

HALF YEARLY EXAMINATION -2024

CLASS:10

SCIENCE

Reg.No

Time : 3.00 Hours

MARKS : 75

Instructions :

- ◆ Write clearly and legibly without mistakes and overwriting utilizing the maximum time allotted for the exam.
- ◆ Answer should be in your own style without changing the main core concept.
- ◆ Use only black or blue ink pen to write the exam.
- ◆ Draw clear diagrams wherever necessary.

I Choose the correct answers:-

12x1=12

1. The unit of 'g' is ms^{-2} . It can be also expressed as _____
 a) cms^{-1} b) Nkg^{-1} c) $\text{Nm}^2\text{Kg}^{-1}$ d) cm^2s^{-2}
2. If a substance is heated or cooled, the linear expansion occurs along the axis of _____
 a) X or -X b) Y or -Y c) both (a) and (b) d) (a) or (b)
3. The frequency, which is audible to the human ear is _____
 a) 50 KHz b) 20 KHz c) 15000 KHz d) 10000 KHz
4. The molecular formula for ozone is _____
 a) O b) O_2 c) O_3 d) O_4
5. Rare gases electron affinities are _____
 a) Positive value b) Zero c) Negative value d) Both (a) and (c)
6. _____ is an important metal to form amalgam.
 a) Ag b) Hg c) Mg d) Al
7. The endarch condition is the characteristic feature of _____
 a) root b) stem c) leaves d) flower
8. The body of leech has _____
 a) 23 segments b) 33 segments c) 38 segments d) 30 segments
9. Okazaki fragments are joined together by _____
 a) Helicase b) DNA polymerase c) RNA prime d) DNA ligase
10. The 'use and disuse theory' was proposed by _____
 a) Charles Darwin b) Ernst Haeckel c) Jean Baptiste Lamarck d) Gregor mendel
11. World 'No Tobacco Day' is observed on _____
 a) May 31 b) June 6 c) April 22 d) October 2
12. All files are stored in the _____
 a) Folder b) Box c) Pal d) Scanner

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II Answer any seven for the following questions. Q.No:22 is compulsory.

7x2=14

13. State snell's law.
14. Match the following

a) Infrasonic	- Compressions
b) Echo	- 22 KHz
c) Ultrasonic	- 10 Hz
d) High pressure region	- Ultrasonography

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15. Define : Atomicity.
16. Write any two uses of copper.
17. Name the simplest ketone and give its structural formula.
18. What is Respiratory quotient?
19. State whether True or False. If false write the correct statement.
 - a) Plants lose water by the process of transpiration.
 - b) WBC defend the body from bacterial and viral infections.
20. Define : Ethno botany.
21. How are e-wastes generated?
22. At what temperature will the velocity of sound in air be double the velocity of sound in air at 0°C?

III Answer any seven for the following questions. Q.No:32 is compulsory.

7x4=28

23. List any five properties of light.
24. Differentiate : Nuclear Fission and Nuclear fusion.
25. a) Define the unit of current.
b) State Ohm's law.
26. a) What is rust? Give the equation for formation of rust.
b) Name the acid that renders aluminum passive. why?
27. Explain the mechanism of cleansing action of soap.
28. List out the parasitic adaptations in leech.
29. Enumerate the functions of blood.
30. a) Define triple fusion.
b) What do you understand by the term Phenotype and Genotype?
31. Differentiate between Type - 1 and Type - 2 diabetes mellitus.
32. Calculate the pH of 1×10^{-4} molar solution of NaOH.

IV Answer in Detail.

3x7=21

33. Deduce the equation of a force using Newton's second law of motion.

(OR)

- a) State Joule's law of heating.
- b) An alloy of nickel and chromium is used as the heating element. why?
- c) How does a fuse wire protect electrical appliances?
34. a) Give five points the salient features of "Modern atomic theory".
b) Calculate the number of water molecule present in one drop of water which weighs 0.18g.

(OR)

How is ethanol manufactured from sugar cane?

35. a) Discuss the importance of biotechnology in the field of medicine.
b) Define genetic engineering.

(OR)

- a) How does rain water harvesting structures recharge ground water?
b) What is Stage?