

CHRIST KING HR. SEC. SCHOOL, KOHIMA
CLASS-7
SUBJECT: SCIENCE, 2ND TERM

CHAPTER-13
REPRODUCTION

(A). 1. Choose the correct answer and put a (✓) mark in the box.

1. (b) 2. (c) 3. (a) 4. (d) 5. (c) 6. (a)

2. Fill in the blanks:

1. Spores.
2. Reproduction.
3. Fission.
4. Stored.
5. Corolla.

3. Match the columns:

A	-	B
1	-	d
2	-	b
3	-	a
4	-	c

4. Write 'T' for True and 'F' for False for the following sentences:

1. False.
2. True.
3. False.
4. True.
5. True.

(B). Short types Questions - I

Q1. Define Reproduction?

Ans: Reproduction is a process by which a living organism is able to produce more of its kind.

Q2. Why do individuals or organism reproduce?

Ans: Individuals or organism reproduce to maintain the continuity of life as well as increase the population of their respective species. Cats reproduce and give birth to Kittens.

Q3. Name any two methods of a sexual reproduction.

Ans: Two methods of sexual reproduction are fission and budding.

Q4. Name the reproduction in which only one parent is involved.

Ans: The reproduction in which only one parent is involved is called asexual reproduction.

Q5. What is fission?

Ans: The process through which a mature cell gives rise to two or more cells is called fission.

Q6. Name the organism in which spore formation takes place.

Ans: An organism in which spore formation takes place is bread mould.

Q7. Name the type of reproduction in which leaves, stems and roots can be used?

Ans: The type of reproduction in which leaves stem and roots can be used is called vegetative reproduction.

Q8. What is regeneration?

Ans: The process of getting back the lost body parts is called regeneration.

Q9. Define sexual reproduction?

Ans: The process of reproduction in which both male and female are involved is called sexual reproduction.

Q10. What are gametes?

Ans: Gametes are reproduction cells that unite during sexual reproduction to form a new cell called a Zygote. In humans, male gametes are sperm and female gametes are ova (eggs).

Q11. Define fertilization?

Ans: The process of the male gametes fuses with the female gametes is called fertilization.

Q12. Name the type of fertilization in each frog and man.

Ans: Frogs have external fertilization, while man has internal fertilization.

Q13. How do insects helps in pollination?

Ans When insects arrive to collect nectar from the flowers the pollen grains from the anther get glued to the insect's legs, wings and back. When these insects visit another flower in search of nectar, some of these pollen grains get deposited on to the stigma of that flowers, which brings about the pollination in flowers, this is how insects helps in cross pollination.

Q14. How does an amoeba reproduce?

Ans: An amoeba reproduces by means of asexual reproduction.

(C). Short type Questions – II

Q1. Write different types of asexual reproduction. Gives classification.

Ans: The different types of asexual reproduction are fission, budding, fragmentation, spore formation and vegetative reproduction or propagation in higher plants.

Q2. Why is reproduction essential? Give two reasons for it.

Ans: Reproduction is essential for continuation of its own kind in nature. The Two reasons are:

1. It helps in increasing the population of any species.
2. It helps in the evolution of the most favourable variation over a period of time.

Q3. Write two characteristics of asexual reproduction?

Ans: Two characteristics of asexual reproduction are:

1. Only one parent is involved.
2. Rate of reproduction is faster.

Q4. Define regeneration with an example.

Ans: The process of getting back the lost body parts is called regeneration. E.g. Flat worm.

Q5. What is fertilization? Mention the two types of fertilization with one example each.

Ans: The process of the male gametes fuses with the female gametes is called fertilization.

The two types of fertilization are:

1. Internal fertilization. E.g. Man.
2. External Fertilization. E.g. Frogs.

Q6. How does sexual reproduction take place in man?

Ans: The sexual reproduction in man takes place when both male and female are involved in the process of sexual reproduction.

Q7. Define pollination? How does it take place?

Ans: The transfer of pollen grains from anther to stigma of a flower is called pollination. Pollination takes place in two ways: Self-pollination and Cross-pollination.

Q8. Differentiate between self-pollination and cross-pollination.

Ans: Self-pollination is the process where the pollen grains from the anther of a flower are transferred to the stigma of the same flower, whereas Cross-pollination is that where the pollen grains from the anther of one plant reach the stigma of a flower on another plant.

Q9. Write about the various agents of pollination.

Ans: The various agents of pollination are wind, water, insects, butterflies, moths, ants and men.

Q10. What are the different ways in which reproduction occurs in plants?

Ans: Vegetative reproduction or propagation

By Natural methods	By Artificial method
i. Stems. E.g. Potato	i. Grafting.
ii. Leaves. E.g. Bryophyllum.	ii. Cutting.
iii. Roots. E.g. Sweet potato	iii. Tissue culture.

Q11. What is tissue culture? How does it take place?

Ans: In this method a piece of tissue is cut from the plant and kept in a nutrient medium under controlled condition. This tissue grows into a mass of cells. These cells are then put in a different nutrient medium which makes them develop into new plantlets. These plantlets are now grown in pots of soil. Plants like chrysanthemum and orchids.

Q12. State the basic difference between sexual and asexual reproduction.

Ans: The basic difference between sexual and asexual reproduction is that in sexual reproduction there is the involvement of both the parents whereas in asexual reproduction there is the involvement of a single parent.

(D). Long type Question:**Q1. Draw the diagram of a bread mould.**

Ans: In the textbook Page- 153, Fig: 13.5.

Q2. What are the reproductive organs in a flower? How does pollination occurs? What is seed?

Ans: The reproduction organs in a flower are calyx, corolla, androecium and gynoecium. Pollination occurs due to two factors: Self-pollination and Cross-pollination.

After fertilization the sepals, petals, style and stigma degenerates and usually falls off. The ovary wall ripens and forms the pericarps of the fruits. Each ovule develops into form, called seed. The seed contains an embryo within itself.

Q3. What are gametes? What is the difference between unisexual and hermaphrodite organism?

Ans: Gametes are reproductive cells that unite during sexual reproduction to form a new cell called a zygote. In humans, male gametes are sperm and female are ova (eggs).

The difference between unisexual and hermaphrodite organism is that unisexual organism produces only one type of gametes, while a hermaphrodite organism produces both male and female type of gametes.

Q4. Write down the different methods of asexual reproduction. How is colony formed?

Ans: The different method of asexual reproduction is fission, budding, fragmentation, spore formation. In the reproduction in yeast, the nucleus of the body divides into two or one nuclei passes to the bud. The small bud grows big and it may detach or remain attached. When several buds, remain attached to their parents body, a colony is formed.

CHAPTER-14

MEASUREMENT: TIME AND SPEED

(A). 1. Choose the correct answer and put a (✓) mark in the box.

1. (d) 2. (a) 3. (c) 4. (d) 5. (d)

2. Fill in the blanks:

1. Accurate.
2. System International units.
3. Sun-dial.
4. Micrometre.

(B). Short types Questions - I

Q1. What do you understand by Measurement?

Ans: The comparison of an unknown quantity with some known fixed or standard quantity of the same is called measurement.

Q2. What did the romans use to measure

time? Ans: The romans used sand-clock to measure time.

Q3. Name the conference that recommended the establishment of system international unites.

Ans: The conference that recommended the establishment of system international unites was general conference of weight and measures.

Q4. State two multiples and two sub-multiples of time.

Ans:

Multiples	Name of unit	Seconds	Minutes	Sub-Multiples	Prefix
10^1	Dec second	10	-----	10^{-6}	Micro
10^2	Hecto second	100	1.666	10^{-9}	Macro

Q5. What is stop watch used for?

Ans: A stop watch is used to measure a short interval of time when athletes run to win a run.

Q6. Define motion.

Ans: Motion is a change in the position of an object with respect of its surroundings with time.

Q7. What is uniform motion?

Ans: If an object covers equal spaces in equal intervals of times, its motion is called uniform motion.

Q8. What is non-uniform motion?

Ans: If an object covers unequal distance in equal intervals of time, its motion is said to be non-uniform motion.

Q9. State the unit of speed.

Ans: The unit of speed is: m/s or ms^{-1} .

(C). Short type Questions – II

Q1. State the need of standard units of measurement

Ans: In the earlier days, people used some general measures to measure quantities, count time and calculate distance, which were not accurate therefore, in order to have the accuracy of measurement across the world; there arose the need of standard units of measurement.

Q2. What are standard (SI) units?

Ans: The standard (SI) units are Kilogram, Second and Kelvin.

Q3. State the principle of pendulum.

Ans: The principle of pendulum as initiated by the Italian scientist Galileo is that a pendulum completes all the swings in equal time, irrespective of whether they are long or short.

Q4. How is time measured by modern watches and clocks?

Ans: Time is measured by modern watches and clocks with the help of oscillations made by the Quartz crystal.

Q5. A car covers a distance of 450 km in 8 hours. Find its speed.

Ans: Distance covered by Car: 450 km.

Time taken to cover the distance: 8 hours

We know,

Speed = Distance/Time

: $450/8 = 56.25$

Therefore, Speed = 56.25 km.

(D). Long type Question:

Q1. State the various conventions that are followed while writing standard units.

Ans: The various conventions that are followed while writing standard units are:

- I. They are always written in singular number.
- II. The abbreviation of a standard unit does not have a full stop of its own. It is followed by full stop which appears in the end of a sentence.
- III. The unit is separated from the numeral with a space.
- IV. Write unit symbols with numerals.
- V. When a unit symbol is taken from the name of a scientist, it is written in capital letter.
- VI. When the temperature is expressed in Kelvin, the degree symbol is not used after it. The degree symbol is used only in case of degree Celsius or degree centigrade.

VII. Words and symbols should not be mixed. In numerical, we should write only symbols and not words.

Q2. State the developments that have taken place from the olden days to the present time in the field of measurement of time.

Ans: In the olden days, the measurement of time was not accurate. The romans used a sand-clock to measure time, while sun-dials were used to mark the changing position of sun with the passing of time. Gradually with the discovery of the principle of pendulum by the Italian scientist Galileo paved way for the invention of pendulum clock. Galileo initiated the principle that a pendulum completes all the swings in equal time, irrespective of whether they are long or short. In 1958, Huggens used a pendulum clock to measure time. Later on mechanical clocks and watches are based on the oscillations made by the Quartz crystal.

Q.3. Define the following with the help of graph.

1. Uniform motion.

Ans: In the text book: Page-173.

2. Non-Uniform motion.

Ans: In the textbook: Page-174.

CHAPTER-15

ELECTRIC CURRENT

(A). 1. Choose the correct answer and put a (✓) mark in the box.

1. (d) 2. (a) 3. (b)

2. Fill in the blanks:

1. Conductor
2. Insulator.
3. Broken.
4. Circuit diagram.
5. Potential.
6. Resistance.

3. Write 'T' for True and 'F' for false against each statement.

True.
False.
True.
False.
False

.

(B). Short types Questions - I

Q1. What is electric circuit?

Ans: A continuous conducting path for electric current is called electric circuits.

Q2. What carries electric current from one point to another?

Ans: Wires carry electric current from one point to another.

Q3. What is a broken circuit? Define.

Ans: A circuit in which the current flow does not take place is called broken circuit.

Q4. What is potential difference?

Ans: When the flow of water occurs from a point having a higher potential towards the point having less potential, the difference between the potentials at two different points is called potential difference.

Q5. What is a fuse?

Ans: Fuse is safety device, used to prevent damage in the event of a very high current passing through a circuit all of a sudden.

Q6. What is a solenoid?

Ans: A solenoid is a kind of cylindrical wire consisting of a coil with a magnetic substance as its core that carries electric current.

Q7. What is an electromagnet?

Ans: A solenoid which consists of a coil of insulated wire wound around a magnetic substance that behaves as a magnet only as long as the electric current passes through the coil is called an electromagnet

(C). Short type Questions – II

Q1. What is a circuit diagram? What is its significance?

Ans: The pictorial or graphical representation of the flow of current in circuits is called a circuit diagram.

The Significance of a circuit diagram is that all the components in a circuit can be shown using different unique symbols by drawing simple lines.

Q2. State the concept of potential difference in the light of current flow.

Ans: The principle of potential difference in current along a circuit current flow states that the current along a circuit flows only from the source of current to the sink or the point of usage. Here the potential of current is greater in the source and less in the sink, potential difference is a physical quantity, measured by an instrument, called voltmeter and is measured in the SI unit.

Q3. What do the positive (+) and Negative (-) ends of a battery indicate?

Ans: The positive end of battery possesses a greater potential than the negative end. When we put a cell in circuits, current starts flowing from the positive end towards the negative ends.

Q4. Explain the heating effect of electric current with the help of example?

Ans: The heating effect of electric current can be felt when we switch on a heater. When we switch on the heater and we can feel the heat that begins to flow out of the heater. Inside the heater, heat is passed to heat the filament by electric current. We can even watch this phenomenon in electric bulb, geyser, iron, etc.

Q5. State the working mechanism of a fuse.

Ans: A fuse is a short wire of metal having high resistance, placed in circuit. The working mechanism of a fuse is that when an unexpected high current happens to flow into it, the fuse gets heated and melts due to the heat thereby resulting in the breakdown of the heat and stopping the damage to the circuit and electrical appliances.

Q6. Explain the magnetic effects of electric current.

Ans: The magnetic effect of electric current can be explained in the following way. Let us lay a copper wire over the compass and connect the two ends of the wire to an electric cell, after arranging the set up when we switch on the electric current for the circulation in the circuit, we find that as soon as the electric current passes through the copper wire, the magnetic needle shows deflection. When the switch is turned off the electric current stops flowing through the wire and the needle drops back to its original. i.e. North-South position. Now, if we change the connections on the electric cell so that the previous '+' end becomes '-' and vice versa, we will see that the needle also shows the respective change in the direction to the one end in which it had deflected earlier. Therefore the activities stated above help us to understand that electric current has certain magnetic effects.

Q7. State the functioning of an electric bell.

Ans: An electric bell consists of an electromagnet, a contact adjusting screw, a gong and a hammer. The electromagnet consists of a soft iron rod mounted on spring. One end of this iron rod presses against the top of the contact adjusting screw. When the switch is turned on, the current flows through the electromagnet which attracts the iron rod towards itself. This results in the hammer striking the gong. While this happens, the iron rod which has moved towards the electromagnet, loses contact flowing through the screw and the current stops the electromagnet. Thus within moments the magnetism with the electromagnet is lost and the iron rod spring comes back to its original position. When it is back it contacts the screw and the process is repeated once again. This keeps happening and the hammer keeps striking the gong to create sound until the switch is turned off.

(D). Long type Question:

Q1. Explain the phenomenon of potential difference with the help of an experiment.

Ans: The phenomenon of potential difference can be understood through the following experiment.

Let us join two water-filled containers, one having more water and the other having less, through the pipe, we will observe that the water from one container starts moving towards the other container and continues till the level in both the containers comes similar height. When the water level in both the containers reach equal height, the flow of water stops. The flow of water began because of higher pressure in the container with more water. We can also say that this container has more potential than the other containers which has less quantity of water, we can therefore say that the flow occurs from a point having a higher potential towards the point having less potential.

Q2. Describe an experiment (with Diagram) to show that a current-carrying coil behaves like a magnet.

Ans: Wind an insulated copper wire around an iron nail and connect the ends of the wire to a dry cell, through a switch. Put on the switch and bring steel pins near the nail. The pins are attracted to nail. Now, put off the switch, the pins fall off. This shows that a current-carrying coil behaves like a magnet.

