Ts10S   Tenkasi District
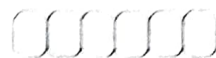
Second Mid Term Test - 2023

21-11-2023   **Standard 10**

Time: 1.30 Hours   **SCIENCE**   Marks: 50

I.   Choose the correct answer.   **10×1=10**

1) The frequency which is audible to the human ear is

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

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 radioactivity is ....

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

4) Kamini reactor is located at ....

   a) Kalpakam   b) Koodankulam   c) Mumbai   d) Rajasthan

5) The pH of a solution is 3. Its $[OH^-]$ concentration is

   a) 1×10^{-3} M   b) 3 M   c) 1×10^{-11} M   d) 11 M

6) Which of the following are used as anaesthetics?

   a) Carboxylic acids b) Ethers   c) Ester   d) Aldehydes

7) The use and disuse theory was proposed by

   a) Charles Darwin   b) Ernst Haeckel

   c) Jean Baptiste Lamarck   d) Gregor Mendel

8) The term Ethnobotany was coined by

   a) Khorana   b) J.W.Harsbberger

   c) Ronald Ross   d) Hugo de vries

9) rDNA is a

   a) vector DNA

   b) Circular DNA

   c) recombinant of vector DNA and desired DNA

   d) Satellite DNA

10) Pusa Komal is a disease resisdant variety of ....

   a) sugar cane   b) rice   c) cow pea   d) maize

II. Answer any seven questions. (Question No: 20 is compulsory)   7×2=14

11) Name three animals, which can hear ultrasonic vibrations.

12) Why does an empty vessel produce more sound than a filled one?

13) **Match**

a)	CO- 60	-	Age of fossil
b)	I - 131	-	Function of Heart
c)	Na - 24	-	Leukemia
d)	c - 14	-	Thyroid disease

14) Arrange the descending order, on the basis of their penetration power. Alpha rays, beta rays, gamma rays, cosmic rays.

15) **Fill in the blanks.**

   a) A reaction between an acid and a base is called ....

   b) The normal pH of human blood is ....

16) Name the simplest ketone and give its structural formula.

17) How can you determine the age of the fossils?

18) Define genetic engineering?

19) Name the types of stemcells?

20) Calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 2kg.

III. Answer any Three questions. (Question No: 25 is compulsory)   3×4=12

21) a) What is the audible range of frequency?

   b) Mention two causes in which there is no Doppler effect in sound?

22) Differentiate soaps and detergents.

23) Define Ethnobotany and write its importance

24) State the applications of DNA finger printing technique.

25) Classify the following compounds based on the pattern of carbon chain and give their structural formula.

   i) propane   ii) Benzene   iii) Cyctobutane   iv) Furan

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IV. Answer all the questions: 2×7=14

26) a) Compare the properties of alpha, beta and Gamma radiations.

   (OR)

   b) Explain the mechanism of cleaning action of soap.

27) a) Discuss the importance of biotechnology in the field of medicine.

   (OR)

   b) Write with a neat labelled diagram explain the techniques involved in gene cloning.

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