

PART - I

Note : i) Answer all the Questions

12 X 1 = 12

I CHOOSE THE CORRECT ANSWER.

1. Inertia of body depends on
 - a) Weight of the object
 - b) acceleration due to gravity of the plant
 - c) mass of the object
 - d) Both a & b
2. One horse power (hp) = _____ Watt.
 - a) 764
 - b) 746
 - c) 647
 - d) 674
3. _____ isotope is used for the treatment of cancer.
 - a) Radio Iodine
 - b) Radio Cobalt
 - c) Radio Carbon
 - d) Radio Nickel
4. _____ group contains the member of halogen family.
 - a) 17th
 - b) 15th
 - c) 18th
 - d) 16th
5. The number of components in a binary solution is _____.
 - a) 2
 - b) 3
 - c) 4
 - d) 5
6. Which is the functional group of aldehyde?
 - a) -OH
 - b) -CO-
 - c) -CHO
 - d) -COOH
7. Krebs's cycle takes place in
 - a) Chloroplast
 - b) Mitochondrial Matrix
 - c) Stomata
 - d) inner mitochondrial membrane
8. The part of the root that absorbs water from the soil is _____.
 - a) root hair
 - b) cortex
 - c) pericycle
 - d) endoderm
9. _____ is a major conducting centre for the brain.
 - a) Thalamus
 - b) Pons
 - c) Cerebellum
 - d) Hypothalamus
10. Which is known as plant's stress hormone?
 - a) Auxins
 - b) Absciscic acid
 - c) Ethylene
 - d) Gibberellins
11. Himgiri is disease resistance variety of _____.
 - a) Sugarcane
 - b) Paddy
 - c) Cow pea
 - d) Wheat
12. World "No Tobacco Day" is observed on
 - a) May 31
 - b) June 6
 - c) April 22
 - d) July 6

PART - II

II ANSWER ANY SEVEN QUESTIONS : Q.No. 22 IS COMPULSORY.

7 X 2 = 14

13. Why does the sky appear in blue colour?
14. State Boyle's Law.
15. State True or False. If false give the correct statement.
 - i) The volume occupied by 1 mole of a diatomic gas at S.T.P. is 2.24 litre.
 - ii) Molar mass of CO₂ is 42g.
16. Why does the reaction rate of a reaction increase on raising the temperature?
17. Write the dental formula of rabbit.

18. Why are thyroid hormones referred as personality hormone?
19. Why is Archaeopteryx considered to be a connecting link?
20. **Match the following**

E- Waste

Health Effects

- | | | |
|-------------|---|----------------------|
| a) Lead | - | Asthmatic Bronchitis |
| b) Chromium | - | Respiratory System |
| c) Cadmium | - | Nervous System |
| d) Mercury | - | Kidney and Liver |

21. What is Sprite?
22. Find the amount of urea which is to be dissolved in water to get 500g of 10% w/w aqueous solution.

PART - III

III ANSWER ANY SEVEN QUESTIONS : Q.No. 22 IS COMPULSORY.

7 X 4 = 28

23. What are the types of inertia? Give an example for each type.
24. Differentiate natural and artificial radio activity.
25. a) Define atomicity. b) Define Hydrated Salt.
26. What is called homologous series? Give any three of its characteristics?
27. a) What is collateral vascular bundle?
b) Draw the structure of chloroplast and label its parts.
28. a) Define reflex arc.
b) Draw and label the human sperm cell.
29. Enumerate the function of blood.
30. Define Ethnobotany and write its importance.
31. Enumerate the importance of forest.
32. a) Calculate the velocity of a moving body of mass 5Kg whose linear momentum is 2.5 Kg ms^{-1} .
b) Calculate the amount of energy released when a radio active substance undergoes fusion and results in a mass defect of 2 Kg.

PART - IV

IV ANSWER ALL THE QUESTIONS.

3 X 7 = 21

33. a) Differentiate the eye defect Myopia and Hypermetropia.
b) Define electrical resistivity. **(OR)**
a) What are the factors that affect the speed of sound in gases.
b) Complete the equation
i) α decay ${}_{92}\text{U}^{238} \longrightarrow \text{-----} + \text{-----}$
ii) β decay ${}_{15}\text{P}^{32} \longrightarrow \text{-----} + \text{-----}$
34. a) Give salient features of modern atomic theory (Any Five)
b) What is Amalgam. **(OR)**
Explain the factors influencing the rate of a reaction.
35. Explain with an example the inheritance of dihybrid cross. **(OR)**
a) What are the effects of hybrid vigour in animals (Any Three)
b) What precautions can be taken for preventing heart diseases?