

BSc BEd Semester I Examination, 2020

Subject- Chemistry

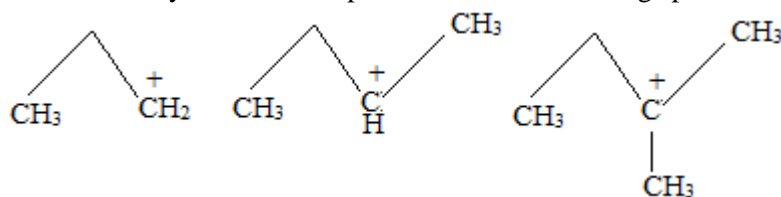
Course: GE 1.1 / GE 2.1

Time- 2hrs

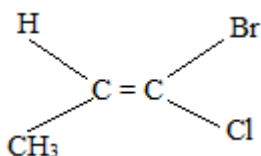
Full Marks : 50

Answer any 10 of the following questions. (5x10=50)

1. A) Write the all postulates of Bohr theory. 3
B) Write the all plausible quantum numbers for the valence electron of sodium. 2
2. A) Although 1st ionisation energy of N is higher than O but the 2nd ionisation energy is reverse. Explain. 3
B) Using slater's rule, calculate effective nuclear charge of Fe³⁺.
3. A) State de-Broglie hypothesis. Calculate wavelength for a particle which moves with velocity of light and mass is 10⁻²⁸ gm? 3
B) How many numbers of nodes are found for 3p sub-orbits? 2
4. A) Using VSEPR theory find the structure of SF₄ and XeOF₄. 3
B) State Fajan's rule. 2
5. A) Explain the following- 3
i) CO₂ is non-polar but SO₂ is polar.
ii) LiF soluble in water but LiI soluble in organic solvent.
6. A) Write the stability order of O₂, O₂⁺, O₂⁻ and O₂²⁻ with explanations. 3
B) Draw the Born Haber cycle for NaCl(s) starting from Na(s) and Cl₂(g). 2
7. A) Explain the stability order with explanation of the following species- 3



- B) Write IUPAC nomenclature of the following compounds: 2
i) CH₃C≡CCH=CH₂ ii) HO₂CC=CCO₂H
8. A) What is Grignard reagent? Why Grignard reagent is stored in ether? 3
B) What happens when ethane is treated with aqueous KMnO₄ solution? 2
9. A) Write short notes on- 3
i) Kolbe synthesis ii) Markownikoff's rule
B) How will you convert 1-butene to 2-butene? 2
10. A) Define Enantiomers and Diastereomers with suitable example. 3
B) Write the E/Z nomenclature of the following compounds- 2



11. A) Write the difference between configuration and conformation isomers. 3
B) Write meso and dl structure of 2,3-dibromobutane. 2
12. A) Draw the all plausible structure of n-butane in newmann projection. 3
B) Write R/S nomenclature of 2

