

Ts-10S

**Tenkasi District Common Examinations**  
**Common First Mid Term Test - 2022**



## Standard 10

### SCIENCE

Time: 1.30 Hrs.

Marks: 50

**10×1=10****I. Choose the best answer:**

- 1) To project rockets which of the following principle(s) is/are required
  - a) Newton's third law of motion
  - b) Newton's law of gravitation
  - c) Law of conservation of linear momentum
  - d) Both a and c
- 2) A planet has a mass 20% more than that of earth and radius 20% less than that of earth. Then find the acceleration due to gravity of the planet.
  - a)  $17.375 \text{ ms}^{-2}$
  - b)  $18.375 \text{ ms}^{-2}$
  - c)  $16.375 \text{ ms}^{-2}$
  - d)  $11.375 \text{ ms}^{-2}$
- 3) The power of a lens is  $-4D$ , then its focal length is
  - a) 4m
  - b)  $-40m$
  - c)  $-0.25m$
  - d)  $-2.5m$
- 4) Near point of eye is \_\_\_\_\_ cm for normal human eye.
  - a) 10
  - b) 25
  - c) 5
  - d) 15
- 5) Which of the following is a triatomic molecule?
  - a) Hydrogen
  - b) Helium
  - c) Water
  - d) Carbon monoxide
- 6) Alloy Brass contains \_\_\_\_\_.
  - a) Zn, Cu
  - b) Ag, Hg
  - c) Fe, Cr
  - d) Br, As
- 7) In photosynthesis energy from light reactions to dark reactions is transferred in the form of
  - a) RUDP
  - b) ADP
  - c) ATP
  - d) Both ATP and ADP
- 8) Krebs's cycle takes place in
  - a) Chloroplast
  - b) Mitochondrial matrix
  - c) Stomata
  - d) Inner mitochondrial membrane
- 9) The wall of human heart is made of
  - a) Endocardium
  - b) Epicardium
  - c) Myocardium
  - d) All of the above
- 10) The outer most of the three cranial meninges is
  - a) arachnoid membrane
  - b) piamater
  - c) duramater
  - d) myelin sheath

**II. Answer ANY 10 questions:****Question No. 20 is compulsory.****10×2=20**

- 11) State Newton's second law.
- 12) State Rayleigh's law of scattering.
- 13) What are the causes of 'Myopia'?
- 14) State Avagadro's law.
- 15) **Match the following:**

|                 |   |   |
|-----------------|---|---|
| Rust            | - | Fe, C, Ni, Cr                                     |
| Bronze          | - | $\text{Fe}_2\text{O}_3$                           |
| Stainless steel | - | $\text{Fe}_2\text{O}_3 \cdot \text{XH}_2\text{O}$ |
| Haematite       | - | Cu.Sn   |
- 16) What is respiratory quotient?

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- 17) Draw and label the structure of oxysomes.
- 18) What does CNS stand for?
- 19) Who discovered Rh factor? Why was it named so?
- 20) A is a silvery white metal. A combines with  $O_2$  to form B at  $800^\circ C$  the alloy of A is used in making the aircraft. Find A and B.
- 21) **Fill in the blanks:**
- In leech, excretion takes place by segmentally arranged 'paired tubules' called \_\_\_\_\_.
  - The segments of leech are known as \_\_\_\_\_.
- 22) **Answer in a sentence:**
- What is the common step in aerobic and anaerobic pathway?
  - Name the phenomenon by which carbohydrates are oxidised to release ethyl alcohol.
- 23) Calculate the number of moles in 27g of Al.
- 24) Voluntary and Involuntary actions, differentiate it.

**III. Long answer questions:****4×5=20**

- 25) State and prove the law of conservation of linear momentum.  
(OR)
- 26) Differentiate the eye defects : Myopia and Hypermetropea
- 27) Give the salient features of "Modern atomic theory".  
(OR)
- 28) a) Metal A belongs to period 3 and group 13. A in red hot condition reacts with steam to form B. A with strong alkali forms C. Find A, B and C with reactions.  
b) Give two applications of Avagadro's law.
- 29) How does the light dependent reaction differ from the light independent reaction? What are the end product and reactants in each? Where does each reaction occur with in the chloroplast?  
(OR)
- 30) What is photosynthesis? Explain the functions of chloroplast.
- 31) Explain the male reproductive system of rabbit with a labelled diagram.  
(OR)
- 32) 'A' is a cylindrical structure that begins from the lower end of medulla and extend downwards. It is enclosed in bony cage 'B' and covered by membranes 'C'. As many as 'D' pairs of nerves arise from the structure 'A'.
- What is 'A'?
  - Name (a) bony cage 'B' and (b) membranes 'C'.
  - How much is 'D'?

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