ROLL NO. 10203

St. James Matric. Hr. Sec. School, Trichy-1.

II TERM EXAMINATION - 2021.

STD: X | SCIENCE | PHYSICS & CHEMISTRY | TIME : 2½ Hrs. MARKS:75

I. Choose the best answer : 6

1. Temperature is the average _____ of the molecules of a substance.
   a)difference in K.E. and P.E. b)Sum of P.E. and K.E.
   c)difference in T.E. and P.E. d)difference in K.E. and T.E.
2. The value of Avagadro number _____
   a)$1.381 \times 10^{-23} J K^{-1}$ b)6.023×10^{23} / mol
   c)6023 × 1023 / mol d)60.23×10^{-23} mol
3. Kilowatt hour is the unit of ____
   a)resistivity b)conductivity c)electrical energy d)electrical power
4. In a simple circle, why does the bulb glow when you close the switch?
   a)The switch produces electricity b)closing the switch, completes the circuit
   c)The bulb is getting charged d)closing the switch breaks the circuit
5. Which of the following is the universal solvent?
   a)Acetone b)Benzene c)water d)alcohol
6. Solubility of Nacl in 100ml water is 36g. If 25g of salt is dissolved in 100ml. of water how much more salt is required for saturation.
   a)12g b)11g c)16g d)20g

II. Answer briefly. (any 4) 4 × 2 = 8

7. Define one calorie.
8. Name any two devices which are working on the heating effect of the electric current.
9. State Ohm'a law.
10. The work done in moving a charge of 10C across two points in a circuit is 100J. What is the potential difference between the points?
11. What is meant by binary solution?

III. Answer the following (any 3) : 3 × 4 = 12

12. Define electric potential and potential difference.
13. a)What happens to the resistance as the conductor is made thicker?
    b)Give reason.
14. a)Write a note on saturated solution.
    b)Give an example of each.
    i) Solid in liquid ii) gas in liquid
15. **Match :**

		(A)	
a)	Electric current	-	Watt
b)	Potential difference	-	Ohm meter
c)	Specific resistance	-	Volt
d)	Electrical power	-	ampere
		(B)	
a)	Blue vitriol	-	$CaSO_4 2H_2O$
b)	Gypsum	-	CaO
c)	Deliquescence	-	$CUSO_4 5H_2O$
d)	Hygroscopic	-	NaOH

IV. Answer in detail (any 2) : 2 × 7 = 14

16. State the three fundamental laws of gases.
17. a) What is meant by electric current? **(3)**
    b)Name and define its unit. **(3)**
    c)Which instrument is used to measure the electric current? **(1)**
18. 'A' is a blue coloured
    a) Crystalline salt. On heating it, loses blue colour and to give 'B'. When water is, added 'B' gives back to 'A'. Identify A and B and write the equation. **(4)**
    b) In what way hygroscopic substances differ from deliquescent substances. **3**

BIOLOGY

I. Choose the correct answer : 5 × 1 = 5

1. Water which is absorbed by roots is transported to aerial parts of the plant through _____
   a)Cortex b)epidermis c)Phloem d)Xylem
2. During transpiration there is loss of _____
   a)Carbon di oxide b)Oxygen c)Water d)None of the above
3. The wall of human heart is made of _____
   a)Endocardium b)Epicardium c)Myocardium d)All of the above
4. The use and disuse theory was proposed by _____
   a)Charles Darwin b)Ernst Haeckel c)Jean Babtiste Lamark d)Gregor Mendel
5. The term Ethnobotany was coined by _____
   a)Khorana b)J.W. Harsbberger c)Ronald Ross d)Hugo de vries

II. Answer any four questions. 4 × 2 = 8

6. Why is the colour of the blood red?
7. Which kind of cells are found in the lymph?
8. What is the importance of valves in the heart?
9. Who discovered Rh factor? Why was it named so?
10. Define systole and diastole?

III. Answer any two questions : 2 × 4 = 8

11. What causes the opening and closing of guard cells of stomata during transpiration?
12. What is transpiration? Give the importance of transpiration?
13. Why is Archaeopteryx considered to be a connecting link?

IV. Answer any two questions. 2 × 7 = 14

11. Describe the structure and working of the human heart?
12. Define Ethno botany and write its importance?
13. Natural selection is a driving force for the evolution – How?

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