

VNR10S

Virudhunagar District
Common Half Yearly Examination - December 2023



Standard - 10
SCIENCE

Time Allowed: 3.00 Hours

Maximum Marks: 75

12×1=12**I. Choose the correct answer:**

- Inertia of a body depends on
 - Weight of the object
 - acceleration due to gravity of the planet
 - mass of the object
 - Both a & b
- If a substance is heated or cooled the change in mass of the substance is
 - Positive
 - Negative
 - Zero
 - None of the above
- In the nuclear reaction, ${}_6X^{12} \xrightarrow{\alpha\text{decay}} {}_Z Y^4$ the value of A and Z are
 - 8,6
 - 8,4
 - 4,8
 - Cannot be determined with the given data
- Which of the following is a triatomic molecule?
 - Glucose
 - Helium
 - Carbon-di-oxide
 - Hydrogen
- Which of the following is hydroscopic in nature?
 - Ferric chloride
 - Copper sulphate penta hydrate
 - Silicagel
 - None of the above
- The general molecular formula of alkane is _____.
 - C_nH_{2n}
 - C_nH_{2n-2}
 - C_nH_{2n+2}
- Casparian strips are present in the _____ of the root.
 - Cortex
 - Pith
 - Pericycle
 - Endodermis
- Heart of the heart is called
 - SA node
 - AV node
 - Purkinje fibres
 - Bundle of His
- Vomiting centre is located in
 - Medulla oblongata
 - Stomach
 - Cerebrum
 - Hypothalamus
- Estrogen is secreted by
 - Anterior pituitary
 - Primary follicle
 - Graffiane follicle
 - Corpusluteum
- The use and disuse theory was proposed by _____.
 - Charles darwin
 - Ernst Hacckel
 - Lamarek
 - Gregor Mendal
- Pusakomal is a disease resistant variety of _____.
 - sugarcane
 - rice
 - cowpea
 - maize

II. Answer any 7 Questions: (Question no.22 compulsory)**7×2=14**

- Differentiate Mass and Weight.
- State Boyle's law.
- The aquatic animals live more in cold regions, why?
- Differentiate Soap and Detergents.
- What is respiratory quotient?
- What is the importance of Valves in the heart?

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19. What is bloating? How can it be induced artificially?
20. What are Okazaki fragments?
21. Mention the disease caused by tobacco smoke.
22. Air temperature in the Rajasthan desert can reach 46°C. What is the velocity of sound in air at that temperature? ($V_0 = 331\text{ms}^{-1}$)

III. Answer any 7 Questions: (Question no.32 compulsory)

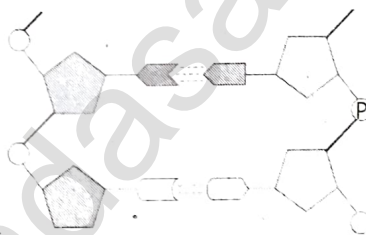
7×4=28

23. List any five properties of light.
24. a) What are the advantages of LED TV over the normal TV?
b) List the merits of LED bulb.
25. a) What do you understand by the term 'Ultrasonic vibration'?
b) State three uses of Ultrasonic vibrations.
c) Name three animals which can hear Ultrasonic vibrations.
26. Differentiate the following.
a) Monocot root and Dicot root
b) Aerobic and Anaerobic respiration
27. Explain the male reproductive system of rabbit with a labelled diagram.
28. What is transpiration? Give the importance of transpiration.
29. a)



Identify the parts
A, B, C and D

- b) Label the parts of the DNA in the diagram given below



30. What are the effects of hybrid Vigour in animals?
31. Enumerate the importance of forest.
32. Calculate the number of molecules in
a) 27g of Al
b) 1.51×10^{23} molecules of NH_4Cl

IV. Answer in detail:

3×7=21

33. a) What are the types of inertia? Give an example for each type.
b) Why does the sky appear in blue colour?
(OR)
a) What is meant by Electric current?
b) Compare the properties of Alpha beta and Gamma radiations.
34. a) Give the Salient features of "Modern atomic theory"? any three points.
b) In what hygroscopic substances differ from the deliquescent substances?
(OR)
a) What is rust? Give the equation for formation of rust?
b) Explain the double displacement reactions with examples.
35. a) What are the structures involved in the protection of brain?
b) Classify Neurons based on its structure.
(OR)
a) Why archaeopteryx considered to be a connecting link?
b) Suggest measures to overcome the problems of an alcoholic.