

I. Choose the correct answer: 12x1=12

- Rulers, Measuring tapes and Metre scales are used to measure _____.
a) mass b) weight c) time d) length
- Area under velocity - time graph shows _____.
a) Velocity b) Time c) Displacement d) None of the above
- The instrument used to measure atmospheric pressure is _____.
a) Barometer b) Hydrometer c) Digital Balance d) All the above
- _____ has the same properties throughout the sample.
a) Pure substance b) Mixture c) Colloid d) Suspension
- The valency of oxygen is _____.
a) 6 b) 2 c) 0 d) 3
- _____ group belongs to Nitrogen family.
a) 14 b) 15 c) 16 d) 17
- The animal without skull is _____.
a) Acrania b) Acephalia c) Apteria d) Acoelomata
- Airsacs and pneumatic bones are seen in _____.
a) fish b) frog c) bird d) bat
- The fibres consist of _____.
a) Parenchyma b) Sclerenchyma
c) Collenchyma d) None of these
- Aerenchyma is found in _____.
a) Epiphytes b) Hydrophytes
c) Halophytes d) Xerophytes
- The bending of root of a plant in response to water is called _____.
a) Thigmonasty b) Phototropism
c) Hydrotropism d) Photonasty
- Transpiration takes place through _____.
a) fruit b) seed c) flower d) stomata

II. Answer any seven of the following in short: 7x2=14

- State Pascal's law.
- Compare speed and velocity.
- The main scale reading is 8cm and Vernier coincidence is 4 and negative zero error is 0.02cm. Then calculate the correct reading.
- A few drops of 'Dettol' when added to water the mixture turns turbid. Why?

17. Match the following:

- | | | |
|---------------|---|-----------------------|
| a) Dalton | - | Hydrogen atom model |
| b) Chadwick | - | Discovery of nucleus |
| c) Rutherford | - | First atomic theory |
| d) Neils Bohr | - | Discovery of neutrons |

18. What are metalloids?

19. What is nastic movement?

20. Answer in one word:

- Ctenidia are respiratory organs in _____.
- The larvae of an amphibian is _____.

21. Define taxonomy.

22. Draw the diagram of Neuron and label the parts.

III. Answer any seven of the following: 7x4=28

- Explain different types of Motion.
- A man whose mass is 90kg stands on his feet on a floor. The total area of contact of his two feet with the floor is 0.036m^2 . (Take $g=10\text{ms}^{-2}$). How much is the pressure exerted by him on the floor?
- With an appropriate illustration prove that the force acting on a smaller area exerts a greater pressure.
- Explain the Brownian movement with diagram.
- Write any four postulates of Bohr's atomic model?
- What are the limitations of Mendeleev's periodic table?
- Give an account on Phylum Annelida.
- In which stage of mitosis the chromosomes align in an equatorial plane? How?
- Define any four types of tropism in plants with example.
- Write any four differences between tropic and nastic movements.

IV. Answer in detail: 3x7=21

Part - A

33. a) Derive the equations of motion by graphical method.
(or)

b) How will you find the thickness of a one rupee coin?

Part - B

34. a) State any five features of modern periodic table.
(or)

b) Explain Tyndall effect and Brownian movement with suitable diagram.

Part - C

35. a) Give an account on Phylum Arthropoda.

(or)

b) Differentiate between tropic and nastic movements.