

KANNUR JILLA PANJAYATH
DIET KANNUR
SSLC MUKULAM EXAM -FEB 2019
CHEMISTRY

Time:1 1/2 hours

Total score:40 Marks

Instructions

- *First 15 minutes is cool off time
- *Read all questions carefully
- *Questions with scores 1,2,3& 4 are categorised separately
- *Five questions are given in each category. Answer any 4 questions from each category.
- * Answer each question by keeping time

Answer any four questions from 1 to 5. 1 score each (4X1=4)

1. To which block does actinoids belong? 1
2. Which catalyst is used to decrease the rate of decomposition of hydrogen peroxide? 1
3. The method used to concentrate sulphide ore is 1
(Levigation, Froth floatation, Magnetic separation, Leaching)
4. Name the category of compounds with functional group ---CHO? 1
5. The main constituent of L P G is..... 1

Answer any four questions from 6 to 10. 2 scores each (4X2=8)

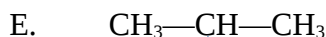
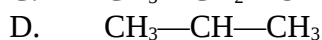
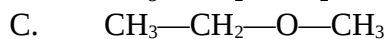
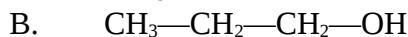
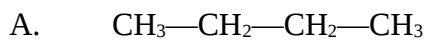
6. a) What is the oxidation state of copper ion in CuCl_2 ? 1
 b) Write the sub shell electronic configuration of the ion with the above oxidation state. 1
 (Atomic No. Of copper =29)
7. Ethanol is a compound of industrial importance.
 a) Name the process that converts molasses to ethanol. 1
 b) Name the enzymes help this conversion. 1
8. $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$
 a) What is the ratio of reactant molecules in the above reaction? 1
 b) What is the mass of oxygen required to react completely with 8 grams of hydrogen? 1
 (Atomic mass H=1, O=16)
9. A Zinc rod is dipped in copper sulphate solution
 a) Why does the blue colour of the solution decrease? 1
 b) Write the equation of the reaction. 1
10. Complete the table

Metal	Method of refining
Copper	Electrolysis
Zinca.....
Tinb.....

Answer any four questions from 11 to 15 . 3 scores each

(4X3=12)

11. Structural formulae of some compounds are given.



- a) Choose a pair of position isomers. 1
 b) Which is the isomerism shown by A and E ? 1
 c) B and C are functional isomers. Why? 1
12. a) Which is the substance added to cement to control its setting time? 1
 b) Which type of glass is used to make lenses and prisms? 1
 c) Name the category of medicines used to lower body temperature? 1
13. a) How many molecules are present in 85 g. Ammonia? 2
 b) Find the mass of this much molecules of CO₂? 1
 (Atomic mass H=1, C=12, N=14, O=16)

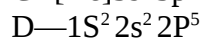
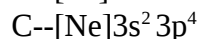
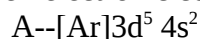


- a) Which reaction will be favoured at high temperature? 1
 b) What will be the effect of increasing the amount of nitrogen on the equilibrium? 1
 c) On lowering of pressure what happens to the rate of forward reaction? 1
15. Aluminium is a widely used metal.
 a) Name the ore of aluminium? 1
 b) Name the process used for the concentration of this ore? 1
 c) Write the equation of the reaction taking place at the cathode during the electrolytic production of aluminium? 1

Answer any four questions from 16 to 20 . 4 scores each

(4*4=16)

16 Sub shell electronic configurations of a few elements are given .(Symbols are not real)



- a) Which of the above elements belong to the same period? 1
 b) Which among them has the highest electro negativity? 1
 c) Which among them form coloured compounds? 1
 d) Write the formulae of the compound formed by B and C. 1
17. $\text{CH}_3\text{—CH}_2\text{—CH}_2\text{—CH}_2\text{—CH—CH}_3$
- |
CH₂—CH₃
- a) What is the number of carbon atoms in the longest chain? 1
 b) What is the position of the branch? 1

c) What is the name of the branch? 1

d) Write the IUPAC name of the compound? 1

18. Match the following

Reactants	Products	Type of reaction
$\text{CH}_2 = \text{CH}_2 + \text{H}_2$	$\text{CH}_4 + \text{CH}_3 - \text{CH} = \text{CH}_2$	Substitution reaction
$\text{CH}_3 - \text{CH}_2 - \text{CH}_2 - \text{CH}_3$	$\left[\text{CH}_2 - \underset{\text{Cl}}{\text{CH}} \right]_n$	Addition reaction
$\text{C}_2\text{H}_6 + \text{Cl}_2$	$\text{CH}_3 - \text{CH}_3$	Polymerisation
$n\text{CH}_2 = \text{CHCl}$	$\text{C}_2\text{H}_5\text{Cl} + \text{HCl}$	Thermal cracking

4

19. a) Write any two factors which affect the rate of a chemical reaction. 2

b) Write an experiment to demonstrate the affect of any one of the above factors on the rate of a reaction. 2

20 Some metals and solutions are given in the box

MgSO₄ solution, AgNO₃ solution, FeSO₄ solution, CuSO₄ solution,
KCl solution, Pb rod, Mg rod, Zn rod, Cu rod

a) Select from the box the materials needed to construct a galvanic cell. 2

b) Which is the anode of the cell constructed? 1

c) Write the equation of the reaction taking place at the cathode of the cell. 1