7324

Register Number | | | | | | |

SCIENCE

(English Version)

Time Allowed : $2\frac{1}{2}$ Hours] [Maximum Marks : 100

PART – I

(Marks : 20 × 1 = 20)

N.B. : i) Answer *all* the questions.

ii) Choose and write the correct answer.

iii) Each question carries one mark.

1. The angle of contact between pure water and clear glass is

a) 90° b) 0°

c) 140° d) 180°

2. Which of the following substances has least specific heat capacity ?

a) Aluminium b) Mercury

c) Copper d) Lead.

3. The boiling point of water inside the pressure cooker is

a) 100°C b) 0°C

c) 120°C d) – 120°C.

4. During change of state the temperature of the substance

a) increases
b) decreases
c) does not change
d) increases or decreases.

5. When an object reflects all colours simultaneously, it appears

a) white
b) blue
c) red
d) green.

6. The resistance of a conductor carrying a current 3A with a potential difference 15 V between its two ends is

a) 5 ohm
b) 45 ohm
c) $\frac{1}{5}$ ohm
d) 30 ohm.

7. When a radioactive nucleus disintegrates by emitting alpha particle its atomic number

a) increases by two
b) decreases by two
c) increases by four
d) decreases by four.

8. The catalyst which increases the decomposition of hydrogen peroxide is

a) Iron
b) Platinum
c) Nickel
d) Manganese dioxide.

9. Glass is attacked by

a) HCl
b) H_2SO_4
c) HF
d) HNO_3.

10. The substance that converts hard water to soft water is

a) sodium carbonate b) sodium hydrogen carbonate

c) calcium carbonate d) magnesium carbonate.

11. In Solvay process, the salt that separates out in carbonating tower is

a) NH_4HCO_3 b) $NaHCO_3$

c) Na_2CO_3 d) $CaCl_2$.

12. The purest form of iron is

a) cast iron b) wrought iron

c) steel d) haematite.

13. The functional unit of skeletal muscle is

a) neuron b) nephron

c) sarcomere d) cell.

14. Spoilage of milk is caused by

a) Enterobacter b) Azotobacter

c) Streptococcus d) Lactobacillus.

15. The genetic code has ..... codons.

a) 50 b) 40

c) 35 d) 64.

16. The type of RNA which carries the genetic information for the sequence of amino acids is

a) *m*RNA b) *t*RNA

c) *r*RNA d) RNA.

17. Which of the following purifies blood ?

a) Onion b) Garlic

c) Turmeric d) Cinchona.

18. B.C.G. vaccination gives immunization against

a) Polio b) Tetanus

c) Tuberculosis d) Diphtheria.

19. Wild asses are confined to

a) Gir forest b) Rann of Kachchh

c) Sunderbans d) Nilgiri hills.

20. Which part of the plant is affected by chlorosis disease ?

a) Roots b) Stem

c) Leaves d) Fruits.

PART – II

(Marks : 10 × 1 = 10)

N. B. : i) Answer all the questions.

ii) Each question carries *one* mark.

iii) Answer should be in a word or in few words or in one line.

21. Why do the sky divers use a spread-eagle position while falling ?

22. Name the heater used in calorimeter experiment.

23. What is the commercial unit of electric energy ?

24. What is the atomic number of the element $_{92}U^{235}$?

25. Why is cooked food spoiled quickly in summer season ?

26. What happens when washing soda is kept in air for a long time ?

27. What is the functional group of Aldehydes ?

28. Why is the skin slimy in frog ?

29. Mention the disease in which the blood glucose is too high.

30. Mention any one primary nutrient.

PART – III

(Marks : 15 × 2 = 30)

N. B : i) Answer any *fifteen* questions.

ii) Each question carries *two* marks.

iii) Students should answer the Question Nos. 32 and 38 compulsorily. These two questions are not included in the option.

31. Define Sublimation.

32. Calculate the centripetal force required by a car of mass 500 kg which takes a round turn of radius 50 metre with a velocity of 20 ms^{-1}.

33. Why do substances expand on heating ?

34. Define dispersion of light.

35. Write any two differences between compound microscope and astronomical telescope.

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36. State Fleming's left hand rule.

37. What is a nuclear reactor ?

38. The hydrogen ion concentration of a solution is 1×10^{-4} mol. l^{-1}. Find the hydroxyl ion concentration of the solution.

39. What is called setting of cement ?

40. Write any four types of glass.

41. What is flux ?

42. Why is sulphuric acid called the king of chemicals ?

43. How is soap prepared ?

44. Write any two uses of ethanoic acid.

45. How will you identify (a) Anopheles (b) Culex ?

46. What is template DNA ?

47. How are chromosomes classified based on the position of the centromere ?

48. Draw a paddy seed and label its parts.

49. What is naturopathy ?

50. Write any two uses of Vinca rosea.

51. What are the common air pollutants ?

52. Mention the three methods of prawn culture.

PART – IV

(Marks : 8 × 5 = 40)

N. B. : i) Answer *eight* questions by choosing at least *two* questions from each Group.

ii) Each question carries *five* marks.

iii) Draw the diagrams wherever necessary.

GROUP – A

53. a) State and explain Bernoulli's theorem.

b) Mention any two applications of Bernoulli's theorem.

54. Describe the construction and working of a compound microscope.

55. State Ohm's law and explain how it can be verified.

56. Write the applications of radio-isotopes in the field of medicine.

GROUP – B

57. a) Define the rate of chemical reaction.

b) Define Ionic product of water.

c) State Lowry and Brönsted theory.

58. Describe how Aluminium is extracted from its ore by electrolysis process.

59. What is fermentation ? How is ethanol prepared by fermentation ?

GROUP – C

60. Describe the asexual reproduction in Penicillium.

61. Explain Watson and Crick model of DNA with the help of a diagram.

62. What are the two types of stem cells ? Explain briefly.

63. Describe the control measures of noise pollution.

64. Give an account of cultivation of paddy.