

B.Sc. Semester - 1 (CBCS) Examination
Nov./Dec. -2018 (New Course)
CHEMISTRY(CORE)

Time: 2:30 Hours**Marks: 70****Instructions:**

1. All questions are compulsory.
 2. Figures to the right indicate marks.
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- Que 1 (a) Answer the following question. (4)
(1) Explain the Heisenberg's Uncertainty principle.
- Que 1 (b) Answer any two question out of three. (10)
(1) Discuss the bond order, stability and magnetic properties of N_2 by using MO diagram.
(2) What is hybridization? Explain sp^3d hybridization with a suitable example.
(3) (a) Write short note : Atomic Radii.
(b) Give reason: Electron affinities of halogens are very high.
- Que 2 (a) Answer the following question. (4)
(1) Explain SN^2 reaction with mechanism.
- Que 2 (b) Answer any two question out of three. (10)
(1) Explain inductive effect in detail.
(2) Give any two method of preparation of alkenes.
(3) Explain Markownikow and Anti-Markownikow rules with examples.
- Que 3 (a) Answer the following question. (4)
(1) Discuss the factors affecting of rate of chemical reaction.
- Que 3 (b) Answer any two question out of three. (10)
(1) Explain in detail: Langmuir adsorption isotherm.
(2) Derive the equation of rate constant for second order reaction.
(3) Write short note on:
(a) Acid-Base catalyst.
(b) Catalytic poisoning.
- Que 4 (a) Answer the following question. (4)
(1) Discuss about dual nature of electron and De-Broglie theory.
- Que 4 (b) Answer any two question out of three. (10)
(1) Explain: Pauling method for the calculation of electro negativity of an atom.
(2) (a) Explain Wurtz reaction
(b) Explain Saytzeff rule with proper example
(3) Derive the equation of rate constant for first order reaction.
- Que 5 (a) Answer the following question. (4)
(1) A first order reaction is 40% complete in 50 minutes. Calculate the value of the rate constant. In what time will the reaction be 80% complete?
- Que 5 (b) Answer any two question out of three. (10)
(1) Give difference between BMO and ABMO.
(2) Explain rules for assign R and S configuration.
(3) Describe the application of Adsorption.
