



Standard 10

SCIENCE

Time: 3.00 Hours

Marks: 75

Part - I

I. Choose the correct answer.

12x1=12

- In which of the following sport the turning of effect of force used.
a) swimming b) tennis c) cycling d) hockey
- Power of a lens is $-4D$, then its focal length is
a) 4 M b) -40 M c) -0.25 M d) -2.5 M
- The value of universal gas constant is
a) $83.1 \text{ Jmol}^{-1}\text{K}^{-1}$ b) $8.31 \text{ Jmol}^{-1}\text{K}^{-1}$
c) $0.831 \text{ Jmol}^{-1}\text{K}^{-1}$ d) $831 \text{ Jmol}^{-1}\text{K}^{-1}$
- Kilowatt hour is the unit of
a) resistivity b) conductivity
c) electrical energy d) electrical power
- The volume occupied by 1 mole of a diatomic gas at S.T.P is
a) 11.2 litre b) 5.6 litre c) 22.4 litre d) 44.8 litre
- is called the 'Universal solvent'
a) Water b) Mercury c) Ethanol d) Methanol
- Which is formed during anaerobic respiration
a) Carbohydrate b) Ethyl alcohol c) Acetyl CoA d) Pyruvate
- Normal blood pressure is
a) 80/120 mmHg b) 120/80 mmHg c) 70/110 mmHg d) 110/70mmHg
- controls visual and auditory reflexes
a) cerebellum b) pons
c) thalamus d) corpora quadrigemina
- Which one is referred as "Master Gland"?
a) Pineal gland b) Pituitary gland c) Thyroid gland d) Adrenal gland
- Syngamy results in the formation of
a) Zoospores b) Conidia
c) Zygote d) Chlamydozoospores
- The ratio of seeds in a dihybrid cross in F₂ generation is
a) 9 : 3 : 1 b) 9 : 3 : 3 : 2 c) 9 : 3 : 3 : 3 d) 9 : 3 : 3 : 1

Part - II

II. Answer any 7 questions. Q.No. 22 compulsory.

7x2=14

- State Newton's second Law.
- Define one Caloric.
- Give any two examples for hetero diatomic molecules.
- A is a silvery white metal. A combines with O_2 to form B at 800°C , the alloy of A is used in making the aircraft. Find A and B.
- Draw and label the structure of chloroplast.
- Match the following.

Organs**Membraxious covering**

- | | |
|-----------|----------------|
| 1) Brain | a) Pleura |
| 2) Kidney | b) Capsule |
| 3) Heart | c) meninges |
| 4) Lungs | d) pericardium |

- 19) State whether True or False. If false write the correct statement.
Estrogen is secreted by Corpus Luteum.
- 20) How does binary fission differ from multiple fission.
- 21) What are Okazaki fragments?
- 22) A torch bulb is rated at 3V and 600 mA. Calculate its a) Power b) Resistance.

Part - III

III. Answer any 7 questions. Q.No. 32 compulsory.

7x=35

- 23) a) Differentiate mass and weight.
b) State Boyle's Law
- 24) Differentiate the eye defects: Myopia and Hypermetropia.
- 25) a) Name any two devices, which are working on the heating effect of the electric current.
b) List the merits of LED bulb.
- 26) a) Define Relative Atomic mass
b) State two conditions necessary for rusting of iron.
- 27) In what way hygroscopic substances differ from deliquescent substances.
- 28) Draw and label the T.S. of a dicot root.
- 29) Enumerate the functions of blood.
- 30) a) Name the parts of the hindbrain.
b) Differentiate Voluntary actions and Involuntary actions.
- 31) a) What is bolting? How can it be induced artificially?
b) Match the following
- | Column I | Column II |
|------------------|----------------|
| 1) Fission | - a) Spirogyra |
| 2) Budding | - b) Amoeba |
| 3) Fragmentation | - c) Yeast |
| 4) Regeneration | - d) Hydra |
- 32) Calculate the number of water molecule present in one drop of water which weighs 0.18g.

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Part - IV

IV. Answer all the questions. Each questions carries seven marks. 3x7=21

Draw diagram wherever necessary.

- 33) a) Describe rocket propulsion.
b) Write applications of concave lenses.
- (OR)
- a) Derive the ideal gas equation.
b) State Avogadro's Law
- 34) a) Give the salient features of "Modern atomic theory".
b) Define Atomicity.
- (OR)
- a) Write notes on various factors affecting solubility?
b) What is rust? Give the equation for formation of rust.
- 35) a) Explain the male reproductive system of rabbit with a labelled diagram.
b) Write the dental formula of rabbit.
- (OR)
- a) With a neat labelled diagram describe the parts of a typical angiospermic ovule.
b) Write the differences between endocrine and exocrine gland.