

SELECTION

8

SCIENCE

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SELECTION

8

SCIENCE

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SELECTION 8 SCIENCE

2

TABLE OF CONTENTS**TABLE OF CONTENTS**

| UNIT | TITLE | PAGE |
|-------------|---|-------------|
| 1. | Measurement | 3 |
| 2 | Force and Pressure | 10 |
| 3 | Light | 19 |
| 4 | Heat | 25 |
| 5 | Electricity | 32 |
| 6 | Sound | 40 |
| 7 | Magnetism | 47 |
| 8 | Universe and Space Science | 52 |
| 9 | Matter around us | 57 |
| 10 | Changes around us | 63 |
| 11 | Air | 71 |
| 12 | Atomic Structure | 76 |
| 13 | Water | 83 |
| 14 | Acids and Bases | 90 |
| 15 | Chemistry in Everyday Life | 96 |
| 16 | Microorganisms | 103 |
| 17 | Plant Kingdom | 111 |
| 18 | Organisation of Life | 119 |
| 19 | Movements in Animals | 127 |
| 20 | Reaching the Age of Adolescence | 136 |
| 21 | Crop Production and Management | 143 |
| 22 | Conservation of Plants and Animals | 150 |
| 23 | Libre Office Calc | 159 |

UNIT - 1 MEASUREMENT

TEXT BOOK EXERCISES

I. Choose the best answer.

1. Which one the following system of unit is the British System of unit?

- a) CGS b) MKS
c) FPS d) SI

Ans : c) FPS

2. Electric current is a _____ quantity.

- a) base b) supplementary
c) derived d) professional

Ans : a) base

3. SI unit of temperature is.

- a) celsius b) fahrenheit
c) kelvin d) ampere

Ans : c) kelvin

4. Luminous intensity is the intensity of _____.

- a) laser light b) UV light
c) visible light d) IR light

Ans : c) visible light

5. Closeness of two or more measured values is called as _____.

- a) accuracy b) precision
c) error d) approximation

Ans : b) precision

6. Which one of the following statement is wrong?

- a) Approximation gives accurate value.
b) Approximation simplifies the calculation.
c) Approximation is very useful when little information is available.
d) Approximation gives the nearest value only.

Ans : a) Approximation gives accurate value.

II. Fill in the blanks.

1. The solid angle is measured in _____.

Ans : steradian

2. The coldness or hotness of a substance is expressed by _____.

Ans : temperature

3. _____ is used to measure electric current.

Ans : Ammeter

4. One mole of a substance contains _____ atoms or molecules.

Ans : 6.023×10^{23}

5. The uncertainty in measurement is called as _____.

Ans : errors

6. The closeness of the measured value to the original value is _____.

Ans : Accuracy

7. The intersection of two straight lines gives us _____.

Ans : plane angle

III. State true or false. If false, correct the statement.

1. Temperature is a measure of total kinetic energy of the particles in a system.

Ans : False. Temperature is a measure of average kinetic energy of the particles in a system.

2. If one coulomb of charge is flowing in one minute, it is called 'ampere'.

Ans : False. If one coulomb of charge is flowing in one second, it is called 'ampere'.

3. Amount of substance gives the number of particles present in a substance.

Ans : True.

4. Intensity of light coming from a candle is approximately equal to one 'candela'.

Ans : True

SELECTION 8 SCIENCE

4

UNIT 1

5. Quartz clocks are used in GPS devices.

Ans : False. **Atomic clocks** are used in GPS devices.

6. Angle formed at the top of a cone is an example for 'plane angle'.

Ans : False. Angle formed at the top of a cone is an example for '**solid angle**'.

7. The number 4.582 can be rounded off as 4.58.

Ans : True

IV. Match the following.

| | | |
|----|-------------|--|
| 1. | Temperature | Closeness to the Actual Value |
| 2. | Plane Angle | Measure of hotness or coldness |
| 3. | Solid Angle | Closeness to two or more measurements |
| 4. | Accuracy | Angle formed by the intersection of three or more planes |
| 5. | Precision | Angle formed by the intersection of two planes |

Ans :

| | | |
|----|-------------|--|
| 1. | Temperature | Measure of hotness or coldness |
| 2. | Plane Angle | Angle formed by the intersection of two planes |
| 3. | Solid Angle | Angle formed by the intersection of three or more planes |
| 4. | Accuracy | Closeness to the Actual Value |
| 5. | Precision | Closeness to two or more measurements |

V. Consider the statements given below and choose the correct option.

1. **Assertion:** The SI system of units is the suitable system for measurements.

Reason: The SI unit of temperature is kelvin.

- Both assertion and reason are true and reason is the correct explanation of the assertion.
- Both assertion and reason are true but reason is not the correct explanation of the assertion.
- Assertion is true, but reason is false.
- Both assertion and reason are false.

Ans : b) Both assertion and reason are true but reason is not the correct explanation of the assertion.

2. **Assertion:** Electric current, amount of substance, luminous Intensity are the fundamental physical quantities.

Reason: They are independent of each other.

- Both assertion and reason are true and reason is the correct explanation of the assertion.
- Both assertion and reason are true but reason is not the correct explanation of the assertion.
- Assertion is true, but reason is false.
- Both assertion and reason are false.

Ans : c) Assertion is true, but reason is false.

3. **Assertion:** Radian is the unit of solid angle.

Reason: One radian is the angle subtended at the centre of a circle by an arc of length equal to its radius.

- Both assertion and reason are true and reason is the correct explanation of the assertion.

SELECTION 8 SCIENCE

6

UNIT 1

6. Define - Mole.**Ans :**

- ★ Mole is defined as the amount of substance, which contains 6.023×10^{23} entities.

7. What are the differences between Plane angle and solid angle?**Ans :**

| S.No. | Plane Angle | Solid Angle |
|-------|---|--|
| 1. | It is the angle made at the point of intersection of two lines or planes. | It is the angle by the intersection of three or more planes at a common point. |
| 2. | It is two dimensional. | It is three dimensional. |
| 3. | Its unit is radian. | Its unit is steradian. |

VIII. Answer in detail.**1. List out the base quantities with their units.****Ans : Base quantities and units.**

| Quantity | Unit | Symbol |
|---------------------|----------|--------|
| Length | metre | m |
| Mass | kilogram | kg |
| Time | second | s |
| Temperature | kelvin | K |
| Electric Current | ampere | A |
| Amount of Substance | mole | mol |
| Luminous Intensity | candela | cd |

2. Write a short note on different types of clocks.**Ans : (A) Types of clock based on display :****1. Analog clocks :**

- ★ It has three hands to show the time.

(i) Hours Hand:

- ★ It is short and thick. It shows 'hour'.

(ii) Minutes Hand:

- ★ It is long and thin. It shows 'minute'.

(iii) Seconds Hand:

- ★ It is long and very thin. It shows 'second'.
- ★ It makes one rotation in one minute and 60 rotations in one hour.

2. Digital clocks:

- ★ Displays the time directly.
- ★ Shows the time in numerals or other symbols.
- ★ It may have 12 hours or 24 hours display.

(B) Types of clock based on working mechanism :**1. Quartz clock:**

- ★ Activated by 'electronic oscillations', which are controlled by a 'quartz crystal'.
- ★ The frequency of a vibrating crystal is very precise.
- ★ Accuracy of one second in every 10^9 seconds.

SELECTION 8 SCIENCE

7

UNIT 1

2. Atomic clock :

- ★ Periodic vibrations occurring within the atom.
- ★ Accuracy of one second in every 10^{13} seconds.

IX. Higher Order Thinking Question.

Your friend was absent to school yesterday. You are enquiring about his absence. He told that he had fever and it was measured to be 100°C . Is it possible to have 100°C fever? If he is wrong, try to make him understand.

Ans :

- ★ It is not possible of 100°C fever.
- ★ Clinical thermometers used by physicians are graduated in Fahrenheit scale.
- ★ So, he has to say 100°F .

Additional Questions and Answers**I. Choose the best answer :****1. SI unit of amount of substance is**

- a) metre b) second
c) mole d) kelvin

Ans : c) mole**2. SI unit of electric current is**

- a) metre b) ampere
c) second d) mole

Ans : b) ampere**3. Luminous intensity is measured by**

- a) thermometer b) ammeter
c) photometer d) ohmmeter

Ans : c) photometer**4. SI unit of luminous intensity is.....**

- a) Radian b) Lumen
c) Steradian d) Candela

Ans : b) Lumen**5. SI unit of plane angle is.....**

- a) Radian b) Lumen
c) Steradian d) Candela

Ans : a) Radian**6. SI unit of Length is**

- a) kilogram b) mole
c) metre d) second

Ans : c) metre**7. SI unit of Mass is**

- a) mole b) kilogram
c) second d) ampere

Ans : b) kilogram**8. SI unit of Time is**

- a) kilogram b) mole
c) ampere d) second

Ans : d) second**9. SI unit of luminous intensity is**

- a) radian b) lumen
c) steradian d) candela

Ans : d) candela**10. Greenwich Mean Time is measured at the longitude of degree.**

- a) 15 b) 82.55
c) 0 d) 10

Ans : c) 0**II. Fill in the blanks.**

1. The number 6.023×10^{23} is also known as..... **Ans : Avogadro Number**
2. The Earth is divided in to time zones. **Ans : 24**

SELECTION 8 SCIENCE

8

UNIT 1

3. Indian Standard Time (IST) = Greenwich Mean Time(GMT) +

Ans : 5 : 30 hours

4. Electric charge is measured in

Ans : coulomb

5. is the measure of the perceived power of light.

Ans : Luminous flux or Luminous power

III. Very short Answer:**1. What is accuracy?**

Ans :

★ Accuracy is the closeness of a measured value to the actual value.

2. What is precision?

Ans :

★ Precision is the closeness of two or more measurements to each other.

IV. Short Answer:**1. What is Temperature?**

Ans :

★ Temperature is a physical quantity that expresses the degree of hotness or coldness of a substance.

★ It's SI unit is kelvin.

V. Numerical problems.

1. If 5 coulomb of charge flows through a circuit for 10 seconds, calculate the current.

Solution :

$$\begin{aligned} \text{Charge (Q)} &= 5\text{C} \\ \text{Time (t)} &= 10\text{S} \\ \text{Current (I)} &= \frac{Q}{t} \\ I &= \frac{5}{10} = 0.5\text{A} \end{aligned}$$

Current, $I = 0.5\text{A}$

2. Convert 90° into radian.

Solution :

$$\begin{aligned} 1^\circ &= \frac{\pi}{180} \\ 90^\circ &= \frac{\pi}{180} \times 90 = \frac{\pi}{2} \text{radian} \\ 90^\circ &= \frac{\pi}{2} \text{radian} \end{aligned}$$

3. Convert $\frac{\pi}{2}$ into degrees.

Solution :

$$\begin{aligned} \frac{\pi}{2} \text{radian} &= 180^\circ \\ \frac{\pi}{2} \text{radian} &= 180^\circ / 2 = 90^\circ \end{aligned}$$

Activity : 1

See the book.

Activity : 2, 3, 4, 5, 6

Students Activity.

| |
|------------------------|
| UNIT - 3. LIGHT |
|------------------------|

| |
|----------------------------|
| TEXT BOOK EXERCISES |
|----------------------------|

I. Choose the best answer.

1. Which of the following has curved reflecting surface?

- a) plane mirrors b) spherical mirrors
c) simple mirrors d) None of the above **Ans : b) spherical mirrors**

2. The spherical mirror with a reflecting surface curved inward is called

- a) convex mirror b) concave mirror
c) curved mirror d) None of the above **Ans : b) concave mirror**

3. The spherical mirror used as a rear view mirror in the vehicle is

- a) concave mirror b) convex mirror
c) plane mirror d) None of the above **Ans : b) convex mirror**

4. The imaginary line passing through the centre of curvature and pole of a spherical mirror is called

- a) centre of curvature b) pole
c) principal axis d) radius of curvature **Ans : c) principal axis**

5. The distance from the pole to the focus is called

- a) Pole length b) focal length
c) principal axis d) None of the above **Ans : b) focal length**

6. If the image and object distance is same, then the object is placed at

- a) infinity b) at F
c) between F and P d) at C **Ans : d) at C**

7. If the focal length of a spherical mirror is 10 cm, what is the value of its radius of curvature?

- a) 10 cm b) 5 cm
c) 20 cm d) 15 cm **Ans : c) 20 cm**

II. Fill in the blanks.

1. The spherical mirror used in a beauty parlour as make-up mirror is _____.

Ans : concave mirror

2. Geometric centre of the spherical mirror is _____.

Ans : pole

3. Nature of the images formed by a convex mirror is _____.

Ans : virtual and erect

4. The mirror used by the ophthalmologist to examine the eye is _____.

Ans : concave mirror

5. If the angle of incidence is 45° , then the angle of reflection is _____.

Ans : 45°

6. If an object is placed between two mirrors which are parallel to each other, the number of images formed is _____.

Ans : infinite

III. Match the following.**Ans :**

| | | | |
|------------------------|--------------------|------------------------|--------------------|
| 1. Convex mirror | Radio telescopes | 1. Convex mirror | Rear - view mirror |
| 2. Parabolic mirror | Rear - view mirror | 2. Parabolic mirror | Radio telescopes |
| 3. Snell's law | Kaleidoscope | 3. Snell's law | $\sin i/\sin r =$ |
| 4. Dispersion of light | $\sin i/\sin r =$ | 4. Dispersion of light | Rainbow |
| 5. Refractive index | Rainbow | 5. Refractive index | Kaleidoscope |

SELECTION 8 SCIENCE

20

UNIT-3

IV. Answer in briefly.**1. Define focal length?****Ans : Focal length**

★ The distance between the pole and the principal focus is called focal length (f) of a spherical mirror.

$$\star \text{ Focal length} = \frac{\text{Radius of curvature}}{2}$$

2. Give any two applications of a concave and convex mirror.**Ans :****A) Applications of Concave mirrors:**

1. They are used in torches, search lights and head lights as they direct the light to a long distance.

2. Used in reflecting telescopes.

B) Applications of Convex mirrors :

1. Used in vehicles as rear view mirrors.

2. Used on roads where there are sharp curves and turns.

3. State the laws of reflection.**Ans : Laws of reflection :**

★ The incident ray, the reflected ray and the normal at the point of incidence, all lie in the same plane.

★ The angle of incidence (i) and the angle of reflection (r) are always equal.

4. Define the refractive index of a medium.**Ans :**

★ The refractive index of the medium is the ratio of the speed of light in the air to the speed of light in that particular medium.

$$\mu = \frac{c}{v}$$

5. State Snell's law of refraction.**Ans : Snell's law of refraction :**

i) The incident ray, the refracted ray and the normal at the point of intersection, all lie in the same plane.

ii) The ratio of the sine of the angle of incidence (i) to the sine of the angle of refraction (r) is equal to the refractive index of the medium, which is a constant.

$$\frac{\sin i}{\sin r} =$$

V. Answer in detail.**1. Explain the images formed by a concave mirror?****Ans :****Image formed by a concave mirror**

| Position of the object | Position of the image | Image size | Nature of the image |
|------------------------|-----------------------|-------------------------|---------------------|
| At infinity | At F | Highly diminished | Real and inverted |
| Beyond C | Between C and F | Diminished | Real and inverted |
| At C | At C | Same size as the object | Real and inverted |

SELECTION 8 SCIENCE

21

UNIT-3

| | | | |
|-----------------|-------------------|------------------|-------------------|
| Between C and F | Beyond C | Magnified | Real and inverted |
| At F | At infinity | Highly magnified | Real and inverted |
| Between F and P | Behind the mirror | Magnified | Virtual and erect |

2. What is reflection? Write a short note on regular and irregular reflection.**Ans : Reflection :**

★ This bouncing back of the light rays as they fall on the smooth, shiny and polished surface is called reflection.

a. Regular reflection :

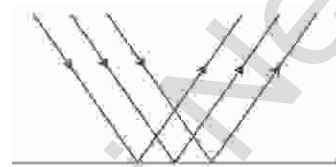
★ When a beam of light falls on a smooth surface, it gets reflected.

★ After reflection, the reflected rays will be parallel to each other.

★ Here, the angle of incidence and the angle of reflection of each ray will be equal.

★ Hence, the law of reflection is obeyed in this case and thus a clear image is formed.

★ Example: Reflection of light by a plane mirror and reflection of light from the surface of still water.

**Regular reflection****b. Irregular reflection :**

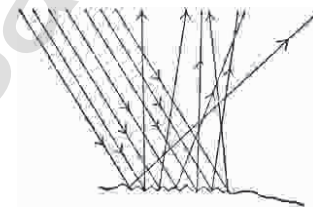
★ In the case of a body having a rough or irregular surface, each region of the surface is inclined at different angles.

★ When light falls on such a surface, the light rays are reflected at different angles.

★ In this case, the angle of incidence and the angle of reflection of each ray are not equal.

★ Hence, the law of reflection is not obeyed in this case and thus the image is not clear.

★ Example: Reflection of light from a wall.

**Irregular reflection****3. Explain the working of a periscope.****Ans : Periscope :****a. Principle :**

★ It is based on the principle of the law of reflection of light.

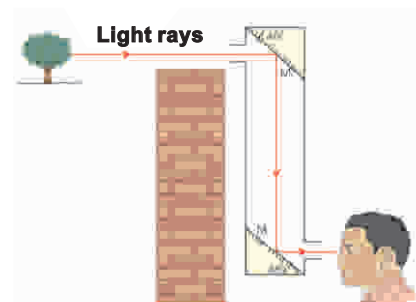
b. Construction :

★ It consists of a long outer case and inside this case mirrors or prisms are kept at each end, inclined at an angle of 45° .

c. Working :

★ Light coming from the distant body, falls on the mirror at the top end of the periscope and gets reflected vertically downward.

★ This light is reflected again by the second mirror kept at the bottom, so as to travel horizontally and reach the eye of the observer.

**Periscope**

SELECTION 8 SCIENCE

22

UNIT-3

4. What is dispersion? Explain in detail.**Ans : a. Dispersion:**

★ Splitting of white light into its seven constituent colours (wavelength), on passing through a transparent medium is known as dispersion of light.

b. Explanation :

★ It is because, light of different colours present in white light have different wavelength and they travel at different speeds in a medium.

★ Refraction of a light ray in a medium depends on its speed.

★ As each coloured light has a different speed, the constituent coloured lights are refracted at different extents, inside the prism.

★ Moreover, refraction of a light ray is inversely proportional to its wavelength.

★ Thus, the red coloured light, which has a large wavelength, is deviated less while the violet coloured light, which has a short wavelength, is deviated more.

VI. Numerical problems.**1. The radius of curvature of a spherical mirror is 25 cm. Find its focal length.**

| | | |
|--------------------------------|-----------------|--|
| Solution : Radius of curvature | R = 25 cm | |
| Focal length | f = ? | |
| Radius of curvature | R = 2f | |
| | $f = R/2$ | |
| | $= 25/2 = 12.5$ | |
| Focal length | = 12.5 cm | |

2. If two plane mirrors are inclined to each other at an angle of 45°, find the number of images formed.

| | | |
|---------------------------------|------------------------------------|--|
| Solution : Angle of inclination | = 45° | |
| Number of images formed | = $\frac{360^\circ}{45^\circ} - 1$ | |
| | $= 45^\circ$ | |
| | = $\frac{360^\circ}{45^\circ} - 1$ | |
| | = 8-1 = 7 | |
| Number of images formed | = 7 | |

3. Speed of light in air is $3 \times 10^8 \text{ m s}^{-1}$ and the refractive index of a medium is 1.5. Find the speed of light in the medium.

| | | |
|--------------------------------------|---|--|
| Solution : Speed of light in air (C) | = $3 \times 10^8 \text{ m s}^{-1}$ | |
| Refractive index of a medium () | = 1.5 | |
| The speed of light in medium (V) | = ? | |
| Refractive index (μ) | = $\frac{\text{Speed of light in air (C)}}{\text{Speed of light in the medium (}\mu\text{)}}$ | |
| | = C/V | |
| V | = C/μ | |
| | = $\frac{3 \times 10^8}{1.5} = 2 \times 10^8 \text{ m s}^{-1}$ | |
| ∴ The speed of light in medium | = $2 \times 10^8 \text{ m s}^{-1}$ | |

SELECTION 8 SCIENCE

24

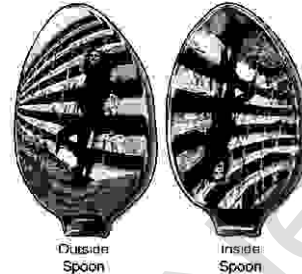
UNIT-3

Activity : 1

Take a curved silver spoon and see the image formed by it. Now, turn it and find the image formed. Do you find any difference? Find out the reason.

Ans :

- ★ First the spoon act as a convex mirror.
- ★ So, we can get erect image.
- ★ Second the spoon act as a concave mirror.
- ★ So, it gives inverted image.

**Activity : 2**

List out various convex and concave mirrors used in daily life.

Various uses of Convex and Concave mirrors in our daily life.

| Concave mirror | Convex mirror |
|--|--|
| <ul style="list-style-type: none"> ★ Concave mirrors are used ★ as make-up mirrors ★ as torches ★ as search lights ★ as head lights of vehicles ★ in solar cookers | <ul style="list-style-type: none"> ★ Convex mirrors are used ★ in vehicles as rear view mirrors. ★ in hospitals, hotels, schools and stores. on roads where there are sharp curves and turns. |

Activity -3,4 :

See the book

Activity -5,6 :

Student Activity

Activity : 7

See the book

SELECTION 8 SCIENCE

47

UNIT- 7

UNIT - 7. MAGNETISM**TEXT BOOK EXERCISES****I. Choose the best answer.****1. A magnet attracts _____ .**

- a) wooden materials b) any metal
c) copper d) iron and steel

Ans : d) iron and steel**2. One of the following is an example for a permanent magnet.**

- a) Electromagnet b) Mumetal
c) Soft iron d) Neodymium

Ans : d) Neodymium**3. The south pole of a bar magnet and the north pole of a U-shaped magnet will _____.**

- a) attract each other b) repel each other
c) neither attract nor repel each other d) None of the above

Ans : a) attract each other**4. The shape of the Earth's magnetic field resembles that of an imaginary _____.**

- a) U-shaped magnet b) straight conductor carrying current
c) solenoid coil d) bar magnet

Ans : d) bar magnet**5. MRI stands for _____.**

- a) Magnetic Resonance Imaging b) Magnetic Running Image
c) Magnetic Radio Imaging d) Magnetic Radar Imaging

Ans : a) Magnetic Resonance Imaging**6. A compass is used for _____ .**

- a) plotting magnetic lines b) detection of magnetic field
c) navigation d) All of these

Ans : d) All of these**II. Fill in the blanks.**

1. The magnetic strength is _____ at the poles.

Ans : maximum

2. A magnet has _____ magnetic poles.

Ans : two

3. Magnets are used in _____ for generating electricity.

Ans : dynamos

4. _____ are used to lift heavy iron pieces.

Ans : Electromagnets

5. A freely suspended bar magnet is always pointing along the _____ north-south direction.

Ans : geographic**III. Match the following.****Ans :**

| | |
|--------------------------|------------------------|
| 1. Magnetite | Magnetic lines |
| 2. A tiny pivoted magnet | Natural magnet |
| 3. Cobalt | Compass box |
| 4. Closed curves | Ferromagnetic material |
| 5. Bismuth | Diamagnetic material |

| | |
|--------------------------|------------------------|
| 1. Magnetite | Natural magnet |
| 2. A tiny pivoted magnet | Compass box |
| 3. Cobalt | Ferromagnetic material |
| 4. Closed curves | Magnetic lines |
| 5. Bismuth | Diamagnetic material |

SELECTION 8 SCIENCE

49

UNIT- 7

★ This shows that the Earth behaves like a huge magnetic dipole with its magnetic poles located near its geographical poles.

5. How can you identify non-magnetic materials? Give an example of a non-magnetic material.

Ans :

- ★ Materials which are not attracted by magnets are called non-magnetic materials.
- ★ Examples : Rubber, Plastic, Paper, Eraser.

VI. Answer in detail.

1. List out the uses of magnets.

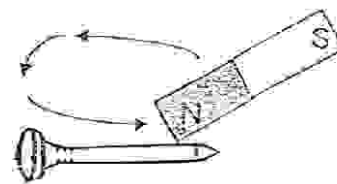
Ans :

- ★ An extremely powerful electromagnet is used in the fast moving Maglev train to remain floating above the tracks.
- ★ In industries, magnetic conveyor belts are used to sort out magnetic substances from scraps mixed with non-magnetic substances.
- ★ Magnets are used in computer in its storing devices such as hard disks.
- ★ In banks, the magnets enable the computers to read the MICR numbers printed on a cheque.
- ★ The tip of the screw drivers are made slightly magnetic so that the screws remain attached to the tip.
- ★ At hospitals, MRI is used to scan the specified internal organ. An extremely from electromagnet is used in it.
- ★ Magnets are used in computers in storing devices such as hard disks. They are used in debit and credit cards also.
- ★ They are used in electric bells and electric motors.
- ★ They are used in loudspeakers and microphones.

2. How will you convert a 'nail' into a temporary magnet?

Ans :

- ★ Temporary magnets are produced with the help of an external magnetic field.
- ★ Spread some steel pins on a wooden board and bring an iron nail near them.
- ★ Now, make one of the magnetic poles of the bar magnet touch one end of the iron nail.
- ★ Slide it along its length in one direction slowly till the other end is reached.
- ★ Repeat the process, 20 to 30 times as shown in the diagram.
- ★ The magnet has to be moved in one direction only.
- ★ Avoid the swiping of the magnet back and forth.
- ★ Now, bring the iron nail near the steel pins.
- ★ The steel pins stick to the iron nail because nail has become a temporary magnet.



3. Write a note on Earth's magnetism.

Ans :

- ★ The south pole of the imaginary magnet inside the Earth is located near the geographic north pole and the north pole of the earth's magnet is located near the geographic south pole.
- ★ The line joining these magnetic poles is called the magnetic axis.
- ★ The magnetic axis intersects the geographic north pole at a point called the north geomagnetic pole or northern magnetic pole.

8 - sci - 4

SELECTION 8 SCIENCE

50

UNIT- 7

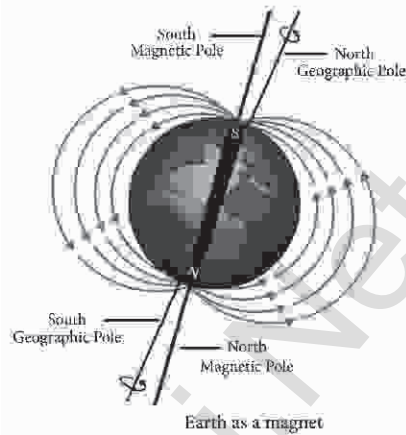
★ It intersects the geographic south pole at a point called the south geomagnetic pole or southern magnetic pole.

★ The magnetic axis and the geographical axis (axis of rotation) do not coincide with each other.

★ Some important factors, which may be the cause of the Earth's magnetism, are as follows.

- ★ Masses of magnetic substances in the Earth
- ★ Radiations from the Sun
- ★ Action of the Moon

★ However, it is believed that the Earth's magnetic field is due to the molten charged metallic fluid inside the Earth's surface with a core of radius of about 3500 km compared to the Earth's radius of 6400 km.

**VII. Higher Order Thinking Questions.**

1. Though Earth is acting as a huge bar magnet it is not attracting other ferromagnetic materials. Why? Give reasons.

Ans :

- ★ The value of earth magnetic field is 2×10^{-5} T.
- ★ It is less one.
- ★ So, that earth cannot attract any objects.

2. Why it is not advisable to slide a magnet on an iron bar back and forth during magnetising it?

Ans :

- ★ During one direction of sliding is used to magnetised the iron bar but if we do in opposite direction it demagnetised the iron bar.

3. Thamizh Dharaga and Sangamithirai were playing with a bar magnet. They put the magnet down and it broke into four pieces. How many poles will be there?

Ans :

- ★ Magnetic poles always exist in pairs.
- ★ So, if the magnet broke into four pieces 8 poles will be there.

Additional Questions and Answers

I. Choose the best answer.

1. is the strongest natural magnet.

- | | |
|---------------|---------------|
| a) Pyrrhotite | b) Magnetite |
| c) Ferrite | d) Coulumbite |

Ans : b) Magnetite

2. suggested that the earth has a giant bar magnet.

- | | |
|--------------------|--------------------|
| a) William Gilbert | b) William Charles |
| c) Alfones | d) Andrews |

Ans : a) William Gilbert

3. SI unit of magnetic field is..... .

- | | |
|----------|----------|
| a) weber | b) tesla |
| c) ohm | d) watt |

Ans : b) tesla

UNIT - 12. ATOMIC STRUCTURE**TEXT BOOK EXERCISES****I. Choose the best answer.**

1. The same proportion of carbon and oxygen in the carbon dioxide obtained from different sources proves the law of _____.

- a) reciprocal proportion b) definite proportion
c) multiple proportion d) conservation of mass

Ans : b) definite proportion

2. Cathode rays are made up of

- a) neutral particles b) positively charged particles
c) negatively charged particles d) None of the above

Ans : c) negatively charged particles

3. In water, hydrogen and oxygen are combined in the ratio of _____ by mass.

- a) 1:8 b) 8:1
c) 2:3 d) 1:3

Ans : a) 1 : 8

4. Which of the following statements made by Dalton has not undergone any change?

- a) Atoms cannot be broken.
b) Atoms combine in small, whole numbers to form compounds.
c) Elements are made up of atoms.
d) All atoms of an elements are alike

Ans : c) Elements are made up of atoms.

5. In all atoms of an element

- a) the atomic and the mass number are same.
b) the mass number is same and the atomic number is different.
c) the atomic number is same and the mass number is different
d) both atomic and mass numbers may vary.

Ans : c) the atomic number is same and the mass number is different

II. Fill in the blanks.

1. _____ is the smallest particle of an element.

Ans : Atom

2. An element is composed of _____ atoms.

Ans : similar

3. An atom is made up of _____, _____ and _____.

Ans : protons, electrons, neutrons

4. A negatively charged ion is called _____, while positively charged ion is called _____.

Ans : anion, cation

5. _____ is a negatively charged particle (Electron/Proton).

Ans : Electron

6. Proton is deflected towards the _____ charged plate (positively, negatively).

Ans : negatively

SELECTION 8 SCIENCE

81

UNIT- 12

V. Short Answer.**1. Say the advantages of Dalton's atomic theory.****Ans : Advantages of Dalton's Atomic Theory :**

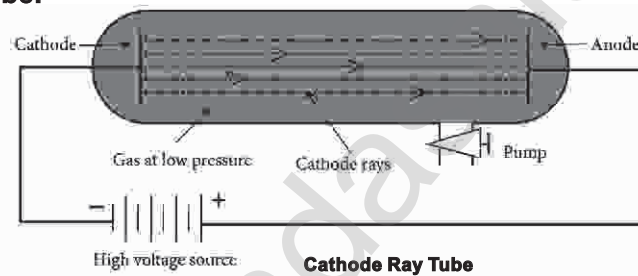
- * Dalton's theory explains most of the properties of gases and liquids.
- * This explains the law of chemical combination and the law of conservation of mass

2. Write the limitations of Dalton's Atomic theory.**Ans : Limitations of Dalton's Atomic Theory :**

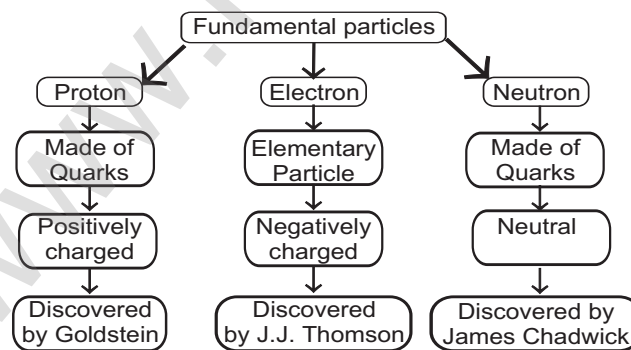
- * Atom is no longer considered as the smallest indivisible particle.
- * Atoms of the same element have different masses (Isotopes).

3. Write the properties of cathode rays.**Ans : Properties of Cathode rays :**

- * Cathode rays travel in straight line from cathode towards anode.
- * Cathode rays are made up of material particles which have mass and kinetic energy.

VI. Draw the following :**1. Cathode Ray Tube.****Ans :****Activity : 1**

Collect more information about the properties of fundamental particles and prepare a chart.

Ans :**8 - sci - 6**

SELECTION 8 SCIENCE

82

UNIT- 12

Activity : 2**Classify the following ions into monovalent, divalent and trivalent.** **Ni^{2+} , Fe^{3+} , Cu^{2+} , Ba^{2+} , Cs^+ , Zn^{2+} , Cd^{2+} , Hg^{2+} , Pb^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Sr^{2+} , Cr^{3+} , Li^+ , Ca^{2+} , Al^{3+} .****Ans :**

| Monovalent | Divalent | Trivalent |
|-------------------------------|--|--|
| Cs^+ , Li^+ | Ni^{2+} , Cu^{2+} , Ba^{2+} , Zn^{2+} , Cd^{2+} , Hg^{2+} , Pb^{2+} , Mn^{2+} , Fe^{2+} , Co^{2+} , Sr^{2+} , Ca^{2+} | Fe^{3+} , Cr^{3+} , Al^{3+} |

Activity : 3**Write the chemical formula of the compounds.****Ans :**

| Compound | Symbols with valencies | Simplest ratio if any | Chemical formula |
|--------------------|--|------------------------------|------------------------------|
| Magnesium chloride | $\text{Mg}^{2+}\text{Cl}_2^-$ | 1:2 | MgCl_2 |
| Sodium hydroxide | Na^+OH^- | 1:2 | NaOH |
| Calcium oxide | $\text{Ca}^{2+}\text{O}^{2-}$ | 1:1 | CaO |
| Aluminium sulphate | $\text{Al}_2^{3+}(\text{SO}_4)_3^{2-}$ | 3:16 | $\text{Al}_2(\text{SO}_4)_3$ |
| Calcium phosphate | $\text{Ca}^{2+}(\text{PO}_4)_2^{3-}$ | 1:1 | $\text{Ca}_3(\text{PO}_4)_2$ |

Activity : 4**Write the names of the chemical compounds.****Ans :**

| Chemical Compound | Name |
|--------------------------|----------------------------|
| SO_3 | Sulphur trioxide |
| Na_2SO_3 | Sodium sulphite |
| PCl_5 | Phosphorous penta chloride |
| CaCl_2 | Calcium chloride |
| NaNO_3 | Sodium nitrate |
| BaO | Barium oxide |

Activity - 5, 6:

See the book.

UNIT - 15. CHEMISTRY IN EVERYDAY LIFE

TEXT BOOK EXERCISES

I. Choose the best answer.

1. The chemical mixed with LPG that helps in the detection of its leakage is _____.

- a) methanol
 c) camphor
 b) ethanol
 d) mercaptan

Ans : d) mercaptan

2. Which is known as syn gas?

- a) Marsh gas
 c) Producer gas
 b) Water gas
 d) Coal gas

Ans : b) Water gas

3. The unit of calorific value of fuel is _____.

- a) KJ mol⁻¹
 c) KJkg⁻¹
 b) KJ g⁻¹
 d) Jkg⁻¹

Ans : c) KJkg⁻¹

4. _____ is the coal of superior quality.

- a) Peat
 c) Bituminous
 b) Lignite
 d) Anthracite

Ans : d) Anthracite

5. The main component of natural gas is _____.

- a) methane
 c) propane
 b) ethane
 d) butane

Ans : a) methane

II. Fill in the blanks.

1. Producer gas is a mixture of _____ and _____.

Ans : Carbon monoxide, nitrogen

2. _____ is known as marsh gas.

Ans : Methane

3. The term petroleum means _____.

Ans : 'Rock oil'

4. Heating coal in the absence of air is called _____.

Ans : destructive distillation

5. An example for fossil fuel is _____.

Ans : coal

III. Match the following

| | | |
|----|----------------------|------------------|
| 1. | Octane rating | Diesel |
| 2. | Cetane rating | Methane |
| 3. | Simplest hydrocarbon | Petrol |
| 4. | Peat | Brown in colour |
| 5. | Lignite | First stage coal |

Ans :

| | | |
|----|----------------------|------------------|
| 1. | Octane rating | Petrol |
| 2. | Cetane rating | Diesel |
| 3. | Simplest hydrocarbon | Methane |
| 4. | Peat | First stage coal |
| 5. | Lignite | Brown in colour |

IV. Answer briefly.

1. What do you mean by catenation?

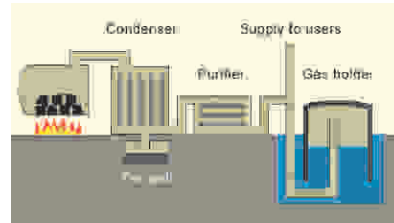
Ans :

- * Hydrocarbons are capable of making bonds with one another.
- * This property is known as catenation (chain formation).

SELECTION 8 SCIENCE

102

UNIT- 15

VII. Draw the following:**1. Production of coal gas :****Ans :****Production of coal gas****Activity : 1**

Student Activity.

Activity : 2

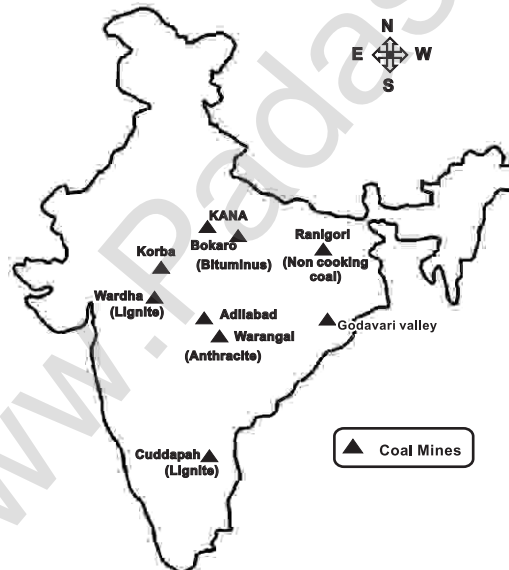
See the book.

Activity : 3

Student Activity.

Activity : 4

In an outline map of India mark the places where coal mines are found. Also identify the type of coal found in those areas.

Ans :**Activity : 5**

Find out where petroleum is extracted on a large scale in India. Also list out the petroleum refineries in India.

Ans : (i) From Mumbai Petroleum is extracted on a large scale in India.

(ii) Petroleum Refineries in India :

1) Indian Oil Corporation Limited - Bihar, Assam, Gujarat, West Bengal, Uttarpradesh, Hariyana.

2) Chennai Petroleum Corporation Limited - Tamilnadu.

3) Oil Natural Gas Corporation - Andhra pradesh, Karnataka.

SELECTION 8 SCIENCE

117

UNIT-17

V. Short Answer.**1. Classify algae based on their pigments.****Ans :**

- ★ Blue green algae - Phycocyanin
- ★ Green algae - Chlorophyll
- ★ Brown algae - Fucoxanthin
- ★ Red algae - Phycoerythrin

2. Expand ICBN and Mention its significance.**Ans :**

- ★ **ICBN** - International Code of Botanical Nomenclature.

Significance :

- ★ The rules and recommendations regarding binomial nomenclature were found in ICBN. Now it is known as ICN (International Code of Nomenclature).

VI. Answer in detail.**1. Differentiate Bryophytes and Pteridophytes.**

| S. No. | Bryophytes | Pteridophytes |
|--------|---|--|
| 1. | Plant body cannot be differentiated into root, stem and leaf. | Plant body can be differentiated into root, stem and leaf. |
| 2. | Bryophytes are amphibians. | Pteridophytes are true land plants. |
| 3. | Vascular tissues are absent. | Vascular tissues are present. |
| 4. | The dominant phase of the plant body is gametophyte. | The dominant phase of the plant body is sporophyte. |
| 5. | Sporophytic generation depends on the gametophytic generation. E.g. Riccia | Gametophytic generation does not depend on sporophytic generation. E.g. Selaginella |

Activity -1

Take a piece of bread, pour some water on it and cover it for four days. After four days place the bread on a slide and observe it through microscope. What will you see? Name the organisms which you see in the slide.

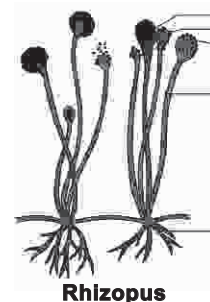
Ans :**Observation :**

- ★ Growth of fungus will be seen on the bread.

Name of the organism : Rhizopus.

- ★ Some species of fungi live as saprophytes.

- ★ They grow upon the dead and decaying organic matters and get food from them. E.g. Rhizopus



SELECTION 8 SCIENCE

118

UNIT-17

Activity -2

Visit a nearby nursery and observe how *Sphagnum* is used in horticulture and make a note on it.

Ans :

★ Sphagnum can absorb large amount of water. Hence, it is used by the gardeners in nursery.

★ Peat which is a valuable fuel like coal is obtained from Sphagnum.

Activity -3

Collect some flowering plants from your surrounding and classify them as monocot or dicot based on their root system and venation.

Ans :

| S.No. | Plants Name | Root system | Venation | Monocot/Dicot |
|-------|-------------|--------------|---------------------|---------------|
| 1. | Hibiscus | Tap root | Reticulate venation | Dicot |
| 2. | Mango | Tap root | Reticulate venation | Dicot |
| 3. | Banana | Fibrous root | Parallel | Monocot |
| 4. | Bean | Tap root | Reticulate venation | Dicot |
| 5. | Paddy | Fibrous root | Parallel | Monocot |

Activity -4

Collect some plants which are growing inside your school area, write their vernacular name, binomial name and classify them into dicotyledons or monocotyledons in the given table.

Ans :

| S.No. | Vernacular name | Binomial name | Monocotyledons/ Dicotyledons |
|-------|-----------------|---------------------------|---------------------------------|
| 1. | Kuppaimeni | <i>Acalypha indica</i> | Dicotyledon |
| 2. | Vilvam | <i>Aegle marmelos</i> | Dicotyledon |
| 3. | Thoodhuvalai | <i>Solanum trilobatum</i> | Dicotyledon |
| 4. | Keezhanelli | <i>Phyllanthus amarus</i> | Dicotyledon |
| 5. | Sothu katrazhai | <i>Aloe vera</i> | Monocotyledon |

UNIT - 19. MOVEMENTS IN ANIMALS

TEXT BOOK EXERCISES

I. Choose the best answer.

1. Which of the following parts of our body help us in movement?

(i) Bones (ii) Skin (iii) Muscles (iv) Organs

Choose the correct answer from the options below.

(a) (i) and (iii)

(b) (ii) and (iv)

(c) (i) and (iv)

(d) (iii) and (ii)

Ans : (a) (i) and (iii)

2. Which one of the following organisms lack muscles and skeleton for movement?

(a) Dog

(b) Snail

(c) Earthworm

(d) Human being

Ans : b) Snail

3. _____ joints are immovable.

(a) Shoulder and arm

(b) Knee and joint

(c) Upper jaw and skull

(d) Lower jaw and upper jaw

Ans : (c) Upper jaw and skull

4. Why do underwater divers wear fin-like flippers on their feet?

(a) To swim easily in water.

(b) To look like a fish.

(c) To walk on water surface.

(d) To walk over the bottom of the sea (sea bed).

Ans : (a) To swim easily in water

5. External ear (pinna) is supported by

(a) bone

(b) cartilage

(c) tendon

(d) capsule

Ans : (b) cartilage

6. Cockroach moves with the help of its

(a) leg

(b) bone

(c) muscular foot

(d) whole body

Ans : (a) leg

7. Which one of the following categories of vertebrae are correctly numbered?

(a) Cervical-7

(b) Thoracic-10

(c) Lumbar -4

(d) Sacral -4

Ans : (a) Cervical-7

II. Fill in the blanks.

1. Movement of organisms from place to place is called _____.

Ans : Locomotion

2. _____ refers to change in position of the part of an organism's body.

Ans : Movement

3. A structure which provides rigid frame work to the body is called _____.

Ans : Skeleton

4. Axil skeleton in human consists of _____, _____, _____, _____ and _____.

Ans : Skull, Facial bones, Sternum, Ribs and vertebral column

5. Appendicular skeleton in human consists of _____ and _____.

Ans : Pectoral girdle and pelvic girdle

6. The place where two bones meet is termed as _____.

Ans : Joint

7. _____ is attached to soft parts of the body like blood vessels, iris, bronchi and the skin.

Ans : Non striated muscle

8. _____ muscle makes pupil of eyes wider.

Ans : Radial

SELECTION 8 SCIENCE

131

UNIT-19

VI Answer in detail.**1. Name the different types of joints? Give one example for each type.****Ans :**

| | Types of joints | Examples |
|----|----------------------------|---|
| 1. | Fixed or Immovable joints. | The structures between the bones of the skull box. |
| 2. | Slightly movable joints. | The joint between the vertebrae. |
| 3. | Freely movable joints. | |
| | (i) Ball and Socket | Shoulder, Hip. |
| | (ii) Hinge | Elbow, Knee, Ankle. |
| | (iii) Pivot | Spine (Atlas / Axis joint at the top) |
| | (iv) Condylod | Wrist |
| | (v) Gliding | Spine (between the bony processes of the vertebrae) |
| | (vi) Saddle | Thumb, Shoulder and Inner ear. |

2. Write about the human axial skeleton, giving suitable labelled diagram.**Ans :****Axial skeleton :**

- ★ The axial skeleton consists of the bones along the *axis*, or central line of the human body.
- ★ The axial skeleton consists of the skull, facial bones, sternum, ribs, and vertebral column.

a. Skull :

- ★ Skull is a hard structure made up of small bones.

- ★ It is formed by 22 bones out of which 8 bones are fixed together to form the cranium and 14 bones fuse to form the face.

- ★ The only bone which has movable joint is the lower jaw.

- ★ This movable joint is supported by muscles and ligaments.

- ★ Skull placed on the top of the backbone can be moved up, down and sideways.

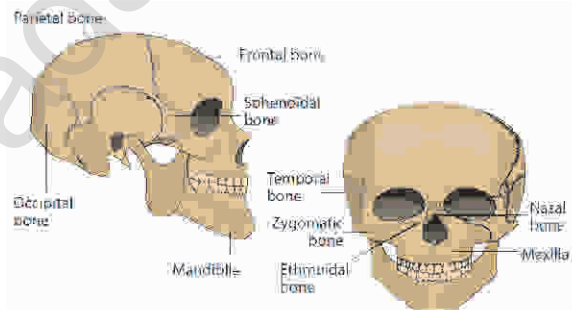
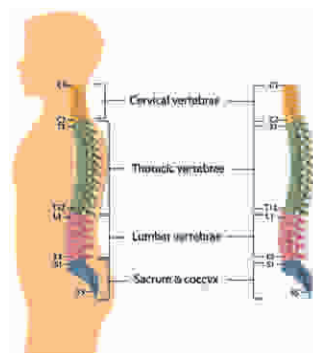
b. Vertebral column :

- ★ Vertebral column running at the back of the body is also called as spine or the backbone.

- ★ It is in the trunk region to offer support to the upper part of the body.

- ★ Vertebral column is made up of individual bones called as vertebrae.

- ★ Total vertebral column consists of 7 cervical vertebrae, 12 lumbar vertebrae, 5 fused sacral and 3 fused coccygeal vertebrae.

**Skull bone in Human****Vertebral column in Human**

SELECTION 8 SCIENCE

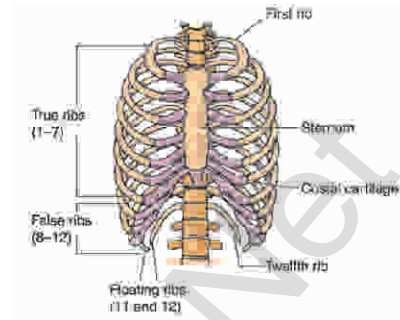
132

UNIT-19

- ★ Vertebral column runs from the base of the skull to the hip bone forming a tube.
- ★ Spinal cord passes through this hollow tube.
- ★ Vertebrae are joined by gliding points which allow the body to be bent back, front or side wards.

c. Sternum or Rib cage :

- ★ Rib cage occupies the chest region. It is a cone-shaped structure made up of Twelve pairs of ribs.
- ★ Ribs are attached to vertebrae at the back which curve around to form a cage.
- ★ Ten pairs of ribs are attached to the breast bone at the front.

**Rib cage in Human**

- ★ Two pairs of lower ribs are free at front.
- ★ These are called as free-floating ribs.
- ★ Rib cage is set up in such a way that it can contract and expand during the process of breathing.
- ★ Rib cage protects the underlying lungs, heart and some part of liver.

3. Discuss various types of movements seen in living organisms.**Ans : Types of movements :****Amoeboid movement :**

- ★ It is brought about by pseudopodia which are appendages which move with movement of protoplasm within a cell.

Ciliary movement :

- ★ This movement is brought about by appendages called as cilia which are the hair-like extensions of the epithelium.
- ★ Both these kinds of movements are seen with cells of the lymphatic system.

Muscular movement :

- ★ It is a more complex movement which is brought about by the musculoskeletal system.
- ★ This type of movement is seen in the higher vertebrates.

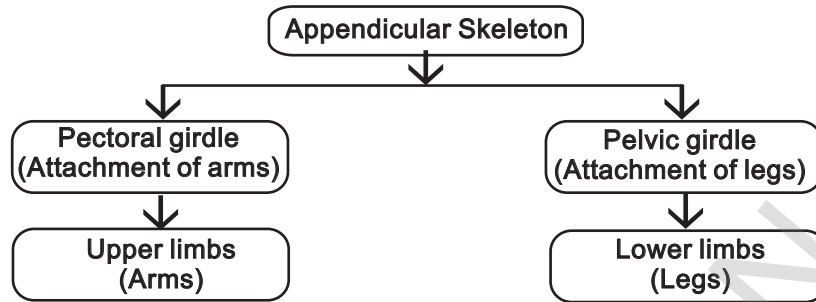
4. What is a streamlined body? How does it help in the movement of animals that fly or swim in water?**Ans :**

- ★ A streamlined body is one which is pointed at the ends and broad in the middle.
- ★ The body of a fish is streamlined to reduce friction while moving in water.
- ★ Fish swims with the help of fins.
- ★ They have two paired fins and an unpaired fin.
- ★ They have strong muscles, which help in swimming. When a fish swims its front part curves to one side and the tail part stays in the opposite direction.
- ★ In the next move, the front part curves to the opposite side and the tail part also changes its position to another side.
- ★ The caudal or tail fin helps in changing direction.

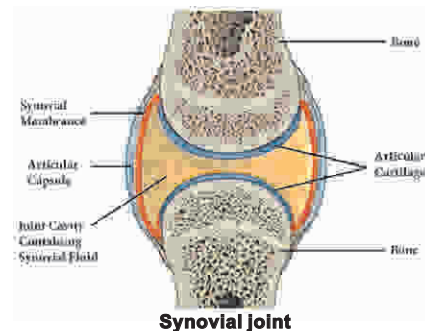
SELECTION 8 SCIENCE

134

UNIT-19

IV. Short Answer.**1. Write the flow chart for appendicular skeleton.****Ans :****2. Differentiate the movements in snakes and earthworms.****Ans :**

| Movement in snakes | Movement in Earthworms |
|---|---|
| ★ Snakes slither on the ground by looping sideways. | ★ Earthworms move by alternate extension and contraction of the body using muscles. |

V. Answer in detail.**1. Explain types of bones in human skeletal system.****Ans :****Long Bones:** Found in arms and legs.**Short Bones:** Found in wrist ankle, vertebral column.**Flat Bones:** Found in skull, ribs, shoulder and hips.**Irregular Bones:** Found in spine and vertebral column, mandible, palatine, inferior nasal concha, and hyoid.**VI. Draw and label.****1. Synovial joint****Ans :****Activity : 1**

Observe an earthworm moving on soil in the garden. Gently lift it and place it on a piece of blotting or filter paper. Observe its movement now. In which of the above two surfaces do you find that the earthworm is able to move easily?

Ans :

★ Earthworm move easily in the soil.

★ Body of earthworm has large number of bristles called setae, which are connected with muscles.

★ These bristles help to get grip on the ground.

SELECTION 8 SCIENCE

144

UNIT-21

IV. Answer briefly.**1. Define Ploughing.****Ans :**

- * Ploughing or tilling is the process of loosening and turning the soil up and down to facilitate the availability of nutrients in the root zone of the cultivating crop.

2. Name the methods of sowing.**Ans :** * Sowing by hand * Seed drill * Dibbling**3. What is foliar spray?****Ans :**

- * Foliar spray is a technique of feeding plants by applying liquid fertilizer directly to their leaves.

4. Give a brief account on Krishi Vigyan Kendra.**Ans :**

- * Krishi Vigyan Kendra is a farm science centre.
- * These centres serve as the ultimate link between ICAR (Indian Council of Agricultural Research) and farmers.
- * Their aim is to apply agricultural research findings in practical localized settings.
- * The first KVK was established in 1974 at Pondicherry.

5. What is bio-indicator ? How does it help human beings?**Ans :**

- * a. A bio-indicator or biological indicator is any species or group of species whose function or status reveals the qualitative status of the environment.
- * b. Biological indicators are used to document and understand changes in earth's living systems especially changes caused by the activities of an expanding human population.
- * Bio - indicators of soil health give us information about soil structure, development, nutrient storage and biological activities.

6. What do you mean by weeding?**Ans :**

- * In an agriculture field, many other undesirable plants may grow naturally along with the main crop.
- * These undesirable plants are called weeds.
- * The removal of weeds is called weeding.

7. What is crop rotation?**Ans :**

- * Crop rotation is planting a series of different crops in the same field following a defined order.

8. What is green manure?**Ans :**

- * The green plants which are added to the soil in the form of nutrients to enhance the growth of plants are called green manure.

SELECTION 8 SCIENCE

147

UNIT-21

Additional Questions and Answers**I. Choose the best answer.**

1. Our country is the largest producer of..... and in the world.

- a) Wheat and Rice b) Paddy and Maize
c) Cotton and Hemp d) Bananas and Mangoes **Ans : d) Bananas and Mangoes**

2. Food corporation of India was set up at.....

- a) Mumbai b) Delhi
c) Kolkata d) Chennai **Ans : d) Chennai**

3. is commonly known as the Pusa Institute.

- a) FCI b) IARI
c) KVK d) ICAR **Ans : b) IARI**

4. A farm science centre located at pondicherry is.....

- a) ICAR b) IARI
c) FCI d) KVK **Ans : d) KVK (Krish Vigyan Kendra)**

5. The first KVK was established in

- a) 1874 b) 1994
c) 1974 d) 1894 **Ans : c) 1974**

II. Fill in the blanks.

1. Green plants make their food by..... **Ans : photosynthesis**

2. India is the second largest producer of..... and.....

Ans : Wheat, Rice

3. Croton and Bougainvillea are..... crops.

Ans : ornamental

4. NPK is a

Ans : synthetic fertilizer

5. Seed bank located in New Delhi is.....

Ans : Navadanya

III. Match the following.**Ans :**

| | | | |
|-------------------|------------------------|-------------------|------------------------|
| 1. Rabi crops | Cyanobacteria | 1. Rabi crops | Winter crops |
| 2. Bio-fertilizer | Foliar spray | 2. Bio-fertilizer | Cyanobacteria |
| 3. Organic seeds | Bacillus thuringiensis | 3. Organic seeds | Heirloom seeds. |
| 4. Vermi wash | Winter crops | 4. Vermi wash | Foliar spray |
| 5. Lepidoptera | Heirloom seeds. | 5. Lepidoptera | Bacillus thuringiensis |

IV. Very short Answer.

1. Name any four agricultural implements.

Ans :

- * Plough * Hoe * Cultivator * Leveller

2. Define - Vermiwash.

Ans :

- * A liquid that is collected after the passage of water through a column of worm action.

3. What is Panchgavya?

Ans :

- * A promoter with a combination of five products obtained from the cow, which includes cow dung, cow's urine, milk, curd and ghee.

UNIT - 22. CONSERVATION OF PLANTS AND ANIMALS

TEXT BOOK EXERCISES

I. Choose the best answer.

1. The plants found in a particular area are known as _____ .

- a) fauna
b) flora
c) endemic
d) rare

Ans : b) flora

2. Deforestation means _____ .

- a) cleaning of forest
b) to grow plants
c) to look after plants
d) None of these.

Ans : a) cleaning of forest

3. The Red data book gives a list of _____ .

- a) endemic species
b) extinct species
c) natural species
d) none of these

Ans : d) none of these

4. Insitu conservation is _____ .

- a) off site conservation
b) on site conservation
c) both a and b
d) None of these

Ans : b) on site conservation

5. Wild life Protection Act was implemented in _____ .

- a) 1986
b) 1972
c) 1973
d) 1971

Ans : b) 1972

II. Fill in the blanks.

1. WWF stands for _____.

Ans: World Wildlife Fund

2. The animal found in a particular area is known as _____.

Ans: Fauna

3. Red data book is maintained by _____.

Ans: IUCN (International Union for Conservation of Nature)

4. Mudhumalai wild life sanctuary is located in _____ district.

Ans: Nilgris

5. _____ is observed as 'World Wildlife day'.

Ans: March 3rd

III. Match the following

| | | |
|--------------------------------|---|----------------|
| 1. Gir national park | - | Madhya Pradesh |
| 2. Sunderbans National Park | - | Uttara khand |
| 3. Indira Gandhi National Park | - | West Bengal |
| 4. Corbett National Park | - | Gujarat |
| 5. Kanha National Park | - | Tamil Nadu |

Ans :

| | | |
|--------------------------------|---|----------------|
| 1. Gir national park | - | Gujarat |
| 2. Sunderbans National Park | - | West Bengal |
| 3. Indira Gandhi National Park | - | Tamil Nadu |
| 4. Corbett National Park | - | Uttara khand |
| 5. Kanha National Park | - | Madhya Pradesh |

SELECTION 8 SCIENCE

155

UNIT-22

3. Why did the numbers of tiger and black buck decrease?**Ans :**

- * The numbers of tigers and black buck has decreased due to various reasons like
- * Pollution
- * De forestation
- * Loss of habitat
- * Human interference
- * Poaching
- * Hunting

Additional Questions and Answers**I. Choose the best answer.****1. Yeoman butterfly is endemic to**

- a) Himalayas b) Nicobar islands
c) Western ghats d) Amazon **Ans : c) Western ghats**

2. Project Tiger was launched on

- a) March 21 b) April 1
c) July 28 d) June 5 **Ans : b) April 1**

3. day is observed on March 3rd every year.

- a) World Forest b) Ozone
c) World Wild life d) World Water **Ans : c) World Wild life**

4. is the first National park in India.

- a) Gir National park b) Kanha National park
c) Corbett National park d) Sunderbans National park
Ans : c) Corbett National park

5. In India, the first zoo was established in.....

- a) Meghalaya b) Assam
c) Orissa d) Barrachpur **Ans : d) Barrachpur**

III. Fill in the blanks.**1. is the founder of Green Belt Movement in Kenya.****Ans : Wangari Maathai****2. May 22 is celebrated as..... day.****Ans : World biodiversity****3. Yeoman butterfly is the state butterfly of****Ans : Tamilnadu****4. is the largest animal organization in the world.****Ans : PETA****5. committee is setup for prevention of cruelty to animals.****Ans : CPCSEA****III. Very short Answer.****1. What are endemic species?****Ans :**

- * Plants and animals that are found only in a particular area are called endemic species.

SELECTION 8 SCIENCE

156

UNIT-22

V. Short Answer.**1. "Amazon forest is the lungs of the planet" - Justify.****Ans :**

- * Amazon forest is the largest forest in the world.
- * It helps to stabilize the earth's climate and slow global warming.

2. Expand the following.**a) IUCN b) WWF c) ZSI d) BRP e) CPCB****Ans :****IUCN** - International Union for Conservation of Nature**WWF** - World Wildlife Fund**ZSI** - Zoological Survey of India**BRP** - Biosphere Reserve Programme**CPCB** - Central Pollution Control Board**Activity : 1**

Student Activity.

Activity : 2**Discuss about afforestation in the class and write a brief report on your discussion.****Ans :**

- * Afforestation helps the wild animals, humans to have shelter and to find their food source.
- * Afforestation increase the supply of oxygen, water vapour in the atmosphere to get the rainfall.
- * By planting trees the amount of carbon dioxide in the atmosphere can be reduced and air pollution, green house gases and global warming can be controlled.
- * Afforestation enables us to avoid desertification of land.

Activity : 3

Student Activity.

Activity : 4**Observe the following days in your school.**

| | | |
|-------------------------------|---|--------------|
| World Forest Day | - | March 21 |
| World Water Day | - | March 22 |
| Environmental Day | - | June 5 |
| World Nature Conservation Day | - | July 28 |
| Ozone Day | - | September 16 |

SELECTION 8 SCIENCE

Activity : 5

Collect as many pictures of wild plants and wild animals as possible. Prepare a poster showing the endangered species separately.

Ans :



Lion tailed macaque



Snow leopard



Indian Mallo



Rafflesia flower



Asiatic Lion



Nilgiri Tahr



Umberlla tree



Malabar glory lily

Endangered Animals

Endangered plants

UNIT - 23. LIBRE OFFICE CALC

TEXT BOOK EXERCISES

I. Choose the best answer.

1. All functions begins with an _____ sign.

- a) = b) - c) > d) }

Ans : a) =

2. _____ function is used to calculate the total of a given set of values.

- a) Average b) Sum
c) Min d) Max

Ans : b) Sum

3. The _____ character is used in text formula.

- a) Ampersand b) Comma
c) Exclamation d) Hyperlink

Ans : a) Ampersand

4. Which of the following is a relational operator?

- a) + b) > c) - d) NOT

Ans : b) >

5. The _____ function returns the smallest value in a set of values.

- a) Average b) Sum
c) Min d) Max

Ans : c) Min

II. Answer in detail.

1. Explain count function with an example.

Ans : COUNT ()

- ★ counts the number of values. (cell containing numbers)
- ★ Example : = COUNT (A2 : A6)
- ★ Result : 5

2. What is the purpose of charts?

Ans :

- ★ The purpose of chart is to visualize the data for easy understanding.

3. What is the use of Sorting?

Ans :

- ★ Arranging a given set of data according to a particular order (ascending or descending) is called sorting.
- ★ It is used to do the result analysis of students.

4. What is the use of MAX () and MIN () functions?

Ans :

- ★ Max () : Calculates the maximum value from a given set of values.
- ★ Min () : Calculates the minimum value from a given set of values.

SELECTION

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