

## VITEEE 2023 Question Paper April 17 (Memory-Based)

### Physics Questions

Question 1. Orbital angular momentum of electron in 4d orbital  
( $\sqrt{6}h$   $\sqrt{4}h$   $\sqrt{2}h$   $\sqrt{12}h$ )

Question 2. Two spheres with unequal radii have charge - if they are connected by a thin wire what will happen to charges

Question 3. Which of the following is not equal to 1 in boolean algebra  
{ $A \bar{A}$   $A \bar{A}$   $\bar{A} + A$   $A + \bar{A}$ }

Question 4. Which of the following is metal compound semiconductor  
{NaCl GaAs Si Ge}

Question 5. A girl focused monochromatic orange light instead of monochromatic green light through a convex lens What will happen to focal length? (increase decrease does not change changes by a factor of )

Question 6. If acceleration of a particle is proportional to  $x$  what will gain in kinetic energy be proportional to? ( $x$   $\sqrt{x}$   $x^2$   $x^3$ )

Question 7. A body has speed  $2 + \sqrt{2}$  m/s if speed increases by 2m/s how will kinetic energy be affected? (Halved Doubled Increases by factor of  $\sqrt{2}$ )

Question 8. Semiconductors chapter base emitter numerical 9)  
Percentage mass defect

Question 10. Half life of  $x$  is 3.8 days, what will be mass of 2mg material after days?

Question 11. Binding energy of nucleus on the surface will be (same as interior more than interior depends on surrounding of nucleus less than interior)

Question 12. Body of mass  $M$  kept on frictionless surface connected to spring of constant  $k$  attached to vertical wall. bullet enters inelastically and settles in the block. calculate compression (options given in terms of  $M$   $m$   $v$ .  $K$ )

Question 13. Electron Jumps from 4th orbital to ground state in hydrogen atom. What is the number of visible spectral lines? (6.4 2.3)

Question 14. Electrostatics  $-4q$  and  $+2q$  charges dipole present in uniform electric field direction of rotation and net force? {

- a) clockwise right
- b) clockwise left
- c) anticlockwise left
- d) anticlockwise right

## Chemistry Questions

Question 1. Sn1.Sn2 question asked

Question 2. Commercial prep of benzaldehyde (oxidation of toluene, etard rxn, oxidation of benzene phenol, oxidation of chlorobenzene)

Question 3. Direct formula of P total asked from solutions chap

Question 4. Enantiomers, Diastereomers matrix match

Question 5. Number of sigma bonds in compound

Question 6. Which of the following complexes have sp<sup>3</sup> hybridized metal {PdCl<sub>4</sub><sup>2-</sup>, ZnCn<sub>4</sub><sup>2-</sup>, NiCN<sub>4</sub><sup>2-</sup>}

Question 7. Which of the following has square planar complex (ans was NiCO<sub>4</sub> - don't remember options)

## Mathematics Questions

Question 1. Matrices, Determinants 6-7 questions

Question 2. Vector 3d Many questions

Question 3. Sequence and Series - Coefficient of 18th term in series

Question 4. Simple definite integration

Question 5. Integration by substitution easy

Question 6. Homogeneous equation given and solution asked

Question 7. Finding domain

Question 8. Complex numbers one question

## Aptitude and English Questions

Question 1. Odd one out 10, 26, 21, 24, 18

Question 2) Data sufficiency easy question

Question 3) All sages are kind. All artists are kind

S1. All sages are artists

S2. All artists are sages

S3. Some kind (persons) are artists

S4. Some kind (persons) are sages

Which Statement follow?

a) Only S1

b) Only S4

c) Both S1 and S2

d) Both S3 and S4

Question 4. English Very easy - Comprehension understand and write what is the main idea of the given extract, what is the meaning of keeping up with the joneses.

Question 5. 2003 similar to which year?