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SCIENCE FULL PORTION TEST

STANDARD X-2022-2023

MARKS : 75

PART-I

TIME : 3hrs

Answer all the questions

(12 × 1=12)

- The eye defect 'presbyopia' can be corrected by  
a) convex lens    b) concave lens    c) convex mirror    d) Bi focal lenses
- The value of Avogadro number \_\_\_\_\_  
a)  $6.023 \times 10^{23}$     b)  $0.6023 \times 10^{23}$     c)  $60.23 \times 10^{23}$     d)  $6.023 \times 10^{-23}$
- SI unit of resistance is  
a) mho    b) joule    c) ohm    d) ohm meter
- \_\_\_\_\_ aprons are used to protect us from gamma radiations  
a) Lead oxide    b) Iron    c) Lead    d) Aluminium
- The number of periods and groups in the periodic table are \_\_\_\_\_.  
a) 6,16    b) 7,17    c) 8,18    d) 7,18
- Solubility is the amount of solute dissolved in \_\_\_\_\_ g of solvent.  
a) 100    b) 10    c) 25    d) 50
- The pH of a solution is 3. Its  $[OH^-]$  concentration is  
a)  $1 \times 10^{-3} M$     b) 3 M    c)  $1 \times 10^{-11} M$     d) 11 M
- Kreb's cycle takes place in \_\_\_\_\_  
a) chloroplast    b) mitochondrial matrix    c) stomata    d) inner mitochondrial membrane
- Which one is referred as "Master Gland"?  
a) Pineal gland    b) Pituitary gland    c) Thyroid gland    d) Adrenal gland
- Pusa Komal is a disease resistant variety of \_\_\_\_\_.  
a) sugarcane    b) rice    c) cow pea    d) maize
- World 'No Tobacco Day' is observed on  
a) May 31    b) June 6    c) April 22    d) October 2
- Which is used to build scripts?  
a) Script area    b) Block palette    c) stage    d) sprite

PART-II

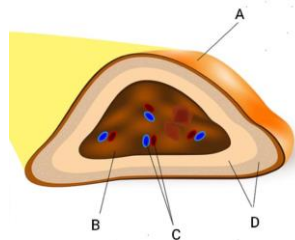
Answer any seven questions. Questions No.22 is compulsory.

(7 × 2 =14)

- Differentiate mass and weight.
- Match the following  
1. Infrasonic    - (a) Compressions  
2. Echo    - (b) 22 kHz  
3. Ultrasonic    - (c) 10 Hz  
4. High pressure region    - (d) Ultrasonography
- Define: Atomicity
- True or False: (If false give the correct statement)**  
a) Solutions which contain three components are called binary solution.  
b) The molecular formula of green vitriol is  $MgSO_4 \cdot 7H_2O$
- Define combination reaction. Give one example for an exothermic combination reaction.
- What is respiratory quotient?
- Assertion:** RBC plays an important role in the transport of respiratory gases.  
**Reason:** RBC do not have cell organelles and nucleus.

- a. If both A and R are true and R is correct explanation of A
- b. If both A and R are true but R is not the correct explanation of A
- c. A is true but R is false
- d. Both A and R are false

20. Identify A, B, C & D



21. What are Okazaki fragments?

22. A charge of 12 coulomb flows through a bulb in 5 second. What is the current through the bulb?

### PART-III

Answer any seven questions. Questions No.32 is compulsory.

(7 × 4= 28)

- 23. Differentiate the eye defects: Myopia and Hypermetropia
- 24. Derive the ideal gas equation.
- 25. a) State two uses of ultrasonic vibrations.  
b) Name two animals which can hear ultrasonic vibrations.
- 26. Derive the relationship between Relative molecular mass and Vapour density
- 27. Classify the following substances into deliquescent, hygroscopic.  
Conc. Sulphuric acid, Copper sulphate penta hydrate, Silica gel, Calcium chloride, and Gypsum salt.
- 28. With a neat labelled diagram explain the structure of a neuron.
- 29. What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus.
- 30. Define Ethnobotany and write its importance.
- 31. Suggest measures to overcome the problems of an alcoholic.
- 32. The hydroxide ion concentration of a solution is  $1 \times 10^{-11} \text{M}$ . What is the pH of the solution?

### PART-IV

Answer all the questions

(3 × 7= 21)

- 33.a) State Newton's laws of motion? (OR)  
b) Compare the properties of alpha, beta and gamma radiations.
- 34.a) Explain smelting process. (OR)  
b) An organic compound 'A' is widely used as a preservative and has the molecular formula  $\text{C}_2\text{H}_4\text{O}_2$ . This compound reacts with ethanol to form a sweet smelling compound 'B'.
  - (i) Identify the compound 'A'.
  - (ii) Write the chemical equation for its reaction with ethanol to form compound 'B'.
  - (iii) Name the process.
- 35.a) Explain the male reproductive system of rabbit with a labelled diagram. (OR)  
b) Enumerate the importance of forest.

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