

(Arniyator district)

Register Number :

010301

QUARTERLY EXAMINATION - 2024**STD: 10****SCIENCE**

Marks : 75

Time : 3.00 hrs

PART - I**Note: i) Answer all the questions.****15x1=15****ii) Choose the most suitable answer and write the code with the corresponding answer.**

- To project the rockets which of the following principle(s) is/are required?
 - Newton's law of motion
 - Newton's law of gravitation
 - Law of conservation of linear momentum
 - Both (a) and (c)
- Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens.
 - f
 - 2f
 - infinity
 - between f and 2f
- A charge of 12 coulomb flows through a bulb in 5 second. What is the current through the bulb?
 - 60 A
 - 17 A
 - 2.4 A
 - 24 A
- Which of the following has the smallest mass?
 - 6.023×10^{23} atoms of He
 - 1 atom of He
 - 2 kg of He
 - 1 mole atoms of He
- is an important metal to form amalgam
 - Ag
 - Hg
 - Mg
 - Al
- A 25% alcohol solution means
 - 25 ml alcohol in 100 ml of water
 - 25 ml alcohol in 25 ml of water
 - 25 ml alcohol in 75 ml of water
 - 75 ml alcohol in 25 ml of water
- The animals which give birth to young ones are
 - Oviparous
 - Viviparous
 - Ovoviviparous
 - All the above
- Which is the sequence of correct blood flow
 - ventricle → atrium → vein → arteries
 - atrium → ventricle → veins → arteries
 - atrium → ventricle → arteries → veins
 - ventricle → vein → atrium → arteries
- Vomiting centre is located in
 - Medulla oblongata
 - Stomach
 - cerebrum
 - hypothalamus
- Which one is referred as "Master Gland"?
 - Pineal gland
 - Pituitary gland
 - Thyroid gland
 - Adrenal gland
- Syngamy results in the formation of
 - Zoospores
 - Conidia
 - Zygote
 - Chlamydo spores
- 9:3:3:1 ratio is due to
 - Segregation
 - Crossing over
 - Independent assortment
 - Recessiveness

PART - II**Note : - Answer any seven questions (Q.No : 22 is compulsory)****7×2 =14**

- Define inertia. Give its classification.
- Distinguish between ideal and real gas.
- Match the following:

1. Galvanisation	-	Silver – tin amalgam
2. Calcination	-	Alumino thermic process
3. Redox reaction	-	Heating in the absence of air
4. Dental filling	-	Coating with Zn
- Define Atomicity. Give any two examples for hetero diatomic molecules.
- The aquatic animals live more in cold region. Why?
- What is respiratory quotient?
- Write the dental formula of rabbit.

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20. Identify the parts A, B, C and D in the given figure.



21. What are Okazaki fragments?

22. The work done in moving a charge of 10 C across two points in a circuit is 100 J. What is the potential difference between the point?

PART - III

Note : Answer any seven questions (Q. No : 32 is compulsory)

7×4 =28

23. State and prove the law of conservation of linear momentum.

24. Differentiate convex lens and concave lens.

25. Derive the ideal gas equation

26. Give the salient features of "Modern atomic theory"

27. A is a reddish brown metal, which combines with O_2 at $< 1370K$ gives B, a black coloured compound. At a temperature $> 1370K$, A gives C which is red in colour. Find A, B and C with reaction.

28. Differentiate – Monocot root and Dicot root

29. With a neat labeled diagram explain the structure of a neuron.

30. What are the conditions which occur due to lack of ADH and insulin? How are the conditions different from one another.

31. With a neat labeled diagram describe the parts of a typical angiospermic ovule.

32. (i) A solution is prepared by dissolving 45 g of Sodium Chloride in 180 g of water.

Calculate the mass percentage of solute.

(ii) 7.5 litres of ethanol is present in 15 litres of aqueous solution of ethanol. Calculate volume percent of ethanol solution.

PART - IV

Note : - 1. Answer all the questions.

3×7 =21

2. Each question carries seven marks. 3. Draw diagram wherever necessary.

33. (a) (i) List any four properties of light (ii) State Newton's second law
(iii) Define – Ampere

(OR)

(b) (i) List the merits of LED bulb (ii) State Boyle's law

34. a) (i) Calculate the % of each element in calcium carbonate (C-12, O-16, Ca-40)

(ii) The average atomic mass of hydrogen is

(iii) State two conditions necessary for rusting iron.

(OR)

b) (i) In what way hygroscopic substances differ from deliquescent substances?

(ii) Write the uses of Aluminium

35. a) i) Give the importance of transpiration ii) Define triple fusion.

iii) What are allosomes?

(OR)

b) i) Explain the male reproductive system of Rabbit with a labeled diagram.

ii) Why is the circulation in man referred to as double circulation?
