

**SECOND MIDTERM EXAM – MODEL QUESTION PAPER**

STD: X

MARKS: 50

SUB: SCIENCE

TIME: 1.30hrs

**PART-I**

Choose the most suitable answer and write the code with corresponding answer (5×1=5)

1. What is the minimum distance needed for an echo?  
a) 17.2m    b) 20m    c) 25m    d) 50m
2. Artificial radioactivity was discovered by \_\_\_\_\_  
a) Roentgen    b) Becquerel    c) Irene Curie    d) Neil's Bohr
3. Powdered  $\text{CaCO}_3$  reacts more rapidly than flaky  $\text{CaCO}_3$  because of \_\_\_\_\_  
a) large surface area    b) high pressure  
c) high concentration    d) high temperature
4. 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)
5. Cancer of the epithelial cells is called \_\_\_\_\_  
a) Leukemia    b) sarcoma    c) Carcinoma    d) Lipoma

**PART-II****Answer Any Four of the following:****(4×2=8)****(Question number 11 is compulsory)**

6. Give the functions of control rods in a nuclear reactor.
7. Why does the reaction rate of a reaction increase on a raising the temperature?
8. The molecular formula of an alcohol is  $\text{C}_4\text{H}_{10}\text{O}$ . The locant number of its –OH group is 2.  
(i). Draw its structural formula.  
(ii). Give its IUPAC name.
9. (i). Name two maize hybrids rich in amino acid lysine.  
(ii). Distinguish between somatic gene therapy and germ line gene therapy.

10. What are the contributing factors for obesity?
11. A source producing a sound of frequency 500Hz is moving towards a listener with a velocity of  $30 \text{ ms}^{-1}$ . The speed of the sound is  $330 \text{ ms}^{-1}$ . What will be the frequency heard by listener?

### PART- III

iii. Answer any Four of the following:

(Question number 17 is compulsory)

(4×4=16)

12. (i). Write the differences between the sound and light waves.  
(ii). Why does sound travel faster on a rainy day than on a dry day?
13. (i). Write any two features of natural and artificial radioactivity.  
(ii). Give any two uses of radio isotopes in the field of agriculture.
14. (i). How is the Ethanoic acid prepared from ethanol? Give the chemical equation.  
(ii). Write the uses of Ethanoic acid.
15. (i). Define Genetic engineering.  
(ii). State the applications of DNA finger printing technique.
16. List out the prevention and controlling measures of AIDS.  
(ii). How does insulin deficiency occur?
17. (i). The hydroxide ion concentration of a solution is  $1 \times 10^{-11} \text{ M}$ . What is the  $\text{p}^{\text{H}}$  of the solution?  
(ii). Differentiate reversible and irreversible reactions.

### PART-IV

Note. (i) Answer all the questions:

(3×7=21)

18. a. (i). What is an echo?  
(ii). State two 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)

- b. (i). Compare the properties of alpha, beta and gamma radiations.  
(ii). The average released in each fusion reaction is about \_\_\_\_\_ Joule.

19. a. (i). What is a chemical equilibrium? What are its characteristics?  
(ii). Can nickel spatula be used to stir copper sulphate solution? Justify your answer.

**(OR)**

- b. (i). Arrive at, systematically, the IUPAC name of the compound:  
 $\text{CH}_3\text{-CH}_2\text{-CH}_2\text{-OH}$ .  
(ii). Differentiate soaps and detergents.  
(iii). What is called TFM?
20. a. (i). How do you differentiate homologous organs from analogous organs?  
(ii). How can you determine the age of the fossils?  
(iii). Which organism is considered to be the fossil bird?

**(OR)**

- b. (i). Discuss the importance of biotechnology in the field of medicine.  
(ii). Differentiate between Type -1 and Type -2 diabetes mellitus.

**\*\*\*\* ALL THE BEST \*\*\*\***

**PREPARED BY**

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