

B.Sc. Semester - 1 (CBCS) Examination
Oct/Nov. -2019 (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. (04)**
(1) Explain any two quantum numbers.
- Que-1 (b) Answer any two questions out of three. (10)**
(1) Write a note on aufbau principle and hund's rule.
(2) Explain sp^3 hybridization.
(3) Explain difference between Valance bond theory (VBT) and molecular orbital theory (MOT).
- Que-2 (a) Answer the following question. (04)**
(1) Explain SN^1 reaction with mechanism.
- Que-2 (b) Answer any two questions out of three. (10)**
(1) Explain SN^2 reaction with mechanism.
(2) Write a note on inductive effect.
(3) Write a note on carbocation.
- Que-3 (a) Answer the following question. (04)**
(1) Give difference between physical and chemical adsorption.
- Que-3 (b) Answer any two questions out of three. (10)**
(1) Discuss in detail: Factors affecting rate of chemical reaction.
(2) Write a note on characteristics of catalysis.
(3) Explain factors affecting adsorption.
- Que-4 (a) Answer the following question. (04)**
(1) Explain E^1 reaction with mechanism.
- Que-4 (b) Answer any two questions out of three. (10)**
(1) Write de Broglie equation and explain the terms.
(2) Explain Marcovnikov rule with an example.
(3) Define the terms: (i) Adsorption, (ii) Absorption, (iii) Adsorbate.
- Que-5 (a) Answer the following question. (04)**
(1) Write a short note on enzyme catalysis.
- Que-5 (b) Answer any two questions out of three. (10)**
(1) Write a note on Pauli's principle.
(2) Explain dipole moment in detail.
(3) Write a note on activation energy.