

**QUESTION BANK****PAPER I (INORGANIC CHEMISTRY)****2020-2021****UNIT I**

Q.1 Rutherford carried out experiment in which a beam of alpha particles was directed at a thin piece of metal foil . from these experiment he concluded that :

- a) Electrons are massive particles
- b) Positively charged parts of atoms are moving above with a velocity approaching speed of light
- c) Positively charged parts of atoms are extremely small and extremely heavy particles
- d) electrons travel in circular orbits around the nucleus.

Q.2 How many p electrons are there in an atom of rubidium?

- a) 12
- b) 18
- c) 24
- d) 6

Q.3 If both K and L shells are full, what would be the atomic number of that element?

- a) 20
- b) 14
- c) 10
- d) 16

Q.4 The electronic configuration of atomic number 20 of an atom is which of the following?

- a) 2,6,6,2
- b) 2,8,8,2
- c) 2,8,2,8
- d) 2,2,7,8

Q.5 If an atom has 3 unpaired electrons. What is likely to be the total spin of electron?

- a) $1/2$
- b) $2/3$
- c) $3/2$

Q.6 Match the following pair.

Sub-shell	shape
1. s	a) complex
2. P	b) dumbbell shape
3. f	c) spherical
4. d	d) double dumbbell
A) 1-a,2-b,3-c,4-d	
B) 1-d,2-c,3-a,4-b	
C) 1-c,2-b,3-a,4-d	
D) 1-b,2-c,3-d,4-a	

Q.7 from left to right atomic radius

- a) increases
- b) decreases
- c) remains constant
- d) none

Q.8 minimum energy required to remove outermost electron from isolated gaseous atom in its ground state is.....

- a) atomic radii
- b) electron affinity
- c) ionization potential
- d) electronegativity

Q.9 as the atomic size increases , electron affinity—

- a) increases
- b) decreases
- c) remains constant
- d) none

Q.10 electronegativity of carbon is....

- a) 2
- b) 2.5
- c) 3
- d) 3.5

UNIT II

Q.11 bond length of C-C is

- a)154 pm b)134pm c)120 pm d)90 pm

Q.12 In sp hybridization, hybrid orbitals are.....

- a)4 b)2 c)3 d)0

Q.13 which of the following contain tetrahedral geometry?

- a)CH₄ b)SF₆ c)BF₃ d)PCl₅

Q.14 how many lone pairs are present in ClF₃ ?

- a) 1 b)2 c)3 d)4

Q.15) How many groups are present in periodic table?

- a)7 b)8 c)18 d)10

Q.16 resistance to flow of liquid is.....

- a) Density b)solubility c)viscosity d)none

Q.17) "In degenerate orbitals , electrons fill first singly and then pairing takes place so that multiplicity is maximum"

- a) Hund's rule
- b) Aufbau principle
- c) Pauli exclusion principle
- d) Heisenberg uncertainty principle

Q.18) which one of the following is called inorganic benzene?

- a) Diborane
- b) Borazole
- c) Tetraborane
- d) None

Q.19) hypophosphoric acid is.....

- a) Tribasic acid
- b) Monobasic acid
- c) Dibasic acid
- d) Tetrabasic acid

Q.20 Which one of the following is dimer of phosphorous pentaoxide?

- a) P_2O_3
- b) P_4O_{10}
- c) P_4O_6
- d) P_4O_9

UNIT III

Q.21 number of electrons in the outermost orbit of element of atomic number 15 is

- a) 1
- b) 3
- c) 5
- d) 7

Q.22 number of electrons in $-CONH_2$ is

- a) 22
- b) 24
- c) 20
- d) 28

Q.23 the atomic number of element having the valency shell electronic configuration $4s^2, 4p^6$ is

- a) 35
- b) 36
- c) 37
- d) 38

Q.24 number of unpaired electrons in inert gas is

- A) 0
- b) 4
- c) 8
- d) 18

Q. 25 the valence electron in carbon atom is

- a) 1
- b) 2
- c) 3
- d) 4

Q.26 alkali metals are

- a) Li, Na, Be, Mg, Cs
- b) Li, Na, K, Rb, Cs
- c) Na, K, Mg, Ca, Rb
- d) K, Rb, Cs, Ba, Sr

Q.27 sodium metal can be stored under

- a) benzene
- b) kerosene
- c) alcohol
- d) toluene

Q.28 alkali metals lose electrons in

- a) s-orbitals
- b) p-orbitals
- c) d-orbitals
- d) d-orbitals

Q.29 the most electropositive amongst alkaline earth metals is

- a) beryllium
- b) magnesium
- c) calcium
- d) barium

Q.30 alkaline earth metals belong to the

- a) s-blocks b) p-blocks c) d-blocks d) f-blocks

UNIT IV

Q.31 which of the following does not form stable diatomic molecules

- a) iodine b) phosphorus c) nitrogen d) oxygen

Q.32 chemical formula for phosphorus molecule is

- a) P b) P₄ c) P₂ d) P₅

Q.33 the strongest base is

- a) NH₃ b) PH₃ c) AsH₃ d) SbH₃

Q.34 the basicity of pyrophosphorous acid is

- a) 2 b) 4 c) 1 d) 5

Q.35 how many bridging oxygen atoms present in P₄O₁₀

- a) 6 b) 4 c) 2 d) 5

Q.36 Give the answer of following statement in one word/sentence

Electronic configuration of Na is....

Q.37 Give the answer of following statement in one word/sentence

Principal quantum number determines..

Q.38 Give the answer of following statement in one word/sentence

Valence bond theory was first developed by.....

Q.39 Give the answer of following statement in one word/sentence

In sp hybridization bond angle is.....

Q.40 Give the answer of following statement in one word/sentence

Power of cation to polarize anion is called its.....

