A.P. Board

(Internal) Examination - 2024-25

Subject: Science

Class: IX (Nine)

Time Allowed: 3 Hours

Full Marks: 80

General instructions:

1) This question paper consists of 41 questions divided into 5 sections.
2) All questions are compulsory. However, an internal choice is provided in Some questions
3) **Section A** consists of 20 objective type questions carrying **1** mark each.
4) **Section B** consists of 10 very short questions carrying **2** marks each.
5) **Section C** consists of 06 short answer type question **3** marks each.
6) **Section D** consists of 03 long answer type questions carrying **4** marks each.
7) **Section E** consists of 02 very long type questions carrying **5** marks each.

Section - A (1 Mark Each)

1. Amoeba acquires its food through a process termed.

   (a) Plasmolysis (b) Endocytosis

   (c) Exocytosis (d) Both endocytosis & exocytosis

2. Chromosomes are made up of

   a) RNA (b) DNA (C) DNA & Protein (d) Protein.

3. Which type of solution is formed when sand and water are mixed thoroughly and then kept undisturbed for some time?

   a) True Solution (b) Mixture (c) Colloidal (d) Suspension

4. The area under the velocity- time group gives the value of

   a) Velocity (b) Acceleration (c) Mass (d) Distance travelled

5. Pulses crops are rich in

   a) Fats (b) Vitamins (c) Proteins (d) Carbohydrates

6. If we release a magnet held in our hand, it falls to the ground. The force which makes the magnet fall down is an example of.

   a) Balanced force (b) Unbalanced force (c) Magnetic force (d) Muscular force

7. In water, the proportion of oxygen and hydrogen by mass is

a) 1:4 (b) 1:8 (c) 4:1 (d) 8:1

8. Which one of the following nutrients is not available in fertilizer?

a) Potassium (b) Nitrogen (c) Phosphorus (d) Iron

9. The law of gravitation gives the gravitational force between:

a) The earth and a point mass only

b) The earth and the Sun only

c) Any two bodies having some mass

d) Any two charged bodies only

10. Lignified, narrow, elongated and dead cells are found in

a) Collenchymas (b) Phloem (c) Parenchyma (d) Sclerenchyma..

11. Which one of the following crops requires a minimum quantity of NPK or urea for its proper growth?

a) Paddy (b) Peas (c) Wheat (d) Sugarcane

12. Which of the following correctly represent the electronic distribution in the Mg Atom?

a) 8,2,2 (b) 2,8,2 (C) 3,8,1 (d) 1,8,3

13. Tendons help to connect

a) Muscle to muscle (b) Muscle to bone (c) bone to cartilage (d) bone to bone

14. In which of the following cases of motion, the distance moved and the magnitude of displacement are equal:

a) The earth is revolving around the Sun.

b) The pendulum is moving to and fro.

c) A car is moving on a straight road.

d) A car is moving in a circular path.

15. Which one of the following statement is correct in respect of fluids?

a) Only gases behave as fluids

b) Gases and solids behave as fluids

c) Gases and liquids behave as fluids

d) Only liquids behave as fluids

16. When we change a feeble sound to a loud sound, we increase its
a) Frequency (b) Amplitude (c) Velocity (d) Wavelength.

17. The commercial unit of energy is
a) Watt (b) Watt- hour (c) Kilowatt - hour (d) Kilo watt.

18. Which of the following can be called a suspension?
a) Milk (b) Salt solution (c) Milk of magnesia (d) Vinegar

19. The well defined nucleus is absent in
a) Eukaryotic cell (b) Plant cell (c) Prokaryotic cell (d) Animal cell

20. A food sample turned blue - black after addition of a few drops of iodine solution. The sample contains:
a) Fat (b) Glucose (c) Starch (d) Protein

Section B (2 marks each)

21. Why is plasma membrane called a selectively permeable membrane?

22. Why does a cricket player move his hands backward while catching the ball?

23. What happens when the temperature of the solids increases?

24. The mass per unit volume of a substance is known as density (density = mass/ Volume). Arrange the following in order of increasing density: air, exhaust from chimneys, honey, water, chalk, cotton and iron.

25. What is reverberation? How can it be reduced?

26. Osmosis is a kind of diffusion. Explain.

27. Why do the driver and the person seated in front seat need a seat belt?

28. The smell of hot sizzling food reaches our nose several metres away, but to get the smell from cold food we have to go close. Why?

29. Define momentum. Write its SI unit?

30. What are macro-nutrients and why are they called macro-nutrients?

Section - C (3 marks each)

31 Find out the valency of atoms represented by the following figures.

i ii iii

32 What are homogeneous and heterogeneous mixtures?

33 What is evaporation? State the various factors which affect evaporation.

34 Do you agree "A cell is a building unit of an organism" If yes, explain why ?

35 Write the important of the universal law of generation.

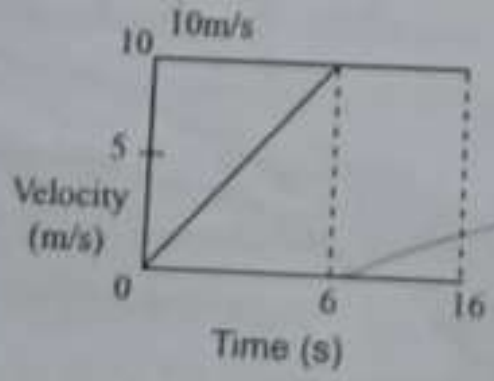
36 What are the differences between the mass of an object and its weight?

Section - D (4 marks each)

37 Usha swims in a 90m long pool. She covers 180m in one minute by swimming from one end to other end and back along the same straight path. Find the average speed and average velocity of Usha.

Or

The velocity time graph of runner is given in the graph.



a) What is the total distance covered by the runner in 16 seconds?

b) What is the acceleration of the runner at time (t) = 11 sec?

38. Differentiate between bone and cartilage with respect to structure, function and location.

Or

Differentiate between prokaryotic cell and eukaryotic cell.

39. Calculate the molar mass of the following substances.

(Atomic masses of $C = 12u$, $H = 1u$, $Cl = 35.5u$, $S = 32u$, $P = 31u$)

a) Ethyne (C_2H_2)

b) Sulphur molecule (S_8)

c) Phosphorous molecule (P_4)

d) Hydrochloric acid (HCl)

Or

Describe Bohr's model of the atom with a suitable diagram.

Section - E (5 marks each)

40. On the basis of the number of protons, neutrons and electrons in the sample given below, identify

i. The Cation

ii. The pair of isobars and

iii. The pair of isotopes.

Sample	Protons	Neutrons	Electrons
A	17	18	16
B	18	19	18
C	17	20	17
D	17	17	17

41. Differentiate among the true solution, suspension and colloid in a tabular form under following heads.

a) Stability

b) Filterability

c) Type of mixture.

Or

Explain main functional regions of a cell with the help of a diagram.