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**I. Choose the best answer(12x1=12)**

1. Mass of the Earth is

- a)  $5.672 \times 10^{24}$  kg   b)  $5.972 \times 10^{-24}$  kg   c)  $5.972 \times 10^{24}$  kg   d)  $5.872 \times 10^{-24}$  kg

2. The spectral lines having frequency equal to the incident ray frequency called

- a) Antistokes lines   b) stokes lines   c) Raman lines   d) Rayleigh line

3.  $\alpha L$  is \_\_\_\_ a. Change in length   b. Change in temperature   c. Coefficient of linear expansion.   d. Original length

4. Current is less as effective resistance is more in \_\_\_\_

- a) series   b) parallel   c) resistance   d) both a,b

5. Formula for Sucrose

- a.  $C_6H_{12}O_6$    b.  $C_{12}H_{12}O_6$    c.  $C_{12}H_{22}O_{11}$    d.  $C_{12}H_{22}O_{12}$

6.  $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$ , temp maintained here is

- a.  $200^\circ C$    b.  $300^\circ C$    c.  $400^\circ C$    d.  $600^\circ C$

7. There are \_\_\_\_ different types of vascular bundles

- a. two   b.three   c.four   d.five

8. AB blood group was recognized by

- a) Steini   b) Decastello   c) Wiener   d) both a,b

9. Polyuria ,deficiency by the hormone

- a) FSH   b) ADH   c) GTH   d) TSH

10. \_\_\_ used to induce desirable mutations in crop plants  
(a) Atomita 137 (b) Cobalt-80 (c) Caesium-137 (d) Atomita 132
11. World Anti-Tobacco Day a) May 1<sup>st</sup> b) May 11<sup>th</sup> c) May 21<sup>st</sup> d) May 31<sup>st</sup>
12. Kallanai Dam, also known as \_\_\_\_\_  
a) Grand Acicula b) Grand Anicut c) Grand amicus d) Grand Anitagm

**II. Answer any 7 (Q.No.22 is compulsory) (7x2=14)**

13. Define “g”.
14. Define,”Colloid”.
15. Define “Law of volume”.
16. Give Symbol and its use of Rheostat component of a circuit
17. What is the function of MCB ?
18. Tabulate any two ores of iron with formulae.
19. Write a few sentences about our Indian scientist C.N.R. Rao
20. Imbibition is a type of diffusion-Explain with eg.
21. What do you mean by CSF?.
22. Give any two GENERAL CHARACTERISTICS OF ORGANIC COMPOUNDS

**III. Answer any 7 (Q.No.32 is compulsory) (7x4=28)**

23. a. Define the terms ‘Unit force’ and Gravitational unit of force ‘  
b. Calculate the resistance of a conductor through which a current of 2 A passes, when the potential difference between its ends is 30 V.
- 24 .a. A beam of light passing through a diverging lens of focal length 0.3m appear to be focused at a distance 0.2m behind the lens. Find the position of object  
b. A container whose capacity is 70 ml is filled with a liquid up to 50 ml. Then, the liquid in the container is heated. Initially, the level of the liquid falls from 50 ml to 48.5 ml Then we heat ,level of the liquid rises to 51.2 ml. Find the apparent and real expansion
25. a. Calculate % of S in H<sub>2</sub>SO<sub>4</sub>  
b. Explain Froth floatation process with diagram.
26. a, 3.5 litres of ethanol is present in 15 litres of aqueous solution of ethanol. Calculate volume percent of ethanol solution  
b. Calculate the pH of a solution in which the concentration of the hydrogen ions is  $1.0 \times 10^{-8}$  mol litre<sup>-1</sup>.
- 27 .a. Explain terms Amphivasal and Amphicribal with egs.  
b. Calvin cycle-Explain
- 28 .The granulocytes are of three types-Explain
29. a. Rh factor, Rh antibodies -Explain  
b. Two Functions of Lymph

