

10

Time : 3.00 Hrs.

First Revision Examination - 2024Register No. **SCIENCE**

Marks : 75

PART - I**Note : i) Answer all the questions.****12 x 1 = 12****ii) Choose the most appropriate answer from the given four alternatives and write the option code and the corresponding answer.**

1. Impulse is the..... a) rate of change of momentum b) rate of change of force and time
c) change of momentum d) rate of change of mass
2. Arrange the following media in descending order on the basis of speed of sound.
a) air > glass > water b) water > air > glass c) glass < water < air d) glass > water > air
3. In Beta decay a) number of neutron decreases by one b) atomic number increase by one
c) number of proton decrease by one d) number of neutron increases by one
4. 25 percent (25%) ethanol solution means
a) 25 ml ethanol in 100 ml of water b) 25 ml ethanol in 25 ml of water c) 25 ml ethanol in 75 ml of water
d) 75 ml ethanol in 25 ml of water
5. Deliquescence is due to a) strong affinity to water b) weak affinity to water c) strong hatred to water
d) inertness to water
6. The blood sucking habit of leech is known as
a) Sanguivorous b) Herbivorous c) Omnivorous d) Carnivorous
7. Root hairs are.....a) cortical cell b) projection of epidermal cell c) unicellular d) both b and c
8. The organism considered to be the fossil bird is.....
a) Ginko biloba b) Archaeopterix c) Paleozoic fern d) Indian Godwana
9. The energy obtained from the movement of water due to ocean tide is.....
a) Tidal energy b) Wind energy c) Solar energy d) Water energy
10. The nervous band connects the two cerebral hemispheres of brain is.....
a) thalamus b) hypothalamus c) corpus callosum d) pons
11. Which of the following software is used to create animation?
a) Paint b) PDF c) MS Word d) Scratch
12. Choose the correct option that shows a perfect match in the following tables.

a) Hetrocyclic compound	i) Benzene
b) Unsaturated compound	ii) potassium stearate
c) Soap	iii) Furan
d) Carbocyclic compound	iv) Ethene

a) A-(i) B-(ii) C-(iii) D-(iv)
b) A-(iii) B-(iv) C-(ii) D-(i)
c) A-(ii) B-(i) C-(iv) D-(iii)
d) A-(iv) B-(ii) C-(iii) D-(i)

PART - II**Note : i) Answer any seven questions.****7 x 2 = 14****ii) Question No.22 is compulsory.**

13. Understand the assertion statement and the reason given and choose the correct choice.
Assertion : When a person swims he pushes the water using the hands backwards and the water pushes the person on the forward direction.
Reason : For every action there is an equal and opposite reaction.
a) Both the assertion and the reason are true and the reason is the correct explanation of the assertion.
b) Both the assertion and the reason is not the correct explanation of the assertion.
c) Assertion is true but the reason is false d) Both the assertion and the reason is false.
14. Why are traffic signals are used in red colour?
15. Why does an empty vessel produce more sound than a filled one?

16. Copper is a reddish brown metal, that reacts with O_2 at less than 1370K to give A, a black coloured compound. At a temperature greater than 1370 k, copper reacts with O_2 to give B which is a red coloured compound. Write the balanced chemical equations for the formation of A and B.
17. Why is the teeth of rabbit called heterodont?
18. Write the functions of cerebellum?
19. Write the characteristics of insect pollinated flowers.
20. The degenerated wing of a kiwi can be considered as a acquired character. Give the reasons.
21. What is psychotropic drugs?
22. A strong ultrasonic sound signal is sent from a ship towards the bottom of the sea. It is received by the receiver after 2S. Calculate the depth of sea? The speed of sound in water 1450 ms^{-1} ?

PART - III

Note : i) Answer any seven questions. ii) Question No.32 is compulsory.

7 x 4 = 28

23. (i) Convert 800 F temperature into kelvin scale.
(ii) Write any two advantages of LED TV over the normal TV.
24. In the nuclear reaction given below, the nucleus X changes to nucleus Y.
 ${}_{88}^{226}\text{X} \rightarrow \text{Y} + {}_2^4\text{He} + \text{energy}$
 What is the atomic number and mass number "Y".
25. How many grams are there in the following substances?
 a) 2 moles of hydrogen molecule H_2 b) 3 moles of chlorine molecule Cl_2 c) 5 moles of sulphur molecule S_8
 d) 4 moles of phosphorous molecule P_4
26. (i) Write any two characteristics of chemical equilibrium.
(ii) Distinguish between soaps and detergents.
27. How is the digestive system of rabbit suited for herbivorous mode of feeding?
28. (i) Why is circulation in man referred to as "Double Circulation"?
(ii) What is the importance of valves in the heart?
29. (i) Name the types of stem cells? (ii) What are the agents of soil erosion?
30. (i) A pure tall plant (TT) is crossed with pure dwarf plant (tt) what would be the F1 and F2 generation? Explain.
(ii) Correct the false statements.
 a) The use and disuse theory of organs was postulated by Charles Darwin?
 b) Birds have evolved from mammals.
31. (i) How is a cancer cell different from a normal cell?
(ii) Why fossil fuels are to be conserved?
32. An object is placed at a distance 20 cm from a convex lens of focal length 10cm. Find the image distance and nature of the image.

PART - IV

Note : (i) Answer all the questions. (ii) Draw diagrams wherever necessary.

3 x 7 = 21

33. a) (i) What are the types of inertia? Explain with an example.
(ii) List the advantages of telescopes. (OR)
 b) (i) With a help of circuit diagram derive the formula for the resultant resistance of three resistors in parallel?
(ii) Give the uses of radio isotopes in industries.
34. a) (i) Write any five salient features of "Modern atomic theory".
(ii) Explain how the nature of reactants and concentration of reactants influence the rate of a chemical reaction. (OR)
 b) (i) Explain the mechanism of cleansing action of soaps.
(ii) What is called TFM?
35. a) (i) How does the locomotion take place in Leech?
(ii) How are arteries and veins structurally different from one another? (OR)
 b) (i) Explain smoking hazards and the harmful effects of tobacco?
(ii) List out the advantages of tidal energy?