

SECOND MID TERM TEST - 2023

10 - Std

SCIENCE

Time: 1.30 Hrs.

Marks: 50

I. Choose the correct answer.

8x1=8

- 1) Velocity of sound in the atmosphere of a planet is 500 ms^{-1} . The minimum distance between the sources of sound and the obstacle to hear the echo, should be
a) 17m b) 20m c) 25m d) 50m
- 2) Photolysis is a decomposition reaction caused by _____.
a) heat b) electricity c) light d) mechanical energy
- 3) Which of the following are used as anaesthetics?
a) Carboxylic acids b) Ethers c) Esters d) Aldehydes
- 4) Paleontologists deal with
a) Embryological evidences b) Fossil evidences
c) Vestigial organ evidences d) All the above
- 5) DNA finger printing is based on the principle of identifying _____ sequences of DNA.
a) single stranded b) mutated c) polymorphic d) repetitive
6. Pusa Komal is a disease resistant variety _____.
a) suga cane b) rice c) cow pea d) maize
7. World No Tobacco Day is observed on
a) May 31 b) June 6 c) April 22 d) October 2
8. _____ Act protect women of child from sexual offences.
a) IUPAC b) POCSO c) NTP d) HIV

Answer any six questions. Question No.14 compulsory

6x2= 12

9. Mention two cases in which there is no Doppler effect in sound.
- 10) **State True or False: [If false give the correct statement]**
i) Silver metal can replace hydrogen gas from nitric acid.
ii) The pH of rain water containing dissolved gases like SO_3 , CO_2 , NO_2 will be less than 7.
11. Write any two uses of radio active isotopes in the field of agriculture.
12. **Match the following**
1. Infrasonic - a) Compressing
2. Echo - b) 22KHz
3. Ultrasonic - c) 10Hz
4. High pressure region - Ultrasonography

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13. Define Ethnobotany and write its importance?
14. A sound wave has a frequency of 200 Hz and a speed of 400 ms^{-1} in a medium. Find the wavelength of the soundwave.
15. Mention the diseases caused by tobacco smoke.
16. What are the contributing factors for obesity.

III. Answer ANY FOUR questions. [Q.No. 20 is compulsory]:

4x4=16

- 17) What is an echo?
 - a) State two conditions necessary for hearing an echo.
 - b) What are the medical applications of echo?
- 18) a) Why does the reaction rate of a reaction increase on raising the temperature?
b) Can a nickel spatula be used to stir copper sulphate solution? Justify your answer.
19. Differentiate between in breeding and out breeding.
20. Calculate the pH of 1×10^{-4} molar solution of NaOH.
- 21) a) How can you determine the age of the fossils?
b) **Match the following:**

| | | |
|-----------------|---|---------------------|
| i) Wood Park | - | Semi dwarf wheat |
| ii) W.F. Libby | - | Beta carotene |
| iii) Sonalika | - | Radio carbon dating |
| iv) Golden rice | - | Thiruvakkarai |
22. If A is a radio active element which emits an α particle and produces ${}_{104}\text{Rf}^{259}$. Write the atomic number and mass number of the element A.

IV Answer all the questions

2x7=14

23. What is an echo?
 - a) State two conditions necessary for hearing an echo.
 - b) What are the medical applications of echo?
 - c) How can you calculate the speed of sound using echo? **(OR)** a) Differentiate reversible and irreversible reactions. b) Give two medicinal use of ethanal?
24. a) Discuss the importance of biotechnology in the field of medicine.
b) Define genetic engineering? **(OR)**
 - a) Suggest measures to overcome the problems of an alcoholic.
 - b) Give two reasons for HIV transmission.

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