlete:**

- a) for decoration
- b) to increase friction
- c) to decrease friction
- c) none of the above

**17. Which of the following is not a lubricant?**

- a) Air cushion
- c) Sand
- b) Graphite
- d) Powder

**18. Name the device which is used to reduce friction in the axles of cars and shafts of electric motors.**

- a) Screws
- c) Nuts
- b) Ball- bearings
- d) Bolts

**19. Powder is sprinkled on carom board for:**

- a) increasing friction
- c) decoration
- b) decreasing friction
- d) fragrance

**20. The writing on board with chalk is possible due to**

- a) Colour of board
- c) colour of chalk
- b) Friction between chalk and board
- d) none of these

## Answer Key (Chapter 12)

<b>Q</b>	<b>Ans.</b>	<b>Q.</b>	<b>Ans.</b>
<b>1</b>	<b>d</b>	<b>11</b>	<b>c</b>
<b>2</b>	<b>a</b>	<b>12</b>	<b>c</b>
<b>3</b>	<b>c</b>	<b>13</b>	<b>a</b>
<b>4</b>	<b>c</b>	<b>14</b>	<b>b</b>
<b>5</b>	<b>b</b>	<b>15</b>	<b>d</b>
<b>6</b>	<b>d</b>	<b>16</b>	<b>b</b>
<b>7</b>	<b>b</b>	<b>17</b>	<b>c</b>
<b>8</b>	<b>b</b>	<b>18</b>	<b>b</b>
<b>9</b>	<b>a</b>	<b>19</b>	<b>b</b>
<b>10</b>	<b>b</b>	<b>20</b>	<b>b</b>





## MCQs

1. A vibrating object produces sound in some cases; vibrations have such a amplitude that we cannot see them. However, we can feel them. Find the correct match of musical instruments with vibrating part producing sound.

Musical Instrument	Vibrating part producing sound
a) Tabla	Stretched string
b) Veena	Stretched membrane
c) Flute	Air-Column
d) Sitar	Air-Column

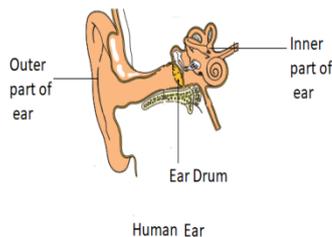
2. There are several musical instruments that are commonly used in different parts of our Country .One of the following is not an example of such instruments. Can you identify it?

- a)Manjira                      b) Tabla                      c) Mudpots(The nod)                      d) Tanjeera

3. When air has been removed completely from a vessel, it is said that there is a vacuum in the vessel. Find the correct Statement from the following.

- a)The Sound cannot travel through vacuum.  
b) The Sound can travel through vacuum.  
c) The Sound can partially travel through vacuum.  
d) The Sound can entirely travel through vacuum.

4. We hear different sounds through our ears .Ear has several parts which enable us to hear such sounds .Can you identify the part of ear which help us to hear by vibrating itself.



- a)Outer part of Ear                      b)Inner ear                      c)Eardrum                      d)None of the above.

**5. The number of oscillations per second is called the frequency Oscillation. Frequency is expressed in hertz (HZ). People can hear sounds at frequencies from \_\_\_\_\_ Hz to \_\_\_\_\_ Hz.**

- a) 10 Hz to 20,000 Hz                      b) 1000 Hz to 5000 Hz  
c) 20 Hz to 20000 Hz                      d) None of the above.

**6. Loudness of Sound is proportional to the square of the amplitude of the vibration producing the sound. Arrange the following sounds in ascending order in the degree of loudness.**

- 1 Normal breathing                      2 Soft Whisper (at 5m)  
3 Busy Traffic                              4 Normal conversation
- a) 4 3 2 1                                  b) 1 2 4 3  
c) 3 4 1 2                                  d) 1 2 3 4

**7. Even if the sound of a baby and sound of an adult are equally loud, they differ in the shrillness or pitch. The Pitch of sound depends upon.**

- a) Amplitude of the Vibration producing the sound.  
b) Frequency of the vibration producing the sound.  
c) Both of the above.  
d) None of the above.

**8. A Noise level of 100 decibel would correspond to**

- a) Just audible sound.  
b) Ordinary Conversation.  
c) Sound from a noisy street.  
d) Noise from a factory.

**9. Noise is most dangerous to the**

- (a) External ear              (b) Ear drum              (c) Inner ear              (d) Ear canal

**10. Which of the following statements are true?**

- I) Sound is a form of energy.  
II) Sound stops when vibration of an object stops.  
III) Sound is a transverse wave.  
IV) Sound travels better in a heavy gas than in a light gas.

- a) I and II                      b) I, II and III                      c) I, II and IV                      d) I and III.

**11. The quality of Sound depends upon the**

- I Size of the Vibrating body.
- II Material of the Vibrating body.
- III Overtones produced.
- IV Shape of the vibrating body.

(a) I,II and III. (b) I,II,III and IV. (c) I and II. (d) II,III and IV.

**12. Which property of Sound is used to quantify noise pollution?**

- a) Frequency                      b) Amplitude                      c) Pitch                      d) Time period.

**13. Decibel is a unit to measure.**

- a) Sound Depth                      b) Sound Intensity  
c) Sound wavelength                      d) All of the above.

**14. Noise Pollution can be prevented by**

- a) Stopping the blowing of all Hours.
- b) Banning all commercial loud speakers.
- c) Strict vigilance on noise limit.
- d) Cleaning sound emitting parts of automobiles.

**15. Sound of chirping of birds, the sound of rustling leaves is cherished by all of us. On the other hand unpleasant sounds are hated by all of us and are termed as noise. One of the following is not true for noise.**

- a) Plantation on the roadside and elsewhere can reduce noise pollution.
- b) Noise Pollution may pose health problems for human beings.
- c) Music can never become noise.
- d) None of the above.

**16. Shape of the outer part of the ear is like:**

- a) Cylinder                      b) Funnel                      c) Conic                      d) Pyramid

**17. A bird makes a.....pitched sound. Whereas a lion makes .....pitched roar.**

- a) High, High                      b) Low, Low                      c) Low, High                      d) High, Low

## Answer Key (Chapter 13)

<b>Q</b>	<b>Ans.</b>	<b>Q.</b>	<b>Ans.</b>
<b>1</b>	<b>c</b>	<b>11</b>	<b>b</b>
<b>2</b>	<b>d</b>	<b>12</b>	<b>c</b>
<b>3</b>	<b>a</b>	<b>13</b>	<b>b</b>
<b>4</b>	<b>c</b>	<b>14</b>	<b>c</b>
<b>5</b>	<b>c</b>	<b>15</b>	<b>c</b>
<b>6</b>	<b>b</b>	<b>16</b>	<b>b</b>
<b>7</b>	<b>b</b>	<b>17</b>	<b>d</b>
<b>8</b>	<b>d</b>		
<b>9</b>	<b>b</b>		
<b>10</b>	<b>c</b>		





## MCOs

1. The process of depositing a layer of any desired metal on another material by means of electricity is called electroplating. Electroplating is used to protect a desired metal. So, in order to protect iron from corrosion and formation of rust coating of \_\_\_\_\_ is done.

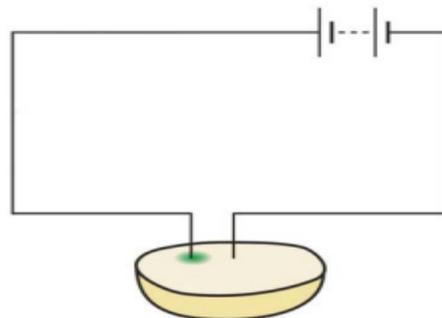
- a) Copper (Cu)                      b) Silver (Ag)                      c) Gold (Au)                      d) Zinc (Zn)

2. In distilled water, there are no impurities & no ions; there are only neutral (no charge) water molecules. Can you guess whether distilled water will change its characteristic on adding salt in it or not.

- a) Yes, it will become good conductor of electricity  
b) No, it will remain same i.e. bad conductor of electricity  
c) It will remain same i.e. good conductor of electricity  
d) None of the above.

3. In 1800, a British chemist \_\_\_\_\_ had shown that if electrodes were immersed in water and a current was passed, bubbles of oxygen and hydrogen were produced. Identify the chemist

- a) William Harvey  
b) Volta  
c) William Nicholson  
d) Pluto



4. In the setup shown a halved cut potato has two copper wires of a tester inserted into it. The wire connected to \_\_\_\_\_ terminal had a greenish blue spot around it.

- a) Positive terminal  
b) Negative terminal  
c) Both terminal  
d) None of the above  
e)

5. LEDs (Light Emitting Diodes) are available in many colours. Such as red, green, yellow, blue, white and are increasingly being used for many application. The following is true for them.

- a) They consume less electricity as compared to bulb and fluorescent tubes  
b) They contain mercury  
c) They are less costly than CFL  
d) None of the above

**6. An electric current can produce**

- a) heating effect only.
- b) chemical effect only.
- c) magnetic effect only.
- d) chemical, heating, and magnetic effects.

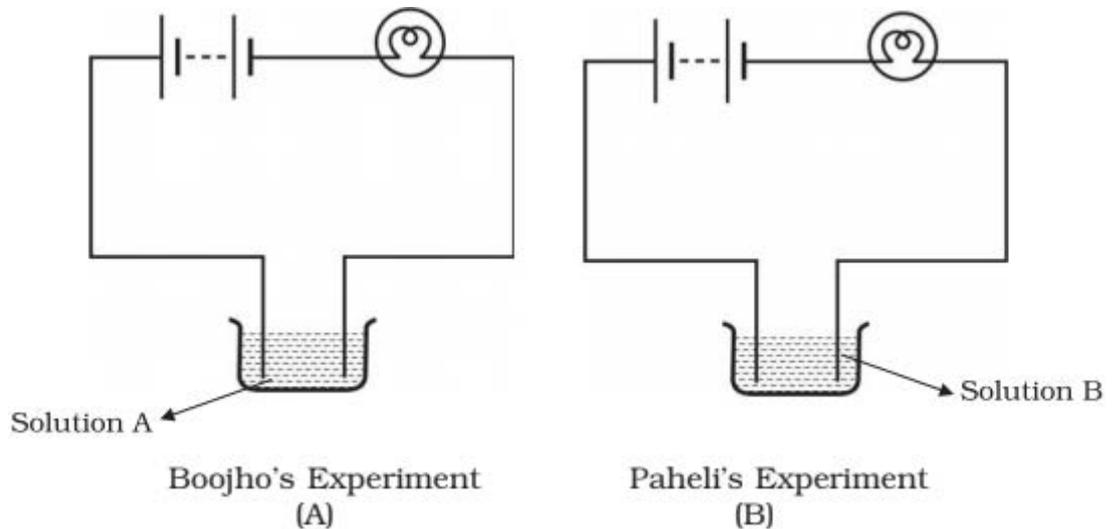
**7. Copper wires are generally used for electrical power transmission instead of iron wires because**

- a) Copper is better conductor than iron
- b) Copper is cheaper than iron
- c) Copper can take higher power than iron
- d) Copper is lighter than iron

**8. Some materials allow electric current to pass through them while some materials offer resistance to it. The materials which offer resistance to electronic current to pass through them are termed as poor conductor of electricity. One of the following materials is an example of a poor conductor of electricity.**

- a) Silver
- b) Lead
- c) Copper
- d) Aluminium

9. Boojho and Paheli performed experiments taking similar bulbs and cells but two different solutions A and B as shown in They found that the bulb in the setup A glows more brightly as compared to that of the setup B. You would conclude that



- a) higher current is flowing through the circuit in setup A.
- b) higher current is flowing through the circuit in setup B.
- c) equal current is flowing through both the circuits.
- d) the current flowing through the circuits in the two setups cannot be compared in this manner.

**10. Boojho's uncle has set up an electroplating factory near his village. He should dispose off the waste of the factory**

- a) in the nearby river.
- b) in the nearby pond.
- c) in the nearby cornfield.
- d) according to the disposal guidelines of the local authority.

**11. When electric current is passed through a conducting solution there is a change of colour of the solution. This indicates**

- a) the chemical effect of current.
- b) the heating effect of current.
- c) the magnetic effect of current.
- d) the lightning effect of current.

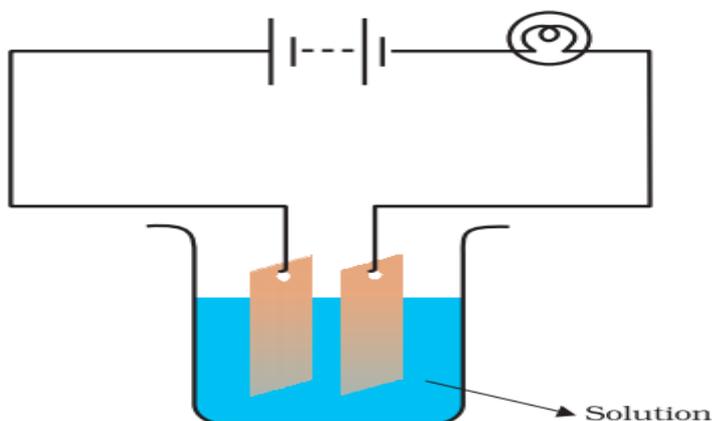
**12. Which one of the following solutions will not conduct electricity?**

- (a) lemon juice (b) tap water (c) vinegar (d) vegetable oil

**13. Which of the following metals is used in electroplating to make objects appear shining?**

- (a) iron (b) copper (c) chromium (d) aluminium

**14. Which of the following solutions will not make the bulb glow?**



- (a) sodium chlorides
- (b) copper sulphate
- (c) silver nitrate
- (d) sugar solution in diluted water

## Answer Key (Chapter 14)

<b>Q</b>	<b>Ans.</b>	<b>Q.</b>	<b>Ans.</b>
<b>1</b>	<b>d</b>	<b>11</b>	<b>a</b>
<b>2</b>	<b>a</b>	<b>12</b>	<b>d</b>
<b>3</b>	<b>c</b>	<b>13</b>	<b>c</b>
<b>4</b>	<b>a</b>	<b>14</b>	<b>d</b>
<b>5</b>	<b>a</b>		
<b>6</b>	<b>d</b>		
<b>7</b>	<b>a</b>		
<b>8</b>	<b>b</b>		
<b>9</b>	<b>a</b>		
<b>10</b>	<b>d</b>		





## MCQs

1. Unlike charges attract each other while like charges repel each other. Look at the picture given below and find the correct option:

a)				
b)				
c)				
d)				

2. Go through the statements provided below

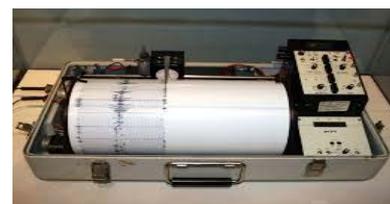
- A charged balloon repels a charged balloon.
- A charged refill repelled by a charged refill.
- But a charged balloon attracts a charged refill.

Which of the following statement(s) provided is/are correct?

- Charges on both balloon and refill are similar in nature i.e. like charges.
- Charges on both balloon and refill are different in nature i.e. unlike charges.
- Charge on balloon is more than that of refill.
- Charges on refill are more than that of balloon.

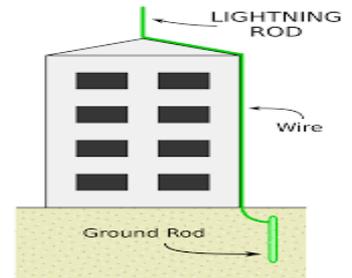
3. Instrument shown in the picture is used to record waves produced as result of tremors of earthquake. Identify the instrument.

- |                     |                  |
|---------------------|------------------|
| a) Earthquake meter | b) Altimeter     |
| c) Seismograph      | d) Richter scale |



**4. The device shown in the diagram is known as Lightning Conductor. The purpose of the lightning conductor is :**

1. to provide easy route for transfer of electric charge to ground.
2. to provide electricity to the house.
3. to give light during night time.
4. to protect building from the effect of lightning.



**Identify the correct option**

- |           |           |
|-----------|-----------|
| a) 1 only | b) 2 only |
| c) 1 & 3  | d) 1 & 4  |

**5. An earthquake is a sudden shaking or trembling of earth which lasts for a very short interval of time. Reason(s) for an earthquake is/are:**

1. Movement of Plates
2. Volcano eruption
3. Underground nuclear explosion
4. All of above

**6. On Richter Scale an increase of 2 in magnitude means 1000 times more energy. Therefore, an earthquake of magnitude ..... has thousand destructive energy than an earthquake of magnitude 4.**

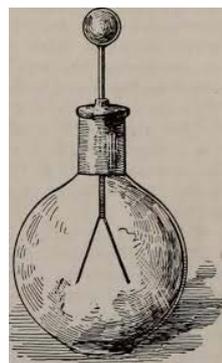
- |      |      |      |      |
|------|------|------|------|
| a) 8 | b) 1 | c) 6 | d) 4 |
|------|------|------|------|

**7. When a glass rod is rubbed with a piece of silk cloth the rod**

- a) and the cloth both acquire positive charge.
- b) Becomes positively charged while the cloth has a negative charge.
- c) and the cloth both acquire negative charge.
- d) becomes negatively charged while the cloth has a positive charge.

**8. Identify the device shown in the picture**

- |                  |                 |
|------------------|-----------------|
| a) Electroscope  | b) Telescope    |
| c) Electric Bulb | d) Spectroscope |



**9. An electroscope is a device which is used to find if an object is**

- (a) charged                      (b) magnetic                      (c) free of cracks                      (d) hot

**10. Electric current is to be passed from one body to another. For this purpose the two bodies must be joined by**

- (a) cotton thread                      (b) plastic string                      (c) copper wire                      (d) rubber band

**11. The movement of the earth's plates causes**

- (a) cyclones                      (b) lightning                      (c) earthquakes                      (d) thunderstorms

**12. Two charged objects are brought close to each other. Choose the most appropriate statement from the following options:**

- (a) they may attract  
(b) they may repel  
(c) they may attract or repel depending on the type of charges they carry  
(d) there will be no effect

**13. Which of the following is not likely to cause Tsunami?**

- (a) A major nuclear explosion under sea  
(b) Earthquake  
(c) Volcanic eruption  
(d) Lightning

**14. 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

**15. The outermost layer of earth is called**

- (a) mantle                      (b) outer core                      (c) crust                      (d) inner core

**16. Consider the list of terms given below:**

- (i) Seismic Zone                      (ii) Fault Zone                      (iii) Mantle                      (iv) Inner Core

**The boundaries of the earth's plate are known as**

- (a) (i) & (ii)                      (b) (i) & (iii)  
(c) (iii) & (iv)                    (d) (ii), (iii) & (iv)

**17. Major earthquakes are less likely to occur in**

- (a) North East India                (b) Rajasthan  
(c) Rann of Kutch                  (d) Orissa

**18. Consider the list of terms given below**

- (i) Tsunami                      (ii) Floods                      (iii) Landslide                      (iv) Lightning

**Earthquakes can cause**

- (a) (i), (ii) & (iii)                (b) (ii) & (iv)  
(c) (ii), (iii) & (iv)                (d) (iii) & (iv)

## Answer Key (Chapter 15)

<b>Q</b>	<b>Ans.</b>	<b>Q.</b>	<b>Ans.</b>
<b>1</b>	<b>d</b>	<b>11</b>	<b>c</b>
<b>2</b>	<b>b</b>	<b>12</b>	<b>c</b>
<b>3</b>	<b>c</b>	<b>13</b>	<b>d</b>
<b>4</b>	<b>d</b>	<b>14</b>	<b>a</b>
<b>5</b>	<b>d</b>	<b>15</b>	<b>c</b>
<b>6</b>	<b>c</b>	<b>16</b>	<b>a</b>
<b>7</b>	<b>b</b>	<b>17</b>	<b>d</b>
<b>8</b>	<b>a</b>	<b>18</b>	<b>a</b>
<b>9</b>	<b>a</b>		
<b>10</b>	<b>c</b>		





## MCOs

1. Paheli had three mirrors. She found that when these mirrors are arranged in the form of a triangle, multiple images are seen. Name the arrangement that she has formed:

- a) Microscope
- b) Telescope
- c) Kaleidoscope
- d) periscope

2. At the barber shop or hairdresser, you must have seen extreme number of multiple images. This effect is known as “Barber-shop effect”. What is the orientation of two mirrors with respect to each other?

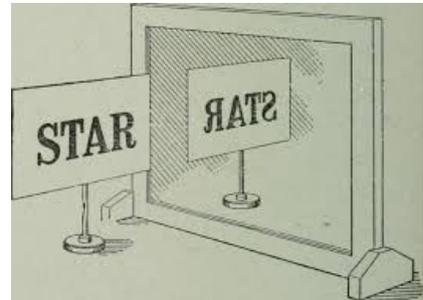
- a) Perpendicular to each other
- b) parallel
- c)  $120^\circ$
- d) none of these

3. Raju is standing in front of a plane mirror. A plane mirror forms a virtual image. The distance of the image of the object behind the mirror is same as that the distance of object in front of the mirror. Raju is at a distance of 1m from the mirror. At what distance is he from his image.

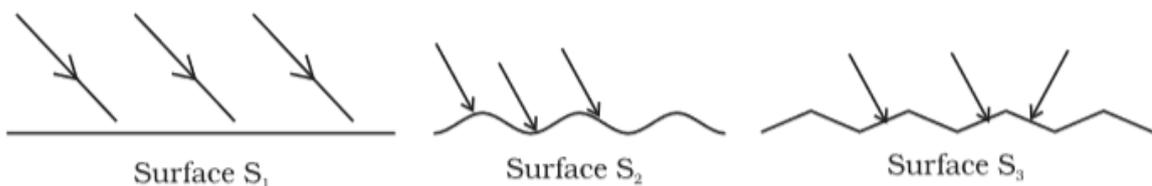
- a) 1 m
- b) 2 m
- c) 3 m
- d) 5 m

4. When we stand in front of our dressing table, our left hand seems to be right and right hand seems to be left. This is called

- a) Left- Right confusion
- b) Up-side down phenomenon
- c) Mirage
- d) Lateral inversion



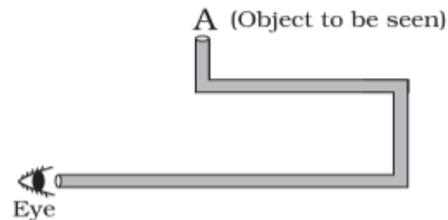
5. Light is falling on surfaces S1, S2 and S3 as shown in figure



Surface on which the angle of incidence is equal to the angle of reflection is/ are

- a) Only S1                      b) S1 and S2                      c) S1 and S3                      d) All the three surfaces

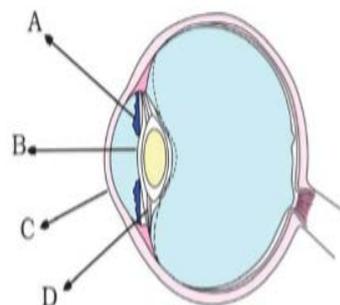
6. Boojho planned an activity to observe an object A through pipes as shown in Figure.



How many mirrors should he use to see the objects?

- a) 1                      b) 2                      c) 3                      d) 4

7. In the figure of the human eye, the cornea is represented by:



- a) A                      b) B                      c) C                      d) D

8. A ray of light is incident on a plane surface at an angle  $\angle i$ , it get reflected (bounce back) at a certain angle  $\angle r$ . What is the relation between the two angles?

- a)  $\angle i = \angle r$                       b)  $\angle i > \angle r$                       c)  $\angle i < \angle r$                       d)  $\angle i + \angle r = 0$

9. Teacher asked four students A,B,C,D to perform an activity to prove the law of reflection through plane mirror. They performed the experiment and recorded following observations.

Student	Observation	Result
A	$\angle i = 35^\circ$ , $\angle r = 42^\circ$	$\angle i < \angle r$
B	$\angle i = 30^\circ$ , $\angle r = 30^\circ$	$\angle i = \angle r$
C	$\angle i = 45^\circ$ , $\angle r = 60^\circ$	$\angle i < \angle r$
D	$\angle i = 30^\circ$ , $\angle r = 20^\circ$	$\angle i > \angle r$

The correct result is obtained by the student

- a) A                      b) B                      c) C                      d) D

10. Rajesh's grandfather is 75 years old. His eyesight has become foggy. They went to a doctor. Doctor told them that his eye lens has become cloudy. What may be the cause of such condition?

- a) Eye flue                      b) Colour blindness                      c) Red eyes                      d) cataract

**11. Ramesh gifted a Braille kit to his differently able friend (Visually impaired). Who was the person to develop the Braille language for visually challenged people?**

- a) Blaise Pascal
- b) Louis Braille
- c) Thomas Alva Edison
- d) Edward Jenner

**12. Animals have eyes shaped in different ways. A Butterfly has large eyes that seem to be made up of thousands of little eyes. These eyes are known as compound eyes. What is the advantage of having compound eyes?**

- a) They can see in front
- b) They can see all sides
- c) They can see back as well
- d) all of above

**13. Eyes can be donated by any person as an invaluable gift to visually challenged persons suffering from corneal blindness. The person may be**

- 1. a male or female
- 2. of any age
- 3. Using spectacles
- 4. Suffering from AIDS

**Which of the given options is/are correct?**

- a) 1
- b) 2
- c) 1, 2 & 3
- d) 4

**14. Rainbow is a natural phenomenon in which we see a beautiful pattern of colours. What is the phenomenon called?**

- a) Reflection
- b) Dispersion
- c) Lateral inversion
- d) Recombination

**15. The objects which give their own light are known as luminous objects. Which of the following is luminous object?**

- a) Moon
- b) Earth
- c) Radium
- d) Sun

**16. Amy has green coloured eyes. Which part of her eye is green?**

- a) Pupil
- b) cornea
- c) Retina
- d) Iris

**17. We can see beautiful colours around us. Which cells are the present in eyes to sense colours?**

- a) Rods
- b) Cones
- c) angles
- d) Triangles

## Answer Key (Chapter 16)

<b>Q</b>	<b>Ans.</b>	<b>Q.</b>	<b>Ans.</b>
<b>1</b>	<b>c</b>	<b>11</b>	<b>b</b>
<b>2</b>	<b>b</b>	<b>12</b>	<b>d</b>
<b>3</b>	<b>b</b>	<b>13</b>	<b>c</b>
<b>4</b>	<b>d</b>	<b>14</b>	<b>b</b>
<b>5</b>	<b>d</b>	<b>15</b>	<b>d</b>
<b>6</b>	<b>c</b>	<b>16</b>	<b>d</b>
<b>7</b>	<b>c</b>	<b>17</b>	<b>b</b>
<b>8</b>	<b>a</b>		
<b>9</b>	<b>b</b>		
<b>10</b>	<b>d</b>		





## MCQs

**1. The moon is the brightest object in the night sky. The stars, the planets, the moon and many other objects in the sky are called**

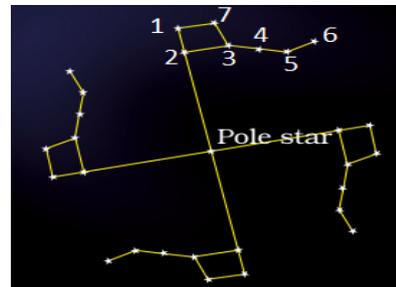
- a) solar system    b) celestial objects    c) constellations    d) asteroids

**2. On July 21, 1969 the American astronaut landed on the moon for the first time. He was**

- 1) Rakesh Sharma    2) Edwin Aldrin  
3) Neil Armstrong    4) Yuri Gagarin

**3. Bujho heard that pole star can be located with the help of Ursa Major. Pole stars can be located from**

- 1) star 1, 2    2) star 3,4  
3) star 4, 5    4) star 3,2



**4. Till 2006 there were nine planets in solar system. In 2006, the International Astronomical union adopted a new definition of a planet. Which planets does not fit in this definition**

- a) Jupiter    b) Neptune    c) Pluto    d) Saturn

**5. Ravi is 15 year old, how many times have Ravi gone round the sun?**

- a) 15 times    b) 5 times    c) 10 times    d) times

**6. Many comets appear periodically. The comet that appear after 76 years is called:**

- a) Halley    b) Neil Armstrong    c) Kalpana    d) Aryabhata

**7. Ravi was watching direct telecast of football match from Russia. He was very curious to know how the match could be seen at home on LED at the same time. His father told him that it is due to transmission by**

- a) Moon    b) Sun    c) artificial satellite    d) natural satellite

**8. The sun appears to move from east to west around the earth. This means that earth rotates from**

- a) East to West    b) West to East    c) North to South    d) West to North

**9. An astronaut standing on the surface of the moon throws a ball upwards. The ball would**

- a) Directly fall down
- b) hang in space
- c) go up and then , come to the surface of the moon
- d) keep going up never to come back

**10. Artificial satellites have many practical application. They are used for forecasting weather, transmitting television and radio signals and remote sensing. What is the meaning of remote sensing?**

- a) Revolve around moon
- b) collecting information from distance
- c) Revolve around sun
- d) None of above.

**11. Only on two days in a year, the sun rise exactly in the east. On all other days, the sun rise either north of east or south of east. The two days are**

- a) 23 June and 23 July
- b) March 21 and September 23
- c) December 25 and June 25
- d) April 12 and March 12

**12. We have learn that sound cannot travel when there is no medium. Then how can we hear any sound on the moon?**

- a) Through dust
- b) Through microphone
- c) Through Vacuum
- d) Through surface

**13. Suppose a new planet is discovered between Uranus and Neptune its time period would be**

- a) Less than that of Neptune
- b) more than that of Neptune
- c) equal to that of Neptune or Uranus
- d) Less than that of Uranus

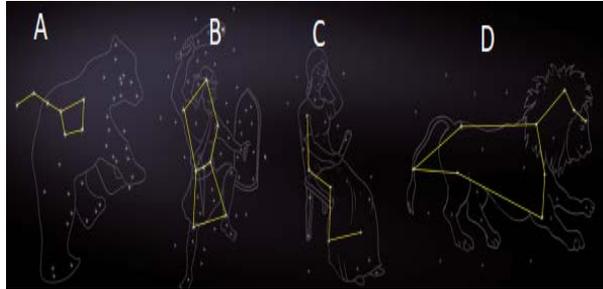
**14. Geeta and Ram observe a bright object in the night sky which was not twinkling. Geeta says it is a star and Ram it is a planet. Who is correct?**

- a) Geeta
- b) Ram
- c) Both
- d) None of these

**15. The change in seasons on earth occurs because**

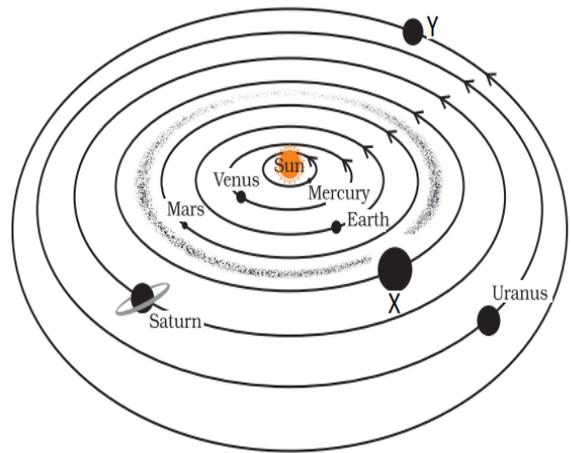
- a) the distance between Sun and Earth is not constant
- b) the axis of rotation of the earth is parallel to the plane of its axis
- c) the axis of rotation of the earth is perpendicular to the plane of its axis
- d) the axis of rotation of the earth is tilled with respect to the plane of its orbit

16. You can easily identify some constellations in the night sky. For this you should know how a particular constellation looks like. One of the most famous constellations which you can see during winter is Orion .Identify Orion from the picture given.



17. The sun and the celestial bodies which revolve around it, form the solar system. Identify the planets X and Y

- a) X-Jupiter, Y-Pluto
- b) X- Alpha Sanctuary, Y- Neptune
- c) X-Jupiter, Y- Neptune
- d) X-Neptune, Y Jupiter



## Answer Key (Chapter 17)

Q	Ans.	Q.	Ans.
1	b	11	b
2	c	12	b
3	a	13	a
4	c	14	b
5	a	15	d
6	a	16	b
7	c	17	c
8	b		
9	c		
10	b		





## MCQs

**1. The industries located near Agra specially Mathura oil refinery was found responsible for producing pollution in air which was discolouring white marble of the Taj Mahal. The gases from these factories react with water vapour to form acid rain. Name the gases responsible for discolouring the Taj Mahal**

- a) Carbon dioxide and carbon monoxide
- b) Sulphur dioxide and Nitrogen dioxide
- c) Hydrogen and CFC s
- d) Carbon monoxide and water vapour

**2. Air is contaminated by unwanted substances which has harmful effect on both living and non living things. It is referred to as**

- a. fog      b. Smog      c. Air pollution      d. Acid rain

**3. Ram is very happy that he is also having electronic and electrical gadgets like refrigerators, air conditioner etc. But he didn't know that these gadgets release pollutants causing depletion of Ozone Layer, the main pollutant released by them is**

- a. LPG      b. CNG      c. CFC      d. Co<sub>2</sub>

**4. The trapping of radiations by some gases in earth atmosphere is called greenhouse effects which of the following is not a green house gas**

- a) Carbon dioxide      b) Methane      c) water vapours      d) oxygen

**5. CO<sub>2</sub> is continuously being released because of human activities. Human activities that contribute to the accumulation of CO<sub>2</sub> in atmosphere are**

- 1) Reforestation      2) Deforestation  
3) Both of the above      4) None of the above

**6. Air is a mixture of various gases. One of the gases is 21% part of air and is essential for survival of human beings. This gas is**

- a) Nitrogen      b) Oxygen      c) Ozone      d) Argon

**7. Trees help in reducing the pollution of our environment. Lakhs of trees are planted by people in the month of July every year. This occasion is called**

- a) forest conservation day      b) Van Mahotsav  
c) Plantation month      d) wildlife week

**8. When sewerage from big cities is discharged into water streams, the organic nutrients in the sewerage help bacteria grow fast. Because of this increased activity, the air dissolved in water becomes**

- a) poor in CO<sub>2</sub>                      b) poorer in O<sub>2</sub>                      c) Richer in CO<sub>2</sub>                      d) Richer in O<sub>2</sub>

**9. A lot of dry leaves are collected in school garden and are burnt every day. Do you think that it is right to do? If not what should be done for**

- a) production of manure  
b) production of fodder by grinding  
c) Both  
d) None of above

**10. There is a layer of gas in the atmosphere at about 24 km above the earth's surface. This layer plays an important role and protects life on the earth by filtering out harmful ultraviolet radiations from sunlight. Name the gas**

- a) NO                      b) NO<sub>2</sub>                      c) SO<sub>3</sub>                      d) O<sub>3</sub>

**11. Have you seen ponds which look green from a distance because they have a lot of**

- a) Fungai grown                      b) algae grown  
c) garbage deposited                      d) green colour spread

**12. The growth of algae in ponds to form a green layer is due to**

- a) Quantities of garbage                      b) extensive quantities of chemicals from fields  
c) Plantation in ponds                      d) Due to leaves in ponds

**13. Paheli explains that water which looks clean may still have disease carrying microorganisms and dissolved impurities so it is essential to purify water before drinking. Water which is suitable for drinking is called**

- a) River water                      b) Ocean water  
c) Potable water                      d) Tap water

**14. Vehicles produce high level of pollutants like carbon monoxide, carbon dioxide, nitrogen oxide and smoke out of these which gas is produced from incomplete burning of fuels**

- a) Carbon dioxide                      b) Carbon monoxide  
c) Nitrogen oxide                      d) None of these.

**15. Boojho remembers seeing a thick fog like layer in the atmosphere in winter. This is smog which is made up of**

- a) Nitrogen and smoke
- b) water and carbon dioxide
- c) smoke and fog
- d) None of these

## Answer Key (Chapter 18)

<b>Q</b>	<b>Ans.</b>	<b>Q.</b>	<b>Ans.</b>
<b>1</b>	<b>b</b>	<b>11</b>	<b>b</b>
<b>2</b>	<b>c</b>	<b>12</b>	<b>b</b>
<b>3</b>	<b>c</b>	<b>13</b>	<b>c</b>
<b>4</b>	<b>d</b>	<b>14</b>	<b>b</b>
<b>5</b>	<b>b</b>	<b>15</b>	<b>c</b>
<b>6</b>	<b>b</b>		
<b>7</b>	<b>b</b>		
<b>8</b>	<b>b</b>		
<b>9</b>	<b>c</b>		
<b>10</b>	<b>d</b>		