CHAPTER 3 – FIBRE TO FABRIC

Question1. Yo	ou must be famili	iar with the following	nursery rhymes:
(i) 'Baa baa b	lack sheep, have	you any wool.'	
(ii) 'Mary had	d a little lamb, w	hose fleece was white a	s snow.'
Answer the fo	ollowing:		
(a) Which par	rts of the black sl	heep have wool?	
(b) What is m	eant by the whit	e fleece of the lamb?	
ANSWER- (a	a) The skin of the	black sheep has fur like	hairs , known as wool.
(b) White hairs	s of a lamb are als	o known as white fleece	2.
Question2. Th	he silkworm is	(a) a caterpillar,	(b) a larva.
Choose the co	prrect option.		
(i) a	(ii) b	(iii) both a and b	(iv) neither a nor b.
ANSWER-			
(iii) Both a and	d b		
Question3. W	hich of the follow	ving does not yield wo	51?
(i) Yak	(ii) Camel	(iii) Goat	(iv) Woolly dog
ANSWER			
Woolly dog			
Question4. W	'hat is meant by f	the following terms?	
(i) Rearing	(ii) Shearing	(iii) Sericulture	
ANSWERS-			
(i) Rearing: B	Bringing up, raising	g and taking care of anim	nals is known as rearing.
(ii) Shearing:	The fleece of the	sheep along with a thin	layer of skin is removed from its body. This
process is calle	ed shearing.		
(iii) Sericultu	re: The rearing of	silkworms for obtaining	g silk is called sericulture.
Question5. Gi	iven below is a se	equence of steps in the	processing of wool. Which are the missing
steps? Add th	iem.		
Shearing,	, sorting	,,	
ANSWER-			
Shearing, sco	uring, sorting, g	leaning of burrs,roll	ing, dyeing.

Question6. Make sketches of the two stages in the life history of the silk moth which are directly related to the production of silk. ANSWER-



Fig. 3.4 Life-cycle of silk-moth.

Question7. Out of the following, which are the two terms related to silk production? Sericulture, floriculture, moriculture, apiculture and silviculture. Hints: (i) Silk production involves cultivation of mulberry leaves and rearing silkworms.

(ii) Scientific name of mulberry is Morus alba.

ANSWER-

Sericulture & moriculture.

Question8. Match the words of Column I with those given in Column II:

Column	Ι	Column	Π

- 1. Scouring (a) Yields silk fibres
- 2. Mulberry leaves (b) Wool yielding animal

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3. Yak	(c) Food of silk worm
4. Cocoon	(d) Reeling
	(e) Cleaning sheared skin
ANSWER-	

Column I

Column II

(e) Cleaning sheared skin (i) Scouring

(ii) Mulberry leaves (c) Food of silk worm

(b) Wool yielding animal (iii) Yak

(a) Yields silk fibres (iv) Cocoon

Question9. Given below is a crossword puzzle based on this lesson. Use hints to fill in the blank

Across

spaces with letters that complete the words.

Down

(D)1 : Thorough washing	(A) 1 : Keeps warm
2 : Animal fibre	2 : Its leaves are eaten by silkworms
3 : Long thread like structure	3 : Hatches from egg of moth

Answer:

						1D		2D		
						S		S		
						С		I		
			3D F		1A W	0		L		
			Ι			U		K		
2A M	U	L	в	Е	R	R	Y			
			R							
3A C	Α	Т	Е	R	Р	Ι	L	L	Α	R

<u>CHAPTER 5 – ACIDS, BASES AND SALTS</u>

Question 1. State differences between acids and bases.

Answer-

Acids	Bases
1. Acids turn blue litmus red.	1. Bases turn red litmus blue.
2. Sour in taste.	2. Bitter in taste.
3. Acids give a dark pink colour with China	3. Bases give a dark green colour with China
Rose indicator.	Rose indicator.
4. For example lemon and orange are acidic.	4. For example baking soda and soap are basic.

Question 2. Ammonia is found in many household products, such as window cleaners. It turns red litmus blue. What is its nature?

Answer- Basic.

Question 3. Name the source from which litmus solution is obtained. What is the use of this

solution?

Answer- Litmus solution is extracted from lichens. It is used as an indicator to distinguish between bases & acids.

Question 4. Is the distilled water acidic/basic/neutral? How would you verify it?

Answer- Distilled water is neutral and one can easily test it with the help of litmus paper. When we dip blue or red litmus paper in neutral water, there will not be any change in the colour.

Question 5. Describe the process of neutralisation with the help of an example.

Answer- When an acid mixed with a base then they react with each other to form the salt and water with the release of energy and cancel each other's effect. This process is neutralization porcess.

Acid + Base \rightarrow Salt + Water + Heat

Example:

 $NaOH + HCl \rightarrow NaCl + H_2O + Heat$

Question 6. Mark 'T' if the statement is true and 'F' if it is false:

(i) Nitric acid turn red litmus blue. (F)

(ii) Sodium hydroxide turns blue litmus red. (F)

(iii) Sodium hydroxide and hydrochloric acid neutralise each other and form salt and water. **(T)**

(iv) Indicator is a substance which shows different colours in acidic and basic solutions. (T)

(v) Tooth decay is caused by the presence of a base. (F)

Question 7. Dorji has a few bottles of soft drink in his restaurant. But, unfortunately, these are not labelled. He has to serve the drinks on the demand of customers. One customer wants acidic drink, another wants basic and third one wants neutral drink. How will Dorji decide which drink is to be served to whom?

Answer- Dorji can use litmus paper to check if the drink is acidic, basic or neutral and can serve the correct drink as per the demand of the customers.

Question 8. Explain why:

(a) An antacid tablet is taken when you suffer from acidity.

(b) Calamine solution is applied on the skin when an ant bites.

(c) Factory waste is neutralized before disposing it into the water bodies.

Answer- (a) Acidity is caused when an excess of acids is produced in the stomach. An antacid, such as milk of magnesia, act as a base, and react with excess acid and neutralize its effect, thus giving relief.
(b) When an ant bites it injects formic acid into the skin. Calamine solution contains zinc carbonate and is basic in nature. When applied in the skin, it reacts with the acid, and neutralizes its effect, thus giving relief.

(c) Most of the factory wastes contain acids. On disposing it directly into the water bodies, it might harm aquatic bodies. Hence, factory waste needed to be neutralized.

Question 9. Three liquids are given to you. One is hydrochloric acid, another is sodium hydroxide and third is a sugar solution. How will you identify them? You have only turmeric indicator.

Answer- If we put drops of a base (sodium hydroxide) on turmeric, then, the red colour will be obtained. Now if we put some drops of acid (hydrochloric acid) on this red mixture of turmeric, it will again become yellow. The sugar solution is neutral in nature, so it will not change the red or yellow colour of turmeric.

Question 10. Blue litmus paper is dipped in a solution. It remains blue. What is the nature of the solution? Explain.

Answer- We know acid turns blue litmus to red and neutral solution has no effect on the litmus paper. As there is no change in colour, so, the solution can be either basic or neutral.

Question 11. Consider the following statements:

(a) Both acids and bases change colour of all indicators.

(b) If an indicator gives a colour change with an acid, it does not give a change with a base.

(c) If an indicator changes colour with a base, it does not change colour with an acid.

(d) Change of colour in an acid and a base depends on the type of the indicator.

Which of these statements are correct?

(i) All four

(ii) a and d

(iii) b, c and d

(iv) only d (\checkmark)

CHAPTER 13 - MOTION AND TIME

Question 1. Classify the following as motion along a straight line, circular or oscillatory motion.

(i) Motion of your hands while running- Oscillatory motion

- (ii) Motion of a horse pulling a cart on a straight road- Straight line
- (iii) Motion of a child in merry-go -round- Circular motion
- (iv) Motion of a child on a see-saw- Oscillatory motion
- (v) Motion of the hammer of an electric bell- Oscillatory motion
- (vi) Motion of a train on straight bridge- Straight line.

Question 2. Which of the following are not correct?

- (i) The basic unit of time is second. (True)
- (ii) Every object moves with a constant speed. (False)
- (iii) Distance between two cities is measured in kilometers. (True)
- (iv) The time period of a given pendulum is not constant. (True)
- (v) The speed of a train is expressed in m/h. (False)

Question 3. A simple pendulum takes 32 s to complete 20 oscillations. What is the time-period for

the pendulum.

Answer- Time taken for 20 oscillation = 32 s

Time taken for 1 oscillation = 32 / 20.

Time period = 1.6 s

Question 4. The distance between two stations is 200 km. A train takes 4 hours to cover this distance. Calculate the speed of the train.

Answer- Distance = 200 km

Time = 4 h

Speed = distance/time = 200/4 = 50 km/h

Question 5. The odometer of a car reads 57,321.0 km when the clock shows the time 8.30 AM. The odometer reading was changed to 57,336.0 km. calculate the speed of the car in km/min during this time. Express the speed in km/h also.

Answer- Odometer reading at 8.30 AM = 57321.0 km

Odometer reading at 8.50 AM = 57336.0 km

Distance travelled = 15 km

Time taken = 20 min.

Speed = distance / time = 15/20 = 0.75 km/min = 0.75 x 60 = 45 km/h.

Question 6. Salma takes 15 minutes from her house to reach her school on bicycle. If the bicycle has a speed of 2 m/s, calculate the distance between her house and the school.

Answer- Speed = 2 m/s

Time = 15 min = 15 x 60 s = 900 s.

Distance travelled = speed x time = $2 \times 900 \text{ s} = 1800 \text{ m} = 1.8 \text{ km}$.

Question 7. Show the shape of the distance-time graph for the motion in the following cases:

- (i) A car moving with a constant speed.
- (ii) A car parked on a side road.

Answer- (i) A car moving with a constant speed





Question 8. Which of the following relations is correct?

- (i) Speed = Distance x Time.
- (ii) Speed = Distance / Time (\checkmark)
- (iii) Speed = Time / Distance
- (iv) Speed = $1 / (Distance \times Time)$

Question 9. The basic unit of speed is :

- (i) Km/min
- (ii) m/min
- (iii) km/h
- (iv) m/s (✓)

Question 10. A car moves with a speed of 40 km/h for 15 minutes and then with a speed of 60 km/h for the next 15 minutes. The total distance covered by the car is :

(i) 100 km

- (ii) 25 km (✓)
- (iii) 15 km
- (iv) 10 km

Question 11. Suppose the two photograph, shown in Fig. 13.1 and Fig.13.2, had been taken at an interval of 10 seconds. If a distance of 100 meters is shown by 1 cm in these photograph, calculate the speed of the blue car.

Answer- Speed $=\frac{100}{10} = 10 \text{ m/s}$

Question 12. Fig. 13.5 shows the distance-time graph for the motion of two vehicles A and B. which is one of them moving faster?





Answer- Vehicle – A is moving fast, because it have greater slope than B.

Question 13. Which of the following distance time-graph a truck moving with speed which is not constant.





CHAPTER 14 – ELECTRIC CURRENT AND ITS EFFECTS

Question 1. Draw in your notebook the symbols to represent the following components of electrical circuits. Connecting wires, switch in the OFF position, bulb, cell, switch in ON position and battery. Answer-



Question 2. Draw the circuit diagram to represent the circuit shown in Fig. 14.3.



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Answer-



Question 3. Fig. 14.22 Shows four cells fixed on a board. Draw lines to indicate how you will connect their terminals with wires to make a battery of four cells.



Answer-



Question 4. The bulb in the circuit shown in Fig. 14.23 does not glow. Can you indicate the problem? Make necessary changes in the circuit to make the bulb glow.



Answer- The problem in circuit is that both the negative terminals are connected to the bulb.

Question 5. Name any two effects of electric current.

Answer- (i) Heating effect, (ii) Magnetic effect and (iii) Chemical effect.

Question 6. When the current is switched on through a wire, a compass needle kept nearby gets deflected from its north-south position. Explain.

Answer- When the current flows through a circuit magnetic field is produced around it. The magnetic fields cause deflection the needle of magnetic compass. This effect is called magnetic effect of electric current.

Question 7. Will the compass needle show the deflection when the switch in the circuit shown by Fig. 14.24 is closed?



Answer- No, because there is no source of electric current.

Question 8. Fill in the blanks

- (a) Longer line in the symbol represents its **positive** terminal.
- (b) The combination of two or more cell is called <u>battery</u>.
- (c) When a current is switched ON in a room heater, it **produces heat**.
- (d) The safety device based on the heating effect of electric current is called <u>fuse</u>.

Question 9. Mark 'T" if the statement is true and 'F' if it is false:

- (a) To make a battery of two cells, the negative terminal of one cell is connected to the negative terminal of other cell. (F)
- (b) When the current through the fuse exceeds a certain limit, the fuse wire melts and breaks. (T)
- (c) An electromagnet does not attract a piece of iron. (F)
- (d) An electric bell has an electromagnet. (T)

Question 10. Do you think an electromagnet can be used for separating plastic bags from a garbage heap? Explain.

Answer- No, electromagnets attract only the magnetic material like iron. So, it cannot be used for separating plastic from garbage.

Question 11. An electrician is carrying out some repairs in your house. He wants to replace a fuse by a piece of wire. Would you agree? Give reasons for your response.

Answer- Replacing the fuse with metal piece should be dangerous as fuse wire have very low melting point. In case of metal piece the melting point will be high and circuit will be not prevented in case of overloading or overheating.

Question 12. Zubeda made an electric circuit using a cell holder shown in Fig. 14.4, a switch and a bulb. When she put she switch in the ON position, the bulb did not glow. Help Zubeda in identifying the possible defects in the circuit.

Answer- The possible reason for not glowing of bulb is:

(i) Connecting wire is loose.

- (ii) The cells are used up.
- (iii) Bulb may be fused.

Question 13. In the circuit shown in Fig. 14.25



- (i) Would any of bulb will glow when the switch is in the 'OFF' position?
- (ii) What will be the order in which bulb A, B, C will glow when switch is moved to the 'ON' position?

Answer- (a) No, as the circuit is not complete.

(b) All the three bulbs glow together if switch is in ON position.