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MODEL QUARTERLY EXAMINATION- 2019	Exam No:						
XII – CHEMISTRY							
Time : 2.30 hrs						**Marks : 70**	

Section – I (15X1=15)

Answer all the questions.

1. The formation of blister copper _____ gas is evolved.
   (a) SO_3 (b) SO_2 (c) CO (d) CO_2
2. The metal used for making radiation shield is
   (a) Al (b) Zn (c) Pb (d) Si
3. When Con .H_2SO_4 comes in contact with sugar, it becomes black due to_____
   (a) hydrolysis (b) hydration (c) decolourisation (d) dehydration
4. Which of the following is more ionic
   (a) $La(OH)_3$ (b) $Ce(OH)_3$ (c) $Gd(OH)_3$ (d) $Lu(OH)_3$
5. Out of following which ligand is a pi acid ligand ?
   (a) CO (b) CN^- (c) NO (d) all of these
6. Packing efficiency % of BCC is
   (a) 68% (b) 52.31% (c) 72% (d) 100%
7. Photo chemical reaction between H_2 and I_2 follows _____ kinetics
   (a) first order (b) zero order (c) third order (d) none of the above
8. _____ are used for cutting tools and crushing machines.
   (a) nickel steel (b) chrome steel (c) chrome vanadium steel (d) nichrome
9. Which of the following is the electron deficient molecule?
   (a) C_2H_6 (b) SiH_4 (c) PH_3 (d) B_2H_6
10. How many bridging oxygen atoms are present in P_4O_{10}
    (a) 6 (b) 4 (c) 2 (d) 5
11. Ionisation energy of Ni
    (a) 2490 KJ mol^{-1} (b) 2655 KJ mol^{-1} (c) 3000 KJ mol^{-1} (d) 2600 KJ mol^{-1}
12. Which metal present in the vitamin B_{12}
    (a) Zn (b) Co (c) Fe (d) Pt
13. Coordination number of B_2O_3 ionic solid is
    (a) 6 (b) 8 (c) 3 (d) 4
14. The unit of rate of a reaction is
    (a) mol $^{-1}$ L^{-1} S (b) mol L^{-1} S^{-1} (c) mol L S^{-1} (d) mol L^{-1}
15. If the rate constant of a reaction is 0.0693 sec^{-1}, the time taken for 99.9% complexion of the reaction is
    (a) 69.3 sec (b) 0.693 sec (c) 100 sec (d) 10 sec

Section – II (6X2=12)

Answer any six questions and question number 24 is compulsory.

16. Define mineral.
17. What is burnt alum ?
18. Why noble gases have the largest ionisation energy?
19. Why Gd^{3+} is colourless?
20. Define d – d transition.
21. Define co ordination number?
22. Calculate the number of atoms in BCC.
23. Define rate law and rate constant.
24. Calculate the half life of a first order reaction whose rate constant is 200 s^{-1}.

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Section – III (6X3=18)

Answer any six questions and question number 33 is compulsory.

25. Write about magnetic separation.
26. Give the uses of borax.
27. What is inert pair effect?
28. Which is more stable Fe^{3+} (or) Fe^{2+} ? Explain.
29. Write the uses of EDTA.
30. Why do Zr and Hf exhibit similar properties?
31. Distinguish between isotropy and anisotropy?
32. What is a zero order reaction ? Give example .
33. Calculate the number of atoms in a FCC unit cell.

Section – IV (5X5=25)

Answer all the questions.

34. a) (i) Define leaching (2)
(ii) Write the application of Ellingham diagram (3)
(or)
b) Write a notes on preparation , properties of Alums. (5)

35. a) Explain the structure of graphite and diamond. (5)
(or)
b) Compare the lanthanides and actinides (5)

36. a) (i) Given the uses of helium? (2)
(ii) Why nitrogen gas is chemically inert (3)
(or)
b) Write the postulates of Werner's theory. (5)

37. a) Distinguish between hexagonal close packing and cubic close packing (5)
(or)
b) Show that for a first order reaction the time required for 99% completion is twice the time required for 90% completion of the reaction . (5)

38. a) (i) What are general characteristics of solids? (3)
(ii) Define – unit cell (2)
(or)
b) Derive the integrated rate law for a first order reaction ? (5)

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