SECOND MIDTERM EXAM - 2022

CLASS : 10
TIME : 1.30 HRS

SCIENCE

MARKS : 50

I. Choose the Correct Answer.

8 x 1 = 8

1. The frequency, which is audible to the human ear is

   a) 50kHz   b) 20kHz   c) 15000kHz   d) 10000kHz

2. The sound waves are reflected from an obstacle into the same medium from which they were incident. Which of the following changes?

   a) Speed   b) frequency   c) wavelength   d) none of these

3. Unit of radio activity is ....

   a) curie   b) becquerel   c) Roentgen   d) all the above

4. $H_{2(g)} + Cl_{2(g)} \longrightarrow 2HCL_{(g)}$ is a

   a) Decomposition reaction   b) combination reaction

   c) single displacement reaction   d) Double displacement reaction

5. The best way of direct dating fossils of recent origin is by

   a) Radio-Carbon method   b) Uranium-lead method

   c) Potassium-argon method   d) Both (a) and (c)

6. Pusa komal is a disease resistant variety of

   a) Sugarcane   b) rice   c) cow pea   d) maize

7. rDNA is a

   a) Vector DNA   b) Circular DNA

   c) Recombinant of vector DNA and desired DNA   d) Satellite DNA

8. Coronary heart disease is due to

   a) Streptococcus bacteria   b) Inflammation of pericardium

   c) Weakening of heart valves   d) Insufficient blood supply to heart muscles.

II. Answer in very short for any six of the following.

Q.No.13 is compulsory

6 x 2 = 12

9. Fill in the blanks.

   a) .... has the greatest penetration power.

   b) Electrolysis is type of .... reaction.

10. Why does sound travel faster on a rainy day than on a dry day?

11. Write any three features of natural and artificial radioactivity.

12. Define combination reaction. Give one example for exothermic combination reaction.

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13. Calculate the pH of 1.0×10^{-4} molar solution of HNO_3.

14. How can you determine the age of fossils?

15. Match the following :

    a) Sarcoma   -   stomach cancer

    b) Carcinoma   -   excessive thirst

    c) Polydipsia   -   excessive hunger

    d) Polyphagia   -   connective tissue cancer

16. Define genetic engineering.

III. Answer in short for any four of the following.

Q.No.19 is compulsory (any four only) $4 \times 4 = 16$

17. What is an echo?

    a) State two conditions necessary for hearing an echo.

    b) What are the medical applications of echo?

18. Differentiate reversible and irreversible reactions.

19. $_{88}Ra^{226}$ experiences three α -decay. Find the number of neutrons in the daughter element.

20. How does fossilization occur in plants?

21. State the applications of DNA finger printing technique.

22. Differentiate between Type - I and Type - II diabetes mellitus.

IV. Answer in detail for the following : $2 \times 7 = 14$

23. a) (i) State soddy and Fajan's displacement law.

      (ii) Compare the properties of alpha, beta and gamma radiations   **(OR)**

    b) (i) A solid compound 'A' decomposes on heating into 'B' and a gas 'C'. On passing the gas 'C' through water, it becomes acidic. Identify A, B and C

      (ii) How does pH play an important role in everyday life?

24. a) With a neat labelled diagram explain the techniques involved in gene cloning

    (OR)

    b) i) What is metagenesis?

      ii) How do you differentiate homologous organs from analogous organs.