

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

1. 1 kilogram force equals to
a) 9.8 dyne b) 9.8×10^4 N c) 98×10^4 dyne d) 980 dyne
2. Charles's law is also called as
a) the law of temperature b) the law pressure
c) the law of volume d) the law of gas
3. When a sound wave travels through air, the air particles
a) vibrate along the direction of the wave motion
b) vibrate but not in any fixed direction
c) vibrate perpendicular to the direction of wave motion
d) do not vibrate
4. The atomicity of chlorine is
a) 1 b) 4 c) 8 d) 2
5. Photolysis is a decomposition reaction caused by
a) heat b) electricity c) light d) mechanical energy
6. The molecular formula of an open chain organic compound is C_3H_6 . The class of the compound is
a) alkane b) alkene c) alkyne d) alcohol
7. Dark reaction occurs in of _____ chloroplast
a) stroma b) cristae c) matrix d) stalk
8. Which one of the following source correct composition of blood
a) plasma - blood + lymphocyte
b) serum - blood + fibrinogen
c) lymph - plasma + RBC + WBC
d) blood - plasma + RBC + WBC + platelets
9. _____ Is found abundantly in liquid endosperm of coconut
a) cytokinin b) auxin c) gibberellin d) ethylene
10. Oestrogen is secreted by
a) anterior pituitary b) primary follicle
c) Graafian follicle d) Corpus luteum
11. The theory of natural selection for evolution was proposed by
a) Charles Darwin b) Gregor Mendel
c) Ernst Haeckel d) Jean Baptiste Lamarck
12. Which type of cancer affects lymph nodes and spleen
a) carcinoma b) sarcoma c) leukaemia d) lymphoma

II. Answer any seven questions. Q. No 22 is compulsory.**7×2=14**

13. What are the causes of myopia?
 14. What is a longitudinal wave?
 15. What are called thermolysis reaction?
 16. Define - Corrosion.
 17. Name the simplest Ketone and give its structural formula.
 18. Why should the light dependent reaction occur before the light independent reaction.
 19. What is the importance of valves in the heart?
 20. Make the correct statement as.
a) If both A and R are true and R is correct explanation of A.
b) if both A and R are true but R is not the correct explanation of A
c) A is true and R is false
d) Both A and R are false
- Assertion.(A) Pituitary gland is referred as "Master gland".
Reason. (R) It controls the functioning of other endocrine glands.

21. What are okazaki fragments?
22. The degenerated wing of a kiwi is an acquired character. Why is it an acquired character?

III. Answer any seven questions. Question number 32 is compulsory.

7×4=28

23. a) Define One calorie.
b) State the law of volume.
24. Distinguish between the resistivity and conductivity of a conductor.
25. Give appropriate reasons for alloying.
26. a) What is aqueous and non-aqueous solution? Give an example.
b) Define the term Solution.
27. How is a cancer cell different from normal cell?
28. What is the importance of rain water harvesting?
29. What is Transpiration? Give an importance.
30. What are the effects of hybrid vigour in animals?
31. List out the functions of thyroid hormones.
32. ${}_{88}\text{Ra}^{226}$ experiences three alpha decay. Find the number of neutrons in the daughter element.

IV. Answer all the questions. Draw diagram wherever necessary.

3×7=21

33. A. Describe rocket propulsion.
- (Or)**
- B. What is an echo? (i) State two conditions necessary for hearing an echo.
(ii) What are the medical applications of echo?
(iii) How can you calculate the speed of sound using echo?
34. A. (i) Calculate the number of water molecule present in one drop of water which weighs 0.18 g.
(ii) Find out atomicity of the following H_2O , CH_4
(iii) What is gram atomic mass?
- (Or)**
- B. How is ethanol manufactured from sugarcane.
35. A. What are the phases of menstrual cycle? Indicate the changes in the ovary and uterus.
- (Or)**
- B. Explain the structure of a chromosome.