

**PRACTICE TEST (2019-20)**

**SUBJECT: SCIENCE**

**CLASS: X**

**MAX. MARKS: 80**

**DURATION: 3:00 HRS**

Q - 1 - 14 (1 mark)    15 - 24 (3 marks)    25 - 30 (5 marks)

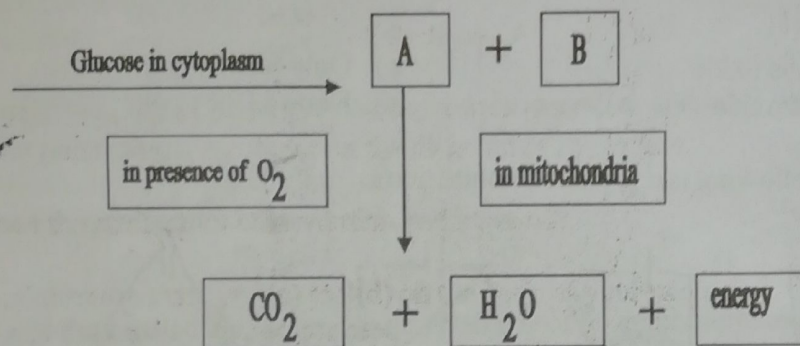
**Section - A**

Q1. A wire having resistance  $18 \Omega$  is bent to form a square. What is the effective resistance between two points along any point on the diagonal of the square?

Q2. How can the strength of acid solution be increased?

Q3. Answer question number 3(a) to 3(d) on the basis of your understanding of the following paragraph and the related studied concept.

The glucose breakdown pathway in case of aerobic respiration is shown in the flow chart given below -



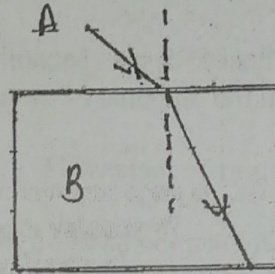
- Name the molecule in the cell which stores the energy produced at the end of the pathway.
- Why do we get cramps during vigorous muscles activity?
- Which process is depicted in the flow chart?
  - Aerobic respiration
  - Anaerobic respiration
  - Both (i) and (ii)
  - Glycolysis
- Name A and B formed by the breakdown of glucose in cytoplasm.

Q4. Q No. 4(a) to 4(d) are based on table given below. Answer the questions following it.

Group → Period ↓	1	2	3 to 12	13	14	15	16	17	18
1	G			I					H
2	A						B		C
3		D			E				F

- a) Which element will form only covalent compound?
- b) Which element is non metal with valency 2?
- c) Which element is metal with valency 2?
- d) Out of H, C, F, which has largest atomic size?

Q5. A light ray enters from medium A to medium B as shown in the fig. the refractive index of medium B relative to A will be.

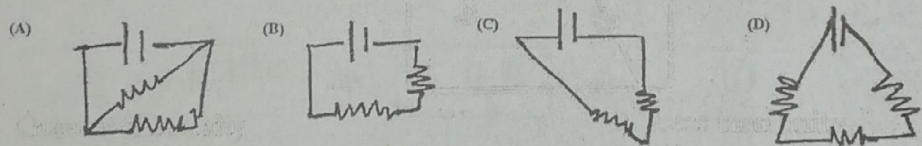


- a) Greater than unity
- b) Zero
- c) Less than unity
- d) Equal to unity

Q6. Chemically rust is

- a) Hydrated ferrous oxide
- b) Hydrated ferric oxide
- c) Only ferric oxide
- d) None of the above

Q7. Which of the following is a parallel combination?



Q8. An energy efficient device for producing light is

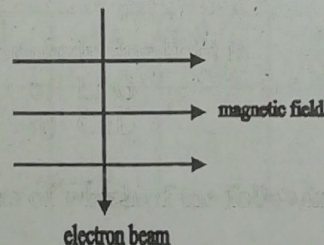
- a) DLF
- b) FCL
- c) LPG
- d) CFL

Q9. The bags and other containers of which of the following should be reused for storage purposes

- a) Plastic
- b) Paper
- c) Wood
- d) Steel

Q10. An electron beam enters a magnetic field at right angles to it as shown in fig. The direction of force acting on the electron beam will be

- a) To the left
- b) To the right
- c) Into the page
- d) Out of page



Q11. A multicellular organism reproducing asexually regeneration, is

- a) Cockroach
- b) Jaenia
- c) Planaria
- d) Sugarcane

Q12. Which of the following is more reactive than hydrogen

- a) Mercury
- b) Silver
- c) Calcium
- d) Copper

Q13. Acetic acid was added to solid 'X' kept in test tube. A colourless gas Y was evolved and passed through lime water, which turned milky. X and Y are respectively

- a) NaOH, CO<sub>2</sub>
- b) NaHCO<sub>3</sub>, CO<sub>2</sub>
- c) CH<sub>3</sub>COONa, CO<sub>2</sub>
- d) NaHCO<sub>3</sub>, SO<sub>2</sub>

Q14. The substance that triggers the fall of mature leaves and fruits from plants

- a) Auxins
- b) Gibberellins
- c) Abscisic acid
- d) Cytokinins

Q15. Draw a diagram of human female reproductive system and label the parts.

- a) The produces egg.
- b) Where fusion of egg and sperm take place
- c) Where zygote is implanted

Q16.

- a) Why is ZnO called amphoteric oxide. Name another amphoteric oxide?
- b) What are alkalis? Give examples of alkali.

Q17.

- a) What is tooth enamel chemically? State the condition when it starts corroding.
- b) What happens when food particle left in the mouth after eating degrades?
- c) Why do doctors suggest use of tooth powder / toothpaste to prevent tooth decay?

Q18. Give a reason to explain why?

- a) Adrenaline helps in dealing emergency situation.
- b) Secretions of growth hormone should be specific in body.
- c) Some patients of diabetes are treated by giving injections of insulin.

Q19. A blue colour flower plant denoted by BB is crossbred with that of white colour flower plant denoted by bb.

- a) State the colour of flower you would expect in their F<sub>1</sub> generation.
- b) What must be the percentage of white flower plants in F<sub>2</sub> generation if flowers of F<sub>1</sub> plants are self-pollinated?
- c) State the expected ratio of genotype BB and Bb in the F<sub>2</sub> progeny.

Q20. Size of image of an object by a mirror having a focal length of 20 cm is observed to be reduced to  $\frac{1}{3}^{rd}$  of its size. At what distance from the mirror the object has been placed? What is the nature of image and the mirror?

Q21. Explain with the help of a labeled diagram, the distribution of magnetic field due to a current through a circular loop. Why is it that if a current carrying coil has  $n$  turns, the field produced at any point is  $n$  times as large as that produced by a single turn?

Q22. Explain how the following trends vary down the group, across a period.

1. Size of atom 2. Valency 3. Metallic and non metallic character

Q23. How can ethanol and ethanoic acid be differentiated on the basis of physical and chemical properties?

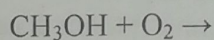
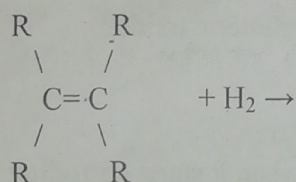
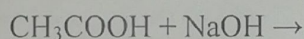
Q24.

- What is far point and near point of human eye with normal vision?
- Why does sky appear dark instead of blue to an astronaut?
- Which liquid fills the space behind the cornea?

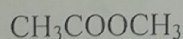
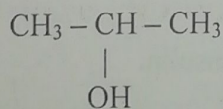
Q25. Draw a diagram of human heart and label its part.

Q26.

- Complete the following reactions –



- Write IUPAC names of –



Q27. Differentiate between the following –

- Pollen tube and style
- Fission in Amoeba and Plasmodium
- Fragmentation and regeneration.

- d) Bud of hydra and bud of bryophyllum
- e) Vegetative propagation and spore formation

Q28. Explain the following methods of contraception giving one example of each.

- (i) Barrier method
- (ii) Hormonal method
- (iii) Surgical method

Q29. Two lamps rated 60W at 220V and other 40W at 220V are connected in parallel to the electric supply of 220V.

- a) Draw a circuit diagram to show the connections.
- b) Calculate the current drawn from the electric supply.
- c) Calculate the total energy consumed by the two lamps together when they operate for one hour.

Q30. Crystals of a substance changed their colour on heating in a closed test tube but regained it after some time when they were allowed to cool down. Name the substance and write its formula and explain the phenomenon involved.

Marking Scheme:  
Class X Science

Preboard Practice  
Paper.

Q NO 1  $\frac{1}{9} + \frac{1}{9} = \frac{2}{9}$   $R = \frac{9}{2} = 4.5 \Omega$

2. By adding  $H^+$  ( $H_3O^+$ ) ions, the strength of acid solution can be increased.

3. (a) ATP

(b) Lactic acid accumulation, in the absence of oxygen cause cramps.

(c) (i)

(d) A - pyruvate  
B - Energy or ATP

4. (a) E

(b) B

(c) D

(d) F

5. (a)

6. (b)

7. (a)

8. (d)

9. (a)

10. (c)

11. (c)

12. (c)

13. (b)

14. (c)

15. In the diagram of female reproductive system label - (a) ovary. (b) oviduct (c) uterus

- 16) (a)  $ZnO$  is amphoteric because it is acidic as well as acid. It reacts both with acid as well as base to form salt.  
Any amphoteric oxide.
- (b) Alkalies are base. Any example of alkali.
- 17) (a) Calcium phosphate. when food particles start decaying.
- (b) Causes dental caries.
- (c) tooth powder / tooth paste cleans and removes food particles from teeth. This prevents dental caries.
- 18) (a) By increasing the blood pressure heart beat, increasing the blood flow to the brain and muscles, and stimulates the body to make sugar to use for fuel.
- (b) because hormones perform specific function.
- (c) To regulate the amount of sugar in the blood, generally to decrease the amount of sugar.

- 19) (a) blue.
- (b) 25%
- (c) In  $F_2$  - BB: Bb is 1:2

20)  $f = 20$ ,  $\frac{\text{size of image}}{\text{size of object}} = \frac{1}{3}$   $U = ?$

Magnification =  $-\frac{v}{u}$

$$\frac{1}{3} = -\frac{v}{u}, v = \frac{-u}{3}$$

using mirror formula

$$\frac{1}{f} = \frac{1}{u} - \frac{1}{v}, \frac{1}{20} = \frac{1}{u} - \frac{3}{u} = \frac{1-3}{u} = \frac{-2}{u}$$

$$u = -2 \times 20 \text{ cm} = -40 \text{ cm}$$

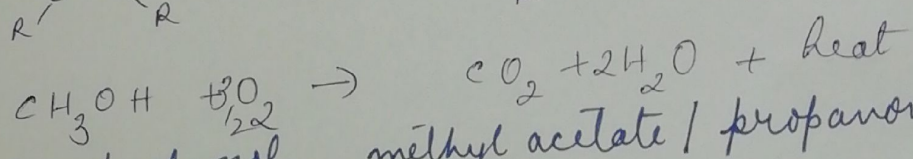
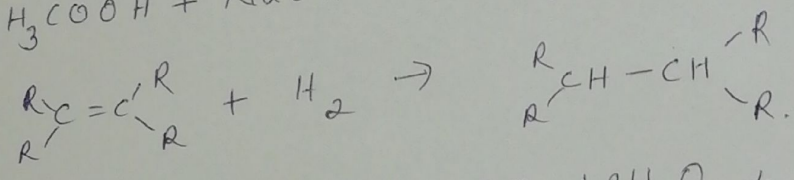
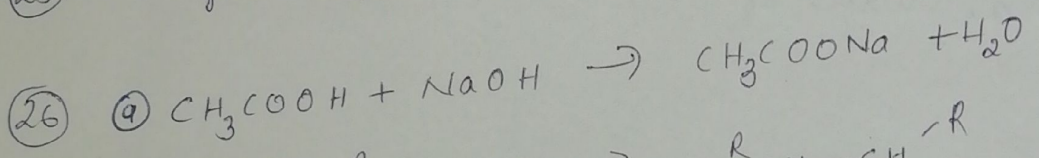
- 21) Diagram of magnetic field due to current through circular loop. <sup>Fig. 13.8 ncert book</sup> More the no. of turns the more magnetic field.  $n$  turns give  $n$  times mag field.

	group	Period
22	(1) size increases	decreases
	(2) valency. remains same	increases
	(3) metallic character increases	decreases
	non metallic character decreases	increases

23	ethanol	ethanoic acid
(1)	alcoholic smell sweet smell	(1) vinegar smell pungent smell
(2)	Does not react with litmus paper	(2) Turns blue litmus paper red.
(3)	Reacts with $\text{NaHCO}_3$	(3) Reacts with $\text{NaHCO}_3$ , releasing $\text{CO}_2$ .

- 24
- (a) near point  $\rightarrow$  farthest point from the eye at which images are clear.  
 far point  $\rightarrow$  25 cm. This is the maximum distance to which the eye can see the objects clearly.
- (b) because there is no atmosphere (vacuum)
- (c) vitreous humor

25 Diagram of heart on page no. ncert book



(b) (i) propanol, methyl acetate / propanone  $\text{CH}_3\text{COCH}_3$

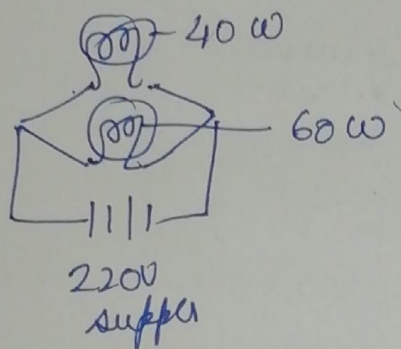
27 difference be shown with the help of correct diagram and explanation

- (1) Fig 8.8 (page no. 135)  
 Fig 8.7 (page no 134)
- (ii) Fig 8.1 (page no. 129)  
 Fig 8.2 (page no. 130)
- (iii) Fig 8.3 (page no. 131 & 130.)
- (iv) Fig 8.4 (page no. 131)  
 fig 8.5 (page no. 132)
- (v) fig 8.6 (page no. 132.)



28 Page no. 139.

29



$$P = V \times I$$

$$\text{when } P = 60 \quad I = \frac{60}{220}$$
$$V = 220$$

$$\text{when } P = 40 \quad I = \frac{40}{220}$$
$$V = 220$$

$$\text{Total Energy consumed in 1 hr} = 40 \text{ W} + 60 \text{ W} = 100 \text{ W}$$
$$\text{in KWh} = \frac{100}{1000} = \frac{1}{10} = \underline{0.1 \text{ KWh}}$$

30  $\text{CuSO}_4$ . water of crystallisation