

# T COMMON THIRD REVISION TEST - 2024

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## Standard - X

Time : 3.00 hrs

SCIENCE

Marks: 75

Part - I **THOOTHUKUDI**

I. Answer all the questions.

12×1=12

- 1) Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens  
a) f                                      b) 2f                                      c) infinity                                      d) between f and 2f
- 2) The highest resistivity conductor \_\_\_\_\_  
a) Chromium                                      b) Tungsten                                      c) Nichrome                                      d) Copper
- 3) Kamini reactor is located at \_\_\_\_\_  
a) Kalpakkam                                      b) Koodankulam                                      c) Mumbai                                      d) Rajasthan
- 4) Which of the following is a triatomic molecule?  
a) Glucose                                      b) Helium                                      c) Carbon dioxide                                      d) Hydrogen
- 5) Identify the non aqueous solution  
a) Sodium chloride in water                                      b) glucose in water  
c) Copper sulphate in water                                      d) Sulphur in Carbon-di-sulphide
- 6) The functional group of the organic compound  $\text{CH}_3\text{COOCH}_3$   
a) Ester                                      b) Ether                                      c) Alcohols                                      d) Ketones
- 7) In leech locomotion is performed by  
a) Anterior sucker                                      b) Posterior sucker  
c) setae                                      d) looping or crawling movement
- 8) In which of the Phylum, Neurogenic Heart beat is initiated by a nerve impulse caused from a nerve ganglion situated near the heart.  
a) arthropoda                                      b) Mollusca                                      c) Chordata                                      d) Porifera
- 9) Asexual reproduction takes place through budding in \_\_\_\_\_  
a) Amoeba                                      b) Yeast                                      c) Plasmodium                                      d) Bacteria
- 10) Where does alcohol effect immediately after drinking?  
a) Eyes                                      b) Auditory region                                      c) Liver                                      d) Central nervous system
- 11) The miracle rice which saved millions of lives and celebrated its 50th birthday is \_\_\_\_\_  
a) IR8                                      b) IR24                                      c) Atomita                                      d) Ponni
- 12) All files are stored in the \_\_\_\_\_  
a) Folder                                      b) box                                      c) Paint                                      d) Scanner

Part - II

II. Answer any 7 of the following questions.

Question No. 22 is compulsory:

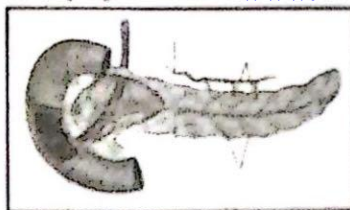
7×2=14

- 13) State the Principle of moments.
- 14) What is co-efficient of real expansion?
- 15) Define Amalgam and give an example.
- 16) Why does the reaction rate of a reaction increase on raising the temperature?
- 17) Classify the following compounds based on the pattern of carbon chain and give their structural formula.  
i) Propane    ii) Benzene    iii) Cyclobutane    iv) Furan
- 18) Name the three basic tissue systems in flowering plants.
- 19) Differentiate between Voluntary and involuntary actions.

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- 20) Draw the following diagram and mention the parts.



- 21) Name the three improved characteristics of wheat that helped India to achieve high productivity.
- 22) Calculate the amount of energy released when a radioactive substance undergoes fusion and results in a mass defect of 2Kg.

### Part - III

### III. Answer any 7 of the following questions.

Question No. 32 is compulsory:-

7×4=28

- 23) a) State Rayleigh's law of scattering.  
b) State Joule's law of heating
- 24) a) State two conditions necessary for hearing an echo.  
b) What are the medical applications of echo.
- 25) Differentiate between Natural and Artificial Radio activity.
- 26) a) What happens when  $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$  is heated? Write the appropriate equation?  
b) Define Solubility.
- 27) Differentiate reversible and irreversible reactions.
- 28) How does locomotion takeplace in leech?
- 29) Why did Mendel select pea plant for his experiments?
- 30) a) How does developing embryo gets its nourishment inside the mother's body?  
b) Why is a dietary restriction recommended for an obese individual?
- 31) What are the consequences of deforestation?
- 32) Calculate the % of each element in Calcium Carbonate ( $\text{CaCO}_3$ )  
[Atomic mass: [Ca=40, C=12, O=16]

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KAYALPATTANAM.  
Ph: 9488005009

### Part - IV

### IV. Answer all the question. Draw a diagram if necessary:

3×7=21

- 33) a) i) Describe rocket propulsion. (5)  
ii) State Boyle's law. (2) [or]  
b) i) What do you understand by the term ultrasonic vibration? (2)  
ii) State uses of ultrasonic vibrations. (2)  
iii) Name three animals which can hear ultrasonic vibrations. (1)  
iv) State soddy and Fajan's displacement law. (2)
- 34) a) i) 'A' is a reddish brown metal, which combines with  $\text{O}_2$  at  $<1370\text{K}$  gives B, a black coloured compound. At a temperature  $>1370\text{K}$ , 'A' gives 'C' which is red in colour. Find 'A', 'B', and 'C' with reaction.  
ii) What are the applications of Avogadro's law. [or]  
b) i) What are the characteristics of chemical equilibrium. (2)  
ii) What is called homologous series? Give any three of its characteristics? (5)
- 35) a) i) What is transpiration? Give the importance to transpiration. (5)  
ii) Bring out any two physiological activities of abscisic acid. (2) [or]  
b) i) Why is Archaeopteryx considered to be a connecting link? (2)  
ii) Suggest measures to overcome the problems of an alcoholic. (5)

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