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MONTHLY TEST I – JUNE

CHEMISTRY

CLASS XII MAX MARKS-50

TIME-90 MNTS

1. What kind of interactions hold the molecules together in a polar molecular solid? (1)
2. Which point defect of its crystal decreases the density of a solid? (1)
3. What are F centres? (1)
4. What is meant by colligative properties? (1)
5. Crystalline solids arte anisotropic in nature. What does this statement means? (1)
6. Calculate the packing efficiency of a metallic crystal for a simple cubic lattice. (2)
7. What type of semiconductor is produced when silicon is doped with Boron? Explain. (2)
8. State the law co-relating the pressure of a gas and its solubility in a liquid. State an application of this law. (2)
9. What is meant by (i) colligative properties (ii) molality of a solution ? (2)
10. What change occurs when AgCl is doped with CdCl2? Explain. (2)
11. Zinc oxide on heating becomes yellow. Why? (2)
12. Aluminium crystallises in fcc structure. Atomic radius of the metal is 125pm.What is the length of the side of the unit cell of the metal? (2)
13. Differentiate between molarity and molality values for a solution. What is the effect of change in temperature on molarity and molality values. (3)
14. Copper crystallises with fcc unit cell. If the radius of copper atom is 127.8pm, calculate the density of copper metal. Atomic mass of copper is 63.54. (3)
15. Explain the following terms with one suitable example each.
    (i) Ferro magnetism (ii) Anti ferro magnetism (3)
16. With the help of suitable diagrams on the basis of band theory explain the difference between a conductor, semiconductor and an insulator. (3)
17. Define the following terms
    (i) Ideal solution
    (ii)Azeotrope
    (iii)Raoults law (3)
18. Explain how you can determine the atomic mass of an unknown metal if you know its mass, density and the dimensions of the unit cell of its crystal. (3)
19. (a) Assign reason for the following.
    (i) Some of the very old glass objects appear slightly milky instead of being transparent
    (ii)The presence of excess of Lithium makes LiCl crystal pink

    (b)) A solid with cubic crystal is made of two elements P and Q. Atoms of Q are at the corners of the cube and P atoms at the body centre. What is the formula of the compound? (3)
20. What is a semiconductor? Describe the two main types of semiconductors and explain the mechanism for their conduction. (5)
21. Taking suitable examples explain the meaning of positive and negative deviations from Raoults law. Draw diagrams to illustrate it? (5)

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CLASS XII MONTHLY TEST JUNE-2015

CHEMISTRY SCORING KEY

1. Dipole- Dipole interaction (1)
2. Schotky defect or vacancy defect (1)
3. Anion vacancies occupied by electrons (1)
4. Properties of dilute solutions which depend on the number of solute particles (1)
5. Show different properties like refractive index etc when measured through different directions (1)
6. Fig . (1/2) correct formula (1/2) substitution (1/2) correct answer (1/2)
7. P type (1) explanation (1)
8. Correct statement (1) any one application (1)
9. Impurity defect (1/2) cation vacancy (1/2) explanation (1)
10. Equation (1) explanation (2)
11. Equation (1) substitution (1) correct answer with unit (1)
12. Molarity definition (1) molality definition (1) molarity depends on temperature (1/2) molality independent of temperature (1/2)
13. Calculation of edgelength (1) $d = Z M / a^3 N_A$ (1/2) substitution(½) correct answer with unit (1)
14. Definition (1 +1) fig (1/2 +1/2)
15. Fig (1/2 +1/2+ ½) explanation (1/2 +1/2+ ½)
16. Correct definition (1+ 1+ 1)
17. (a) (i) due to crystallization (1) (ii) F – centre (1) PQ (1)
18. Definition (1) n – type ,p – type (1+ 1) explanation (1+ 1)
19. Positive deviation explanation (1) negative deviation explanation (1) graph (1+ 1 example (1/2 + ½)