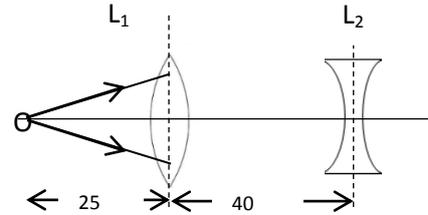


Instructions

- Answer All Questions
- In each of the questions 1 to 40, pick one of the alternatives to your choice (1), (2), (3), (4) which you consider is correct or most appropriate.
- Mark a cross (X) on the number corresponding to your choice in the answer sheet provided.
- Further instructions are given on the back of the answer sheet. Follow them carefully.

1. The standard international unit used to measure temperature is,
(1) Θ . (2) T. (3) $^{\circ}\text{C}$. (4) K.
2. The physical quantity without a unit out of the following is,
(1) amount of substance. (2) molecular mass.
(3) Relative Atomic Mass. (4) concentration.
3. The answer which includes seeds that are adapted to disperse through wind and water respectively is,
(1) water lily, castor (2) milk weed, coconut
(3) hora/ Lennei, rubber (4) hora/ lennei, castor
4. Contraction of voluntary muscles is controlled by,
(1) cerebrum. (2) cerebellum. (3) medulla oblongata. (4) spinal cord.
5. The phylum that animals such as hydra and Sea anemone belong to,
(1) Cnidaria. (2) Annelida. (3) Arthropoda. (4) Echinodermata.
6. The gas used for reduction of hematite in the blast furnace in the process of extracting iron is
(1) carbon dioxide (2) carbon monoxide (3) oxygen (4) water vapour
7. What is the momentum of a body with a mass of 500g moving at a velocity of 60cm s^{-1} ?
(1) 30000kg m s^{-1} (2) 300kg m s^{-1} (3) 30kg m s^{-1} (4) 0.3kg m s^{-1}
8. The Specific Latent Heat of vaporization of water is 2.260kJ kg^{-1} . The quantity of heat required to bring 10g of water at 100°C in to water vapor at 100°C is,
(1) 22600J . (2) 2260J . (3) 226J . (4) 22.6J .
9. When a ceiling fan is connected to a 12V electric supply, A current of 2A flows through it. What is the power of the ceiling fan ?
(1) 6W (2) 12W (3) 24W (4) 48W
10. The composition of a liquid – liquid solution is marked as $12\% \text{V/V}$. The volume of solute in 50cm^3 of the solution is,
(1) 6cm^3 . (2) 12cm^3 . (3) 44cm^3 . (4) 88cm^3 .
11. 7% of the body weight of a human is by minerals. Out of them calcium and phosphorus are macro elements. A symptom of deficiency of calcium is,
(1) weakening of muscles. (2) weakening of teeth and bones.
(3) weakening of nerves. (4) Anaemia.

12. L_1 and L_2 are convex and concave lenses with focal lengths of 25 cm and 20 cm respectively. A point object 'O' is placed at a distance of 25 cm from L_1 . The final image after refraction through both lenses is placed,
- at Infinity left to the convex lens.
 - at a distance of 25 cm left to the convex lens.
 - at a distance of 20cm left to the concave lens.
 - at infinity right to the concave lens.



13. Which of the following is a longitudinal wave?
- Ripples on the surface of water.
 - Waves that come through the air from a violin to the ear.
 - Waves formed by the vibrations of a string of a guitar.
 - Heat waves that come to a person near a burning fire.

14. The four statements given below are regarding the **Lub – Dup** sound of the heart beat.
- 'Lub' sound is formed at the closure of bicuspid and tricuspid valves.
 - 'Lub' sound is formed at the closure of semi - lunar valves.
 - 'Dup' sound is formed at the closure of bicuspid and tricuspid valves.
 - 'Dup' sound is formed at the closure of semi - lunar valves.

What is the answer with correct statements?

- A and B
- A and C
- A and D
- B and D

15. The compound that releases H^+ ions through fractional ionization in an aqueous solution is,
- HNO_3 .
 - H_2CO_3 .
 - H_2SO_4 .
 - $NaOH$.

16. Which process is considered as an excretory activity occurring in plants is,
- exhausting of water vapour through transpiration.
 - exhausting of minerals through guttation.
 - production of oxygen during photosynthesis.
 - exhausting of water drops through guttation.

17. Which of the following elements produces an amphoteric oxide?

Na , Mg , Al , S , P

- Na
- Mg
- S
- Al

18. Few statements are regarding inheritance are given below

- Monohybrid cross is studying about the inheritance of only one characteristic of a single pair of contrasting characteristic.
- Transmission of inherited characteristic to next generation is known as heredity.
- Inherited characteristic **cannot** skip a few generations and transmit to another generation

The true statements of the above are

- A and B
- A and C
- B and C
- A, B and C

19. Metal 'X' reacts with diluted acids and emits Hydrogen. Where could it be placed in the active metal series ?

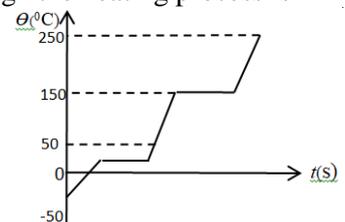
- between Ag and Au
- between Pb and Cu
- between Cu and Hg
- between Al and Fe

20. The Sodium (Na) atom has 11 protons, 12 neutrons and 11 electrons. The standard method of writing that atom is,

- ${}_{11}^{12}\text{Na}$.
- ${}_{11}^{11}\text{Na}$
- ${}_{11}^{23}\text{Na}$.
- ${}_{12}^{23}\text{Na}$.

21. A solid was gradually heated and the temperature variation of the solid through the heating process is shown in the graph. The freezing point of the solid, is approximately

- -50°C .
- 25°C .
- 150°C .
- 250°C .

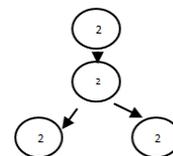


22. Select the **false** statement out of the followings.

- Water and acid are essential components for rusting of iron.
- Acids and minerals are factors that accelerate the process of rusting.
- Bases decrease the speed of rusting.
- Cathode protection prevents rusting.

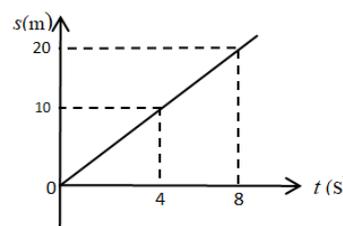
23. The diagram shows how chromosomes are divided at a particular phase during cell division. Which of the following is **not** an important feature of this type of cell division?

- (1) The affects to the growth of the bodies of multicellular organisms.
- (2) It can be considered as an asexual reproduction.
- (3) It creates new cells to replace dead cells.
- (4) It helps keep the number of chromosomes constant throughout generations.



24. The diagram shows the displacement time graph of the movement of a bicycle. According to the graph what is the velocity of the bicycle ?

- (1) 0.4ms^{-1} .
- (2) 2.5ms^{-1} .
- (3) 5ms^{-1} .
- (4) 20ms^{-1} .



25. Which of the following is a use of expansion ?

- (A) Fitting iron rims to wooden cart wheels.
 - (B) Leaving a small gap between the rails on railways.
 - (C) Fitting a bimetallic strip to an electric iron.
 - (D) Loosely fitting the telephone wires and the cables carrying electricity between posts.
- (1) only C (2) only A and B (3) only A and C (4) all A, B, C and D

26. Which of the following is a mechanical method of separating the components in a mixture

- (1) Sifting (2) Sieving (3) Floating (4) all the above

27. Consider the following statements regarding water

- (A) An excellent solvent.
- (B) Important in regulating body temperature.
- (C) Acts as the medium of transporting substances within the body.
- (D) Important for the proper function of enzymes.

Select the answer which includes the unique features of water.

- (1) A,B,C (2) B,C,D (3) A,B,D (4) A,C,D

28. The rate of reaction depends on the collisions of particles per unit time. Consider the following statements regarding the above phenomenon.

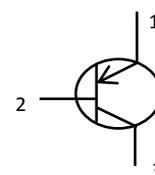
- (A) When the concentration of the reactants is increased the rate of collisions between particles increases.
- (B) When temperature of the medium is decreased the rate of collisions between the reactant particles decrease.
- (C) When the surface area of the reactants are increased the rate of collisions between particles decreases.

The true statements among these are,

- (1) A and B only (2) A and C only (3) B and C only (4) All. A,B and C

29. Given below is a symbol of a transistor. Select the option which shows the correct type of transistor and its respective terminals.

Option	Type of transistor	Base	Emitter	collector
(1)	nnp	2	1	3
(2)	nnp	1	2	3
(3)	pnnp	2	1	3
(4)	pnnp	3	1	3



30. How many sodium carbonate molecules are found in 53 grams of sodium carbonate (Na_2CO_3)
(Na =23, C=12, O=16)

- (1) $\frac{6.022 \times 10^{23} \times 53}{106}$ (2) $\frac{6.022 \times 10^{23} \times 106}{53}$ (3) $\frac{106 \times 53}{6.022 \times 10^{23}}$ (4) $\frac{53 \times 53}{6.022 \times 10^{23}}$

31. Consider the following statements on the reflection and refraction of light.

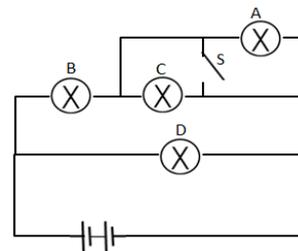
- A. All light rays that incident on the surface that separate the two transparent medium, with an incline is refracted.
B. Light rays travelling from a dense medium to a rare medium when reflected back in to the same medium is called total internal reflection.
C. Laws of refraction are called **Snell's Laws**.

Out of the above statements

- (1) only B is true. (2) only A and B are true.
(3) All A, B and C are true. (4) all are **not true**.

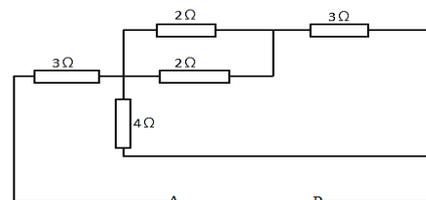
32. The following figure shows four identical Bulbs A, B, C and D connected to a circuit. When the switch "S" is 'on' / closed,

- (1) bulb A turns off and brightness of B and C increases.
(2) bulb C turns off and the brightness of B and A decreases.
(3) A and C turn off and the brightness of D increases.
(4) A and C turn off and the brightness of B increases.



33. Out of the deaths occurred due to diseases in Sri Lanka about 60% had occurred due to non-contagious diseases One of the main reasons for having non contagious diseases is,

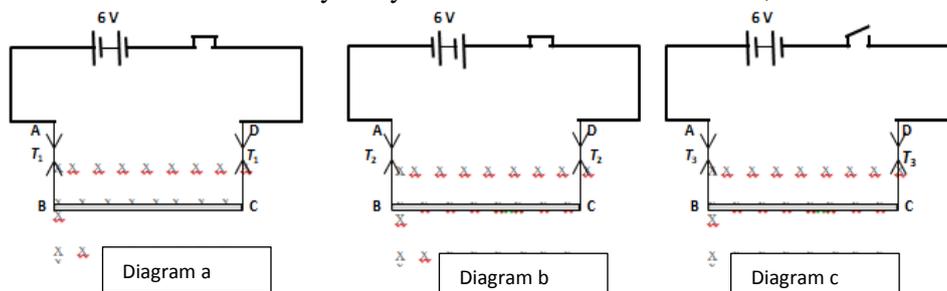
- (1) drinking contaminated water.
(2) wrong food consumption patterns.
(3) increase in the percentage of greenhouse gases in the atmosphere.
(4) consumption of food grown **without** organic fertilizer.



34. What is the equivalent resistant between A and B in the given circuit?

- (1) 5 Ω (2) 7 Ω (3) 9 Ω (4) 11 Ω

35. B C rod is hung horizontally by two lightweight conductive fibers AB and DC . A magnetic field is acting perpendicular the plane of the paper and into the paper. Electric circuits are connected across to A and D ends of the fibers. The three ways they are connected are shown as A, B and C in the diagrams.



Which answer shows the correct relationship of the tensions between the fibers.

- (1) $T_1 > T_2 > T_3$ (2) $T_1 > T_3 > T_2$ (3) $T_1 = T_2 > T_3$ (4) $T_2 > T_3 > T_1$

36. Given below are some statements about electro chemistry.

- A- The removal of electrons is oxidation.
B- The electrode at which the oxidation occurs is the cathode.
C- Electrons flow from the anode to the cathode through the external circuit.

Out of the above the true statements are,

- (1) Only A and B (2) Only B and C (3) Only A and C (4) All A, B and C

37. Smoking causes many respiratory diseases. Consider the following statements on smoking
Statement 1- The carrying capacity of oxygen in the blood of smokers reduces.
Statement 2- Carbon monoxide in cigarette smoke is absorbed by blood and binds with hemoglobin in the lungs.

Select the correct answer from the answers given below.

- (1) Both 1 and 2 statements are **true**.
 (2) Both 1 and 2 statements are **false**.
 (3) Statement 1 is true but statement 2 is **false**.
 (4) Statement 1 is false but statement 2 is **true**.

38. Following are the chemical equations related to the two types of cellular respiration.



Select the correct answer relevant to the above equations

- (1) (A) is aerobic respiration and it incompletely breaks down the glucose molecules.
 (2) (B) is anaerobic respiration and it completely breaks down the glucose molecules.
 (3) (B) is anaerobic respiration and it incompletely breaks down the glucose molecules.
 (4) (B) is anaerobic respiration and it completely breaks down glucose molecules.

39. Following are rough sketches of three types of muscle tissues. Select the correct answer relevant to the tissues.



Diagram a



Diagram b



Diagram c

	a	b	c
(1)	Found in the walls of the digestive tract.	Found in the bicep muscles.	Found in the heart.
(2)	These cells are spindle shaped.	cylindrical in shape. Branched.	Branched.
(3)	Voluntary.	Voluntary.	In voluntary.
(4)	Uni nucleate. The nucleus is in the middle of the cell.	Uninucleate. The nucleus is located peripherally.	Uninucleate. The nucleus is located without a specific place.

40. Given below are some unfavorable effects of environmental pollution.

- (a) Increase in the global warming.
 (b) Reduction of crop yield.
 (c) Occurrence of acid rains.
 (d) Introduction of invasive species.

Select the answer which consists facts that could be divided as the direct and the indirect effects of environmental pollution.

	Direct effects	Indirect effects
(1)	a,b	c,d
(2)	a,c	b,d
(3)	b,c	a,d
(4)	a,d	b,c

Paper 1 - Answer Sheet

Question No	Correct Option						
1	4	11	2	21	2	31	4
2	3	12	3	22	1	32	4
3	2	13	2	23	4	33	2
4	1	14	3	24	2	34	1
5	1	15	2	25	3	35	4
6	2	16	3	26	4	36	3
7	4	17	3	27	1	37	1
8	1	18	1	28	1	38	3
9	3	19	4	29	3	39	1
10	3	20	3	30	1	40	2