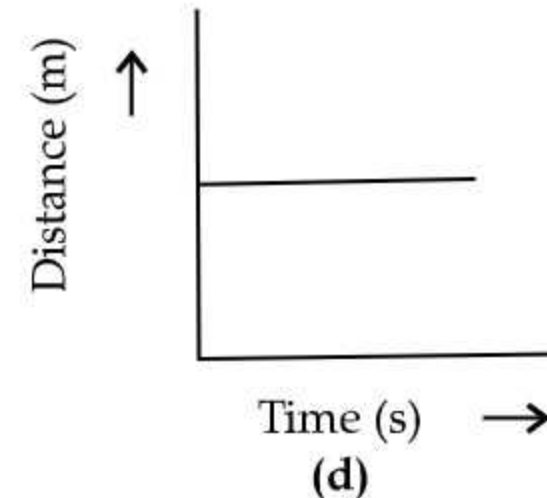
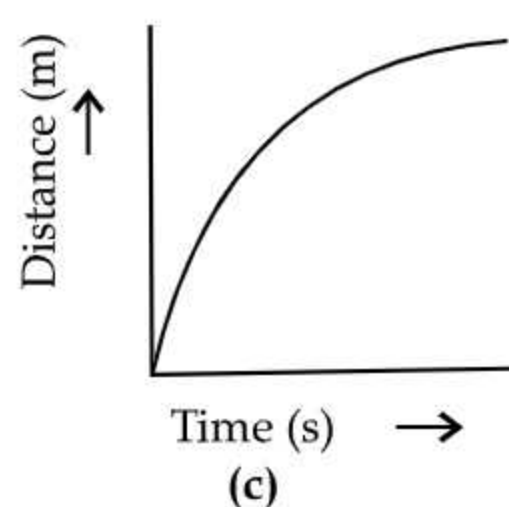
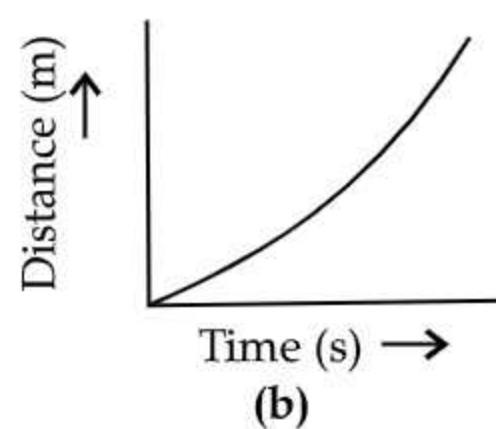
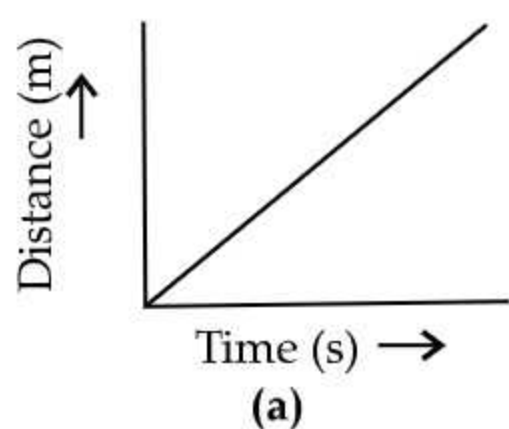


Sample Question Paper

Section 'A'

- AI** 1. A key of a mechanical piano struck gently and then struck again but much harder this time. In the second case
- sound will be louder but pitch will not be different
 - sound will be louder and pitch will also be higher
 - sound will be louder but pitch will be lower
 - both loudness and pitch will remain unaffected
2. The property to flow is unique to fluids. Which one of the following statements is correct?
- Only gases behave like fluids
 - Gases and solids behave like fluids
 - Gases and liquids behave like fluids
 - Only liquids are fluids
3. Mass of one atom of oxygen is
- $\frac{16}{6.023 \times 10^{23}} \text{ g}$
 - $\frac{32}{6.023 \times 10^{23}} \text{ g}$
 - $\frac{1}{6.023 \times 10^{23}} \text{ g}$
 - 8 u
- AI** 4. Which of the following figure represents uniform motion of a moving object correctly?



5. Which of the following correctly represent the electronic distribution in the Mg atom?
- 3, 8, 1
 - 2, 8, 2
 - 1, 8, 3
 - 8, 2, 2
6. Rusting of an article made up of iron is called
- corrosion and it is a physical as well as chemical change
 - dissolution and it is a physical change
 - corrosion and it is a chemical change
 - dissolution and it is a chemical change

AI 7. Chromosomes are made up of

- (a) DNA (b) Protein
(c) DNA and protein (d) RNA

OR

Lipid molecules in the cell are synthesised by

- (a) smooth endoplasmic reticulum (b) rough endoplasmic reticulum
(c) golgi apparatus (d) plastids

8. Choose the wrong statement.

- (a) The nature of matrix differs according to the function of the tissue.
(b) Fats are stored below the skin and in between the internal organs.
(c) Epithelial tissues have intercellular spaces between them.
(d) Cells of striated muscles are multinucleate and unbranched.

OR

Parenchyma cells are

- (a) relatively unspecified and thin walled. (b) thick walled and specialized.
(c) lignified. (d) none of the above.

9. Who introduced the system of scientific nomenclature of organism?

- (a) Robert Whittaker (b) Carl Linnaeus
(c) Robert Hooke (d) Ernst Haeckel

OR

AI Elephantiasis is caused by

- (a) *Wuchereria* (b) Pinworm
(c) Planarians (d) Liver flukes

10. A passenger in a moving train tosses a coin which falls behind him. It means that motion of the train is

- (a) accelerated. (b) uniform.
(c) retarded. (d) along circular tracks.

11. Write the formula to calculate the speed of a body moving along a circular path of radius ' r ' when it has completed n revolutions in time t .

OR

Mention the physical quantity shown by the slope of a speed -time graph.

12. What is the duration of Kharif season ?

13. Name the gas produced when glucose molecules breakdown using oxygen.

AI 14. The molecules of water have more energy as compared to molecules of ice at same temperature. Justify this statement.

OR

When 2 ml of dettol is dissolved in 100 ml of water, the smell can be detected even on repeated dilution. Identify the physical nature of matter.

AI 15. When is work done by a force zero ?

OR

Write the observed energy transformation that takes place at thermal power station.

DIRECTIONS(Qs.16to20):Inthefollowingquestions,astatementofassertion(A)isfollowedbyastatementof reason (R). Mark the correct choice as:

- (a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
(b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
(c) Assertion (A) is true but reason (R) is false.
(d) Assertion (A) is false but reason (R) is true.

16. **Assertion:** Air is a mixture.
Reason: Air can be separated into its constituents like oxygen, nitrogen etc. by the physical process of fractional distillation.
17. **Assertion:** Lactometers are used to determine the purity of a sample of milk.
Reason: This instrument is based on Archimedes' principle.
18. **Assertion:** If the distance between two bodies of masses m_1 and m_2 is increased by a factor of 5, the gravitational force is reduced by $\frac{1}{25}$.
Reason: The gravitational force is inversely proportional to the square of the distance between the two bodies.
19. **Assertion:** A person suffering from AIDS cannot fight even very minor infections.
Reason: Casual organism of AIDS is HIV.
20. **Assertion:** Atomicity of ozone is three while that of oxygen is two.
Reason : Atomicity is the number of atoms constituting a molecule.

Section 'B'

21. State two advantages of composite fish culture. What is the application of hormonal stimulation in fish culture ?

OR

- (i) State two characteristics of an ideal cattle shed.
- AI** (ii) Cattles are mainly reared for milk or performing agricultural tasks. What are these two categories of cattle known as ?
- (iii) Name two indigenous breeds of cattle.
- AI** 22. Distinguish between longitudinal and transverse waves with one example each.
23. (a) State any one difference between pure and impure substances.
(b) What will you observe when :
(i) Carbon disulphide is added to the compound iron sulphide ?
(ii) Dil. hydrochloric acid is added to a mixture of iron filings and sulphur powder.

OR

Draw a flowchart showing the separation of components of air. Also, name this process.

24. Identify the simple permanent plant tissue with the following descriptions and also mention their location in the plant body :
(i) Cells have irregular wall thickenings.
(ii) Tissues with large intercellular spaces and cells having large air cavity.
(iii) Cells are long, narrow and dead in nature.

OR

Name the type of epithelial tissue that lines the following :

- | | |
|----------------------|--------------------------------|
| (i) Oesophagus | (ii) Respiratory tract |
| (iii) Kidney tubules | (iv) Inner lining of intestine |
| (v) Blood vessels | (vi) Ducts of salivary glands |
25. (a) What is the function of notochord ?
(b) List out any four features that all chordates will possess.

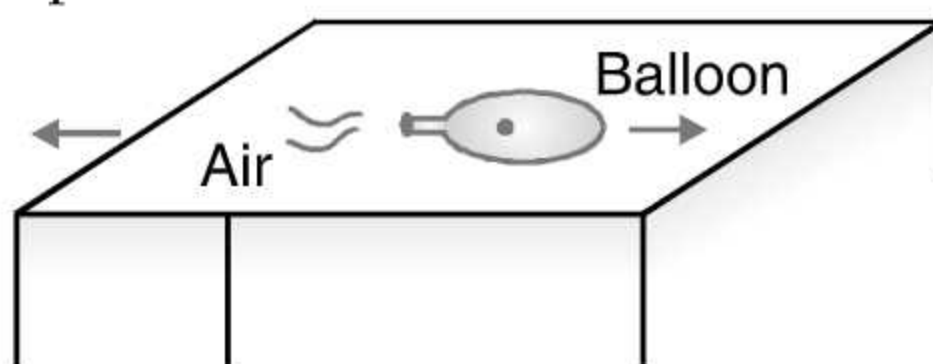
26. Write the chemical formulae of the following :

- (i) Aluminium nitrate
(ii) Magnesium hydrogen carbonate
(iii) Sodium sulphate

OR

- (i) Write the chemical formula of magnesium hydroxide.
(ii) Calculate the number of aluminium ions present in 0.051 g of aluminium oxide.
[Atomic Mass of Al = 27 u]

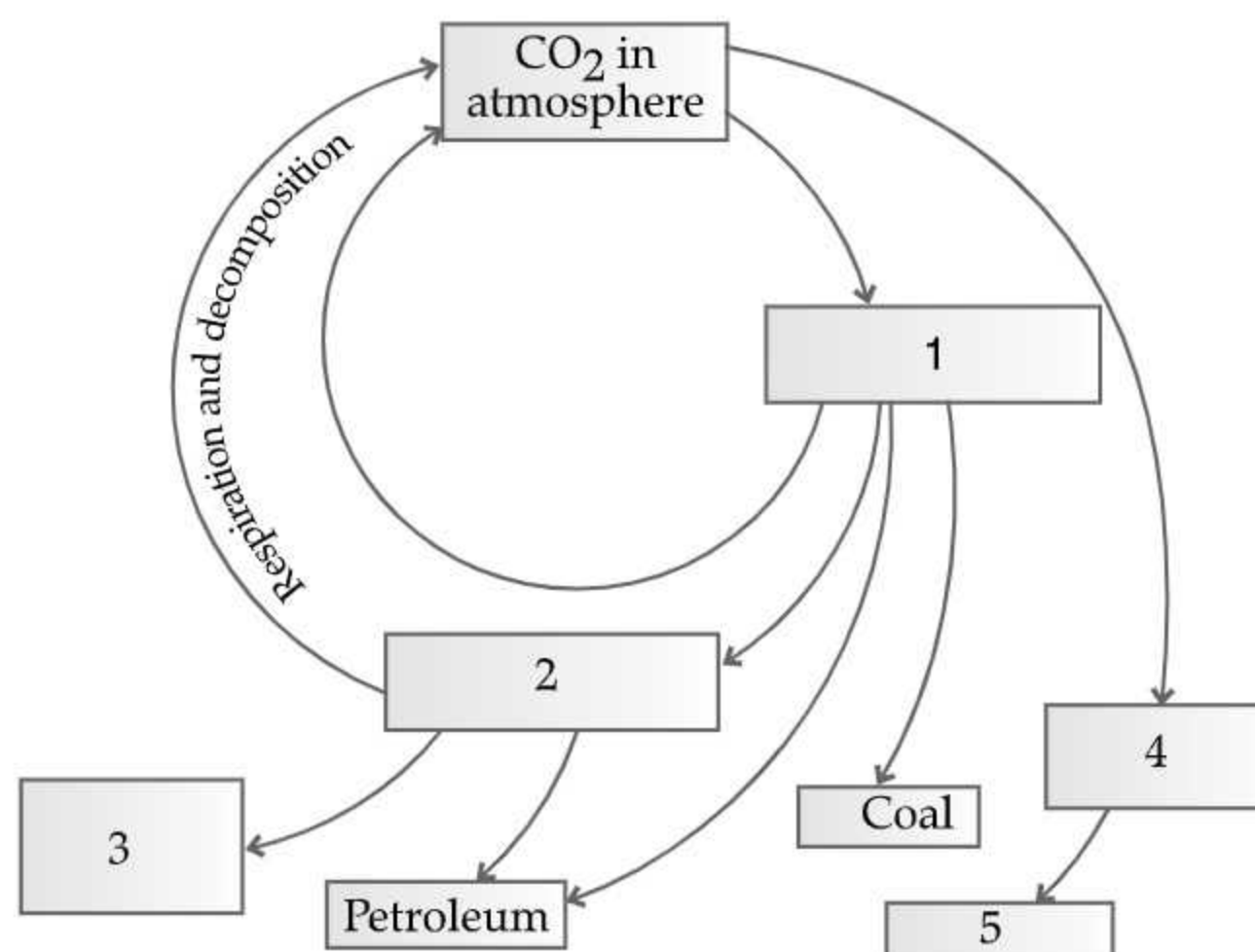
27. A motor cycle moving with a speed of 5 m/s obtains an acceleration of 0.2 m/s². Calculate the speed of the motor cycle after 10 seconds, and the distance travelled by it in this time.
28. (i) State Newton's third law of motion.
(ii) If someone jumps to the shore from a boat, the boat moves in the opposite direction. Explain.
- AI** (iii) When air from an inflated balloon is allowed to be released, the balloon moves in a direction opposite to that of air. Explain.



29. Distinguish between density and relative density of a substance. The relative density of silver is 10.8. If the density of water is 10³ kg/m³, find the density of silver.
30. (i) A woman draws water from a well of 15 m depth in 15 s. If the mass of her bucket drawn is 10 kg, calculate power used by her.
(ii) When an arrow is shot from a bow, from where will the arrow acquire its kinetic energy ?

Section 'C'

- AI** 31. (i) Name the gas which is used in the process of photosynthesis.
(ii) Complete the following cycle :



32. (i) Prove that if the earth attracts two bodies placed at the same distance from the centre of earth, with equal force; then their masses will be the same.
(ii) Mathematically express the acceleration due to gravity that is expressed by a free falling object.
(iii) Why is 'G' called a universal constant ?
33. 'Over crowded and poorly ventilated housing is a major factor in the spread of airborne diseases'. Explain the statement and support your answer with diagram also.'
34. (a) Distinguish between solids and gases on the basis of following parameters :
(i) Interparticle distance
(ii) Interparticle forces of attraction,
(iii) Compressibility
(b) Give two factors that determine the rate of diffusion of a liquid in another liquid.

OR

AI Answer the following questions :

- (i) Out of boiling and evaporation which is a surface phenomenon ? Explain. In the absence of a refrigerator butter is kept wrapped in a wet cloth during summer. Why ?
(ii) Why do ice-cream appears colder than water at the same temperature ?
35. Describe Rutherford's α -particle scattering experiment and mention the important observations and conclusions drawn from this experiment.

36. Do all cells of our body look alike in terms of shape, size and structure ? What similarities do they have ? Illustrate by drawing diagrams of various cells present in human body.

OR

- (a) What is the name given to the thread shaped structures in the nucleus ? Why is it important?
- (b) Draw a diagram of the nucleus to show the given parts :
 - (i) nucleolus, (ii) nuclear pore, (iii) nuclear envelope.

□□□