

**O.P.JINDAL SCHOOL,SAVITRINAGAR**  
**PERIODIC TEST -I (2023-24)**

**CLASS-XI**  
**SUBJECT-CHEMISTRY**

**MAX.MARKS-20**  
**MAX.TIME-1HOUR**

**General Instruction:-**

- (i) All questions are compulsory .There are 12 questions in this question paper with internal choice.  
(ii) **SECTION -A:** Question numbers 1 to 6 are MCQs , carrying 1 mark each.  
(iii) **SECTION -B:** Question numbers 7 to 10 are short answer questions carrying 2 marks each.  
(iv) **SECTION -C:** Question numbers 11 and 12 are long questions carrying 3marks each.  
(v) Use of calculator is not permitted. However, you may use log tables, if necessary.
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**Q-1.** The number of moles of carbon dioxide which contain 8g of oxygen is:

- (a) 0.50 mol (b) 0.20  
(c) 0.40mol (d) 0.25

**Q-2.** The number of orbitals in the fourth energy level is:

- (a) 4 (b) 16  
(c) 32 (d) 9

**Q-3.** Number of atoms of oxygen present in 10.6 g  $\text{Na}_2\text{CO}_3$  will be :

- (a)  $6.02 \times 10^{23}$  (b)  $12.04 \times 10^{23}$   
(c)  $1.806 \times 10^{23}$  (d)  $31.80 \times 10^{23}$

**Q-4.** Maximum number of electrons in a subshell with  $l=2$  and  $n=3$  is

- (a) 14 (b) 16  
(c) 10 (d) 12

**Q-5.** 20 g of sucrose is dissolved in 180 g of water .Calculate the mass percentage of the solution?

- (a) 20% (b) 18%  
(c) 15% (d) 10%

**Q-6.** An orbital with quantum numbers  $n=3$  and  $l=1$  is called :

- (a) 3s (b) 3p  
(c) 3d (d) 3f

**Q-7.** The empirical formula and molecular mass of a compound are  $\text{CH}_2\text{O}$  and 180 respectively .What will be the molecular formula of the compound?

OR

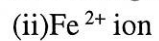
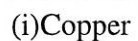
An organic compound containing C and H has 80% carbon.If the molecular mass is 30,then what is its molecular formula ?

**Q-8.** 2.8g of KOH is dissolved in water to give 200 mL solution.Calculate the molarity of KOH in the solution.

Q-9. Calculate the number of electrons and neutrons in each of the following species:



Q-10. Write the electronic configuration of the following species:



Q-11. A sugar syrup of weight 214.2 g contains 34.2g of sugar ( $\text{C}_{12}\text{H}_{22}\text{O}_{11}$ ). Calculate

(i) molality and (ii) mole fraction of sugar in the syrup.

Q-12. Yellow light emitted from a sodium lamp has a wave length of 600 nm. Calculate the frequency and wave number of the yellow light.

OR

A 25 watt bulb emits monochromatic yellow light of wave length of 80nm. Calculate the rate of emission of quanta per second.

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