CHAPTER 3 – FIBRE TO FABRIC

Question 1. Classify the following fibres as natural or synthetic:

nylon, wool, cotton, silk, polyester, jute

Answer- (a) Natural Fibres- wool, cotton, silk, jute

(b) Synthetic Fibres- nylon, polyester

Question 2. State whether the following statements are true or false:

- a) Yarn is made from fibres. True
- b) Spinning is a process of making fibres. True
- c) Jute is the outer covering of coconut. False
- d) The process of removing seed from cotton is called ginning. Tru
- e) Weaving of yarn makes a piece of fabric. True
- f) Silk fibre is obtained from the stem of a plant. False
- g) Polyester is a natural fibre. False

Question 3. Fill in the blanks:

- a) Plant fibres are obtained from <u>cotton plant</u> and <u>jute plant</u>.
- b) Animals fibres are **wool** and **silk**.

Question 4. From which parts of plants cotton and jute are obtained?

Answer- Cotton fibres are obtained from fruit of the cotton plants and jute is obtained from the stem of Jute plant.

Question 5. Name two items that are made from coconut fibre.

Answer- Ropes and door mats.

Question 6. Explain the process of making yarn from fibre.

Answer- Fibres from a mass of cotton wool are drawn out and twisted. This brings the fibres together to form a yarn. This process is known as spinning.

CHAPTER 6 – CHANGES AROUND US

Question 1. To walk through a waterlogged area, you usually shorten the length of your dress by folding it. Can this change be reversed?

Answer- Yes, this change can be reversed as dress can be unfolded.

Question 2. You accidentally dropped your favorite toy and broke it. This is a change you did not want. Can this change be reversed?

Answer- No, this change can't be reversed.

Question 3. Some changes are listed in the following table. For each change, write in the blank column, whether the change can be reversed or not.

Answer-

S. No.	Change	Can be reversed (Yes/No)
1.	The sawing of a piece of wood	No
2.	The melting of ice candy	Yes
3.	Dissolving sugar in water	Yes
4.	The cooking of food	No
5.	The ripening of a mango	No
6.	Souring of milk	No

Question 4. A drawing sheet changes when you draw a picture on it. Can you reverse this change? Answer- We can reverse this change if the picture is made by pencil on drawing sheet.

We can't reverse this change if the picture is made by pen, oil colour or sketch pen.

Question 5. Give examples to explain the difference between changes that can or cannot be reversed. Answer-

Reversible changes	Irreversible changes
1. This type of change can be reversed.	1. This type of change cannot be reversed.

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2. Paper can be folded to make different shapes.	2. When paper is burnt and turned into ash, it can't
This is reversible change as shapes of paper can be	be reversed
unfolded back into paper sheet	
3. If we fill balloon with air, the shape and size of	3. If balloon burst while inflating then this change
the balloon changes. This change can be reversed	can't be reversed.

Question 6. A thick coating of a paste of Plaster of Paris (POP) is applied over the bandage on a fractured bone. It becomes hard on drying to keep the fractured bone immobilized. Can the change in POP be reversed?

Answer- No, the change in POP can't be reversed as it became hard on drying and new product is formed which cannot be changes back in its original form. It is type of chemical change.

Question 7. A bag of cement lying in the open gets wet due to rain during the night. The next day the sun shines brightly. Do you think the changes, which have occurred in the cement, could be reversed?

Answer- No, because when sunlight falls on the wet cement, chemical changes occur which is a irreversible process.

<u>CHAPTER 10 – MOTION AND MEASUREMENT</u> OF DISTANCES

Question 1. Give two examples each, of modes of transport used on land, water and air.

Answer- Modes of transport used on land - Buses and Trains.

Modes of transport used on water - Ships and Boats.

Modes of transport used on air - Helicopters and Aeroplanes.

Question 2. Fill in the blanks:

(i) One metre is 100 cm.

(ii) Five kilometre is 5000 m.

(iii) Motion of a child on a swing is periodic motion.

(iv) Motion of the needle of a sewing machine is periodic motion.

(v) Motion of wheel of a bicycle is <u>circular motion</u>

Question 3. Why can a pace or a footstep not be used as a standard unit of length?

Answer- Because the length of pace or a footstep varies from person to person.

Question 4. Arrange the following lengths in their increasing magnitude: 1 metre, 1 centimetre, 1 kilometre,1 millimetre.

Answer- 1 millimetre < 1 centimetre < 1 metre < 1 kilometre

Question 5. The height of a person is 1.65 m. Express it into cm and mm.

Answer- $1.65 \text{ m} = 1.65 \times 100 \text{ cm} = 165 \text{ cm}$

 $1.65 \text{ m} = 1.65 \times 100 \times 10 \text{ mm} = 1650 \text{ mm}$

Question 6. The distance between Radha's home and her school is 3250 m. Express this distance into km.

Answer- $3250 \text{ m} = \frac{3250}{1000} \text{ km} = 3.25 \text{ km}$

Question 7. While measuring the length of a knitting needle, the reading of the scale at one end is 3.0 cm and at the other end is 33.1 cm. What is the length of the needle?

Answer- Length of the needle is = (33.1 - 3.0) cm = 30.1 cm

Question 8. Write the similarities and differences between the motion of a bicycle and a ceiling fan that has been switched on.

Answer- Similarities: (i) Both the ceiling fan and the wheels of a bicycle show circular motion.

(ii) Both are fixed at point.

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Difference : A bicycle shows rectilinear motion while a ceiling fan does not

Question 9. Why could you not use an elastic measuring tape to measure distance? What would be some of the problems you would meet in telling someone about a distance you measured with an elastic tape?

Answer- An elastic tape is flexible and can be stretched. Thus, each time it will give different readings for the same length measured. Therefore, it is impossible to measure accurate distance from an elastic measuring tape.

Question 10. Give two examples of periodic motion.

Answer- (i) Motion of a pendulum clock. (ii) Motion of a swing.

<u>CHAPTER 12 – ELECTRICITY AND CIRCUITS</u>

Question 1. Fill in the blanks :

(a) A device that is used to break an electric circuit is called <u>electric switch</u>.

(b) An electric cell has <u>two</u> terminals.

Question 2. Mark 'True' or 'False' for following statements:

- (a) Electric current can flow through metals. True
- (b) Instead of metal wires, a jute string can be used to make a circuit. False
- (c) Electric current can pass through a sheet of thermo col. False

Question 3. Explain why the bulb would not glow in the arrangement shown in Fig. 12.13.



Fig. 12.13

Answer- Bulb will not glow in the arrangement because the holder of the tester used in the connection is made of plastic which is an insulator.

Question 4. Complete the drawing shown in Fig 12.14 to indicate where the free ends of the two wires should be joined to make the bulb glow.



Fig. 12.14

Answer- We should connect one end of switch with other terminal of bulb and second end of switch with other end of cell.



Question 5. What is the purpose of using an electric switch? Name some electrical gadgets that have switches built into them.

Answer- An electric switch helps in turning ON or OFF the appliances by completing or breaking the circuit. Some electric gadgets are: Television, Iron, Washing Machine and Refrigerator etc.

Question 6. Would the bulb glow after completing the circuit shown in Fig. 12.14 if instead of safety pin we use an eraser?

Answer- No, the bulb will not glow because rubber is an insulator and current will not flow through it. Question 7. Would the bulb glow in the circuit shown in Fig. 12.15?



Answer- No, the bulb will not glow because the wires from both terminals of the battery are connected to the one terminal of the bulb.

Question 8. Using the "conduction tester" on an object it was found that the bulb begins to glow. Is that object a conductor or an insulator? Explain.

Answer- That object must be a conductor because it allows the current to flow through it and thus helped in the glowing of bulb.

Question 9. Why should an electrician use rubber gloves while repairing an electric switch at your home? Explain.

Answer- Because rubber gloves are insulators, so it protect the electrician from the shock of electricity.

Question 10. The handles of the tools like screwdrivers and pliers used by electricians for repair work usually have plastic or rubber covers on them. Can you explain why?

Answer- Because plastic and rubber are insulators. so it protect the electrician from the shock of electricity

CHAPTER 13 - FUN WITH MAGNETS

Question 1. Fill in the blanks in the following

(i) Artificial magnets are made in different shapes such as **<u>bar magnets</u>**, **<u>horse-shoe magnet</u>** and

cylindrical magnet.

- (ii) The Materials which are attracted towards a magnet are called <u>magnetic materials</u>.
- (iii) Paper is not a <u>magnetic material</u>.
- (iv) In olden days, sailors used to find direction by suspending a piece of <u>magnet</u>.
- (v) A magnet always has <u>two</u> poles.

Question 2. State whether the following statements are true or false

- (i) A cylindrical magnet has only one pole. False
- (ii) Artificial magnets were discovered in Greece. False
- (iii) Similar poles of a magnet repel each other. True
- (iv) Maximum iron filings stick in the middle of a bar magnet when it is brought near them. False
- (v) Bar magnets always point towards North-South direction. True
- (vi) A compass can be used to find East-West direction at any place. True
- (vii) Rubber is a magnetic material. False

Question 3. It was observed that a pencil sharpener gets attracted by both the poles of a magnet although its body is made of plastic. Name a material that might have been used to make some part of it.

Answer- The blade of the sharpener is made up of iron which is a magnetic substance which gets attracted by both the poles of a magnet although its body is made of plastic.

Question 4. Column I shows different positions in which one pole of a magnet is placed near that of the other. Column II indicates the resulting action between them for each situation. Fill in the blanks.

	Column I	Column II
>	N-N	Repulsion
	N- <u>S</u>	Attraction
	S-N	<u>Attraction</u>
	<u>S</u> -S	Repulsion

Question 5. Write any two properties of a magnet.

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Answer- Two properties of a magnet: (i) Magnet aligns in North-South direction when suspended freely.

(ii) A magnet has two magnetic poles.

Question 6. Where are poles of a bar magnet located?

Answer- Poles of a bar magnet located near its two ends.

Question 7. A bar magnet has no markings to indicate its poles. How would you find out near which end is its north pole located?

Answer- To locate its north pole, we will suspended the magnet freely from the middle with the help of thread. Allow the magnet to comes into rest. The North pole of the magnet will face the north direction and South pole will face the south direction.

Question 8. You are given an iron strip. How will you make it into a magnet?

Answer- Rub the iron strip with a bar magnet in one direction about 40-50 times. The iron strip will attain the property of magnet.

Question 9. How is a compass used to find directions?

Answer- A compass has a magnetic needle attached to it which can rotates freely. The magnet always points to north-south direction which is marked on compass and thus helps in finding direction.

Question 10. A magnet was brought from different directions towards a toy boat that has been floating in water in a tub. Affect observed in each case is stated in Column I. Possible reasons for the observed affects are mentioned in Column II. Match the statements given in Column I with those in Column II.

Column I	Column II	
Boat gets attracted towards the magnet	Boat is fitted with a magnet with north pole towards its head	
Boat is not affected by the magnet	Boat is fitted with a magnet with south pole towards its head	
Boat moves towards the magnet if north pole of the magnet is brought near its head	Boat has a small magnet fixed along its length	
Boat moves away from the magnet when north pole is brought near its head	Boat is made of magnetic material	
Boat floats without changing its direction /	Boat is made up non-magnetic material	