**Tsi10S**

26-09-2024

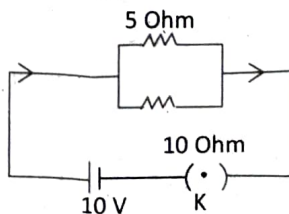Time: 3.00 Hours

**Standard 10**
**SCIENCE**
Part - I

Marks: 75

## I. Choose the correct answer:  12x1=12

1) The unit of 'g' is $ms^{-2}$. It can be also expressed as
   a) $Cm\ S^{-1}$   b) $N\ Kg^{-1}$   c) $Nm^2\ Kg^{-1}$   d) $Cm^2\ S^{-2}$

2) Magnification of convex lens is ...........
   a) positive   b) negative
   c) either positive or negative   d) zero

3) SI unit of electrical resistivity is ..........
   a) Ohm   b) Ohm meter   c) Joule   d) Watt

4) 1 mole of any substance contains ......... molecules
   a) $6.023 \times 10^{23}$   b) $6.023 \times 10^{-23}$   c) $3.0115 \times 10^{23}$   d) $12.046 \times 10^{23}$

5) ........... is an important metal to form amalgam.
   a) Ag   b) Hg   c) Mg   d) Al

6) The chemical formula for blue vitriol is .............
   a) $CaSO_4 . 2H_2O$   b) $CaSO_4 . 5H_2O$   c) $CuSO_4 . 2H_2O$   d) $CuSO_4 . 5H_2O$

7) The xylem and phloem arranged side by side on same radius is called ...........
   a) radial   b) amphivasal   c) conjoint   d) None of these

8) Mammels are .......... animals
   a) Cold blooded   b) Warm blooded   c) Polkilothermic   d) All the above

9) Life span of platelets is .............
   a) 8 - 10 days   b) 75 days   c) 120 days   d) 175 days

10) Which one is referred as "Master Gland"?
    a) Pineal gland   b) Pituitary gland   c) Thyroid gland   d) Adrenal gland

11) Estrogen is secreted by ............
    a) anterior pituitary   b) primary follicle
    c) Graffian follicle   d) Corpus Luteum

12) Identify Dihybrid ratio in $F_2$ generation
    a) 9 : 3 : 3 : 1   b) 9 : 1 : 3 : 1   c) 9 : 1 : 3 : 3   d) 1 : 2 : 1

### Part - II

## II. Answer any 7 questions: Q.No. 22 compulsory.  7x2=14

13) State Snell's law
14) Define one calorie
15) Give any two examples for heterodiatomic molecules
16) State whether True or False. If false write the correct statement
    i)   An alloy is a heterogeneous mixture of metals
    ii)  All ores are minerlas; but all minerals cannot be called as ores
17) Write the reaction for photosynthesis
18) Write the dental formula of rabbit
19) What is the important of valves in the heart?
20) Define reflex arc
21) Draw and Label the parts of Gynoecium
22) **Calculate total resistance in the circuit**

## Part - III

**III. Answer any 7 questions: Q.No. 32 is compulsory.          7x4=28**

23) Differentiate mass and weight
24) a) Why does the sky appear in blue colour?
    b) State Boyle's Law
25) a) State joule's Law of heating
    b) How does a fuse wire protect electrical appliances?
26) a) Define: Atomicity
    b) Write any two uses of copper
27) Draw and Label the T.S of a dicot root
28) How are arteries and veins structurally different from one another?
29) a) What is bolting?
    b) **Match the following**

| Column - I | | Column II |
|---|---|---|
| i) Nissl's granules | - | Fore brain |
| ii) Hypothalamus | - | Peripheral Nervous system |
| iii) Cerebellum | - | Cyton |
| iv) Schwann cell | - | Hindbrain |

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30) How does binary fission differ from multiple fission?
31) Classify neurons based on its structure.
32) 16 grams of NaOH is dissolved in 100 grams of water at 25°C to form a saturated solution. Find the mass percentage of solute

## Part - IV

**IV. Answer all the questions carries seven marks:          3x7=21**
**Draw diagram wherever necessary.**

33) a) State and prove the Law of conservation of Linear momentum
                        **(OR)**
    a) Derive the ideal gas equation
    b) State Ohm's law
34) a) Give the salient features of 'modern atomic theory'
    b) Find the percentage of nitrogen in ammonia
                        **(OR)**
    a) What is rust? Give the equation for formation of rust
    b) In what way hygroscopic substance differ from deliquescent substances
35) a) What is respiratory quotient?
    b) With a neat labelled diagram explain the structure of a neuron
                        **(OR)**
    a) With a neat labelled diagram describe the parts of a typical angiospermic ovule
    b) What are Okazaki fragments?

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