

SECOND MID TERM TEST - 2023

Standard - X

Time : 1.30 hrs

SCIENCE

Marks: 50

Part - I

I. Choose the correct answer:-

10×1=10

- 1) Velocity of sound in a gaseous medium is 330ms^{-1} . If the pressure is increased by 4 times without causing a change in the temperature the velocity of sound in the gas is _____
 a) 330ms^{-1} b) 660ms^{-1} c) 156ms^{-1} d) 990ms^{-1}
- 2) The frequency which is audible to the human ear is _____
 a) 50 KHz b) 20 KHz c) 15000 KHz d) 10000 KHz
- 3) Unit of radioactivity is _____
 a) roentgen b) curie c) becquerel d) all the above
- 4) Kamini reactor is located at _____
 a) Kalpakkam b) Koodankulam c) Mumbai d) Rajasthan
- 5) Photolysis is a decomposition reaction caused by _____
 a) heat b) electricity c) light d) mechanical energy
- 6) The chemical equation $\text{Na}_2\text{SO}_4 + \text{BaCl}_2 \rightarrow \text{BaSO}_4 + 2\text{NaCl}$ represents which of the following types of reaction
 a) Neutralisation b) Combustion c) Precipitation d) Single displacement
- 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) Pusakomal is a disease resistant variety of _____
 a) Sugarcane b) rice c) cowpea d) maize
- 10) We can cut the DNA with the help of _____
 a) Scissors b) restriction endonucleases c) Knife d) RNAase

Part - II

II. Answer any (5) of the following very briefly: (Q.No.18 compulsory) $5 \times 2 = 10$

- 11) Name three animals, which can hear ultrasonic vibrations.
- 12) Write the expansion of ICRP.
- 13) State whether the following statement is True or False. If false, correct the statement



(2)

X SCIENCE

- a) Elements having atomic number greater than 83 can undergo nuclear fusion
- b) In vitro fertilization means fertilisation done inside the body
- 14) Name two maize hybrids rich in amino acid lysine
- 15) Name the types of stem cells
- 16) Why is Archaeopteryx considered to be a connecting link?
- 17) Use the analogy to fill in the blank.
- i) Spontaneous process : Natural Radioactivity ;
Induced process : _____
- ii) Deflected by electric field : α ray
Null deflection : _____
- 18) If the P^H of a solution is 4.5. What is its P^{OH} ?

Part - III

III. Answer briefly. (any four) (Q.No.25 compulsory)

4×4=16

- 19) Mention the conditions for no Doppler effect
- 20) Match
- | | | |
|--------------|---|-------------------|
| a) Fuel | - | i) Lead |
| b) Moderator | - | ii) Heavy water |
| c) Coolant | - | iii) Cadmium rods |
| d) Shield | - | iv) Uranium |
- 21) State Soddy and Fajan's displacement law
- 22) Differentiate Reversible and irreversible reactions
- 23) Define Ethnobotany and write the importance?
- 24) Differentiate between outbreeding and inbreeding.
- 25) At what temperature will the velocity of sound in air be double the velocity of sound in air at 0°C ?

Part - IV

IV. Answer in detail:-

2×7=14

- 26) i) What is an echo?
- ii) State the conditions necessary for hearing an echo.
- iii) What are the medical applications of echo?
- iv) How can you calculate the speed of sound using echo? [or]
How does P^H play an important role in everyday life?
- 27) How do you differentiate homologous organs from analogous organ? [or]
Discuss the importance of biotechnology in the field of medicine.
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