

FIRST MID TERM EXAMINATION - 2022

10 - STD

SCIENCE

Time : 1.30 Hrs

Marks : 50

PART - I

I Choose the correct answer.

8 X 1 = 8

1. The unit of 'g' is ms^{-2} . It can be also expressed as
 a) Cm S^{-1} b) N Kg^{-1} c) $\text{N m}^2 \text{Kg}^{-1}$ d) $\text{Cm}^2 \text{S}^{-2}$
2. The eye defect 'Presbyopia' can be corrected by
 a) convex lens b) concave lens
 c) convex mirror d) bifocal lenses
3. The volume occupied by 4.4g of CO_2 at S.T.P.
 a) 22.4 litre b) 2.24 litre c) 0.24 litre d) 0.1 litre
4. is an important metal to form amalgam
 a) Ag b) Hg c) Mg d) Al
5. Casparian strips are present in the of the root.
 a) cortex b) pith c) pericycle d) endodermis
6. The segments of leech are known as
 a) metameres b) proglottids c) strobila d) all the above
7. Which is the sequence of correct blood flow
 a) ventricle - atrium - vein - arteries
 b) atrium - ventricle - veins - arteries
 c) atrium - ventricle - arteries - vein
 d) ventricles - vein - atrium - arteries
8. Vomiting centre is located in
 a) medulla oblongata b) stomach c) cerebrum d) hypo thalamus

PART - II

II Answer any four questions. (Q. No.14 is compulsory)

4 X 2 = 8

9. State the principle of moments.
10. **a) True or false : (If false give the correct statement)**
 All wires are used as electric cables due to their silvery white colour.

b) Assertion and reason:

Answer the following questions using the data given below.

- i) A and R are correct, R explains the A.
- ii) A is correct, R is wrong. iii) A is wrong, R is correct.
- iv) A and R are correct, R doesn't explain A.

Assertion : Magnesium is used to protect steel from rusting.

Reason : Magnesium is more reactive than iron.

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11. Draw and label the structure of oxysomes.
12. How is diastema formed in rabbit?
13. Match the following.

Column I**Column II**

- | | | |
|----------------------|---|---------------------------|
| a) Nissil's granules | - | Forebrain |
| b) Hypothalamus | - | Peripheral nervous system |
| c) Cerebellum | - | Cyton |
| d) Schwann cell | - | Hind brain |
14. An object of height 3cm is placed at 10cm from a concave lens of focal length 15cm. Find the size of the image.

PART - III

III Answer any five questions. Q.No. 21 is compulsory. 5 X 4 = 20

15. Differentiate the eye defects : Myopia and Hypermetropia.
16. a) A is a silvery white metal. A combines with O_2 to form B at $800^\circ C$, the alloy of A is used in making the aircraft. Find A and B.
b) Give the equation for formation of rust.
17. a) What is respiratory quotient?
b) Differentiate Aerobic and Anaerobic respiration?
18. List out the parasitic adaptations in Leech.
19. Give reasons for the following statements :
a) Guard cells are responsible for opening and closing of stomata.
b) The walls of the right ventricle are thicker than the right auricles.
20. Illustrate the structure and functions of brain.
21. a) Calculate the number of moles of a sample that contains 12.046×10^{23} atoms of iron?
b) Calculate the gram molar mass of $Ca_3(PO_4)_2$.

PART - IV

IV Answer all the questions.

2 X 7 = 14

22. a) State and prove that law of conservation of linear momentum. **(OR)**
i) State Avogadro's law.
ii) Derive the relationship between relative molecular mass and vapour density.
23. a) How does the light dependent reaction differ from the light independent reaction? What are the end product and reactants in each? Where does each reaction occur within the chloroplast? **(OR)**
b) i) Enumerate the functions of blood. (5points)
ii) Who discovered Rh factor? Why was it named so?