

DELHI PUBLIC SCHOOL BANGALORE NORTH(2021–22)

WEEKLY TEST -01

CLASS: XI CHEMISTRY MAX. MARKS: 25

TIME: 1 HR

General Instructions:

- a) There are 12 questions in this question paper. All Questions are compulsory.
- b) SECTION- A: Question number 1-5 are MCQ type carrying 1 mark each.
- c) SECTION- B: Question number 6-8 are short answer type carrying 2 Marks each.
- d) SECTION- C: Question number 9-11 are short answer type carrying 3 Marks each.
- e) SECTION- D: Question number 12 is a long answer type Carrying 5 Marks.
- f) There is no overall choice, however internal choices have been provided.

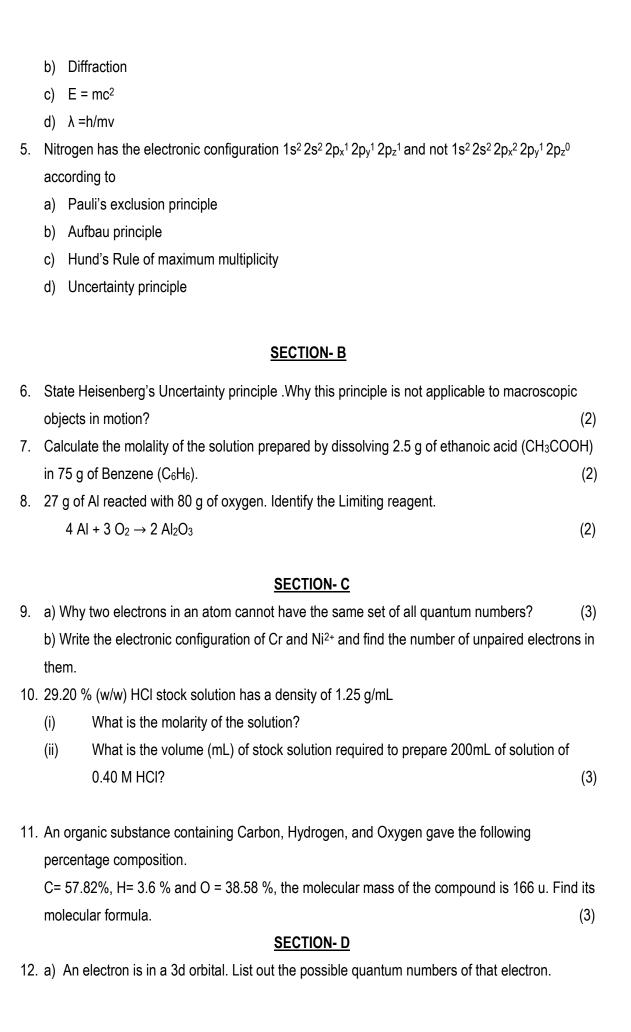
 Note: (Atomic number of Cr =24, P = 15, Ar =18, Fe =26, Ni =28, N=7, H=1)

 (Atomic mass of C =12, O =16, AI =27), R=109,677 cm⁻¹, h=6.62 x10⁻³⁴ Js, c=3 x10⁸ m/s

 Mass of electron=9.1 x10⁻³¹kg

SECTION- A

- 1. I mole of CO₂ contains:
 - a) 6.02 x 10²³ atoms of C
 - b) 6.02 x 10²³ atoms of O
 - c) 3g atoms of CO₂
 - d) 18.10 x 10²³ molecules of CO₂
- 2. The series of lines present in the visible regions of Hydrogen spectrum is:
 - a) Lyman
 - b) Balmer
 - c) Paschen
 - d) Brackett
- 3. 20 g of ethylene glycol (C₂H₆O₂) is dissolved in 80 g of water. The mole fraction of ethylene-glycol will be?
 - a) 0.068
 - b) 0.50
 - c) 0.01
 - d) 0.932
- 4. Which of the following is related to both wave nature and particle nature of photons?
 - a) Interference



b) What is the wavelength of a photon emitted during a transition of an electron from n=5 state to n= 2 state in the Hydrogen atom. (5)

OR

- a) Two particles A and B are moving with the same velocity but the wavelength of A is found to be doubled than that of B. What do you infer from this?
- b) Using s, p, d, f notations, describe the orbitals with the following quantum numbers and arrange them in their increasing order of energy.
 - i) n=2, l=1 ii) n=4, l=0 iii) n=5, l=3.
- c) Calculate the de-Broglie wavelength of an electron moving with 1 % velocity of light.

(5)

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