

B.Sc. Semester - 6 (CBCS) Examination

Oct/Nov -2020

INORGANIC AND INDUSTRIAL CHEMISTRY (CORE)

Time: 2:00 Hours

Marks: 56

Instructions:

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any four of the following questions.

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- Q. 1 (A) Answer the following question. (4)**
(1) Discuss: Spin multiplicity.
- Q.1 (B) Answer the following questions. (Any two) (10)**
(1) Explain Hund's rule for determination of ground state spectral term with example.
(2) Calculate the microstates for d^2 electronic configuration.
(3) Explain Hole pegen diagram for p^2 electronic configuration.
- Q. 2 (A) Answer the following question. (4)**
(1) Draw only Orgel diagram of D and F term and give its limitation.
- Q. 2 (B) Answer the following questions. (Any two) (10)**
(1) Explain splitting of d-orbital in square planer complex with example.
(2) Discuss charge transfer transition.
(3) Discuss the absorption spectra of $[Cu(H_2O)_6]Cl_2$.
- Q. 3 (A) Answer the following question. (4)**
(1) Give definition and equation of Magnetic induction and Magnetic permeability.
- Q. 3 (B) Answer the following questions. (Any two) (10)**
(1) Discuss iodine value.
(2) Discuss Guoy balance method for determination of magnetic susceptibility.
(3) Explain dry process for hydrogenation of oil.
- Q. 4 (A) Answer the following question. (4)**
(1) Give the classification of surface active agents.
- Q. 4 (B) Answer the following questions. (Any two) (10)**
(1) Discuss different types of soap.
(2) Discuss Continuous process for manufacturing of soap.
(3) Explain: (i) Oxo process (ii) Welsh process
- Q. 5 (A) Answer the following question. (4)**
(1) Explain effect of ozone depletion on humans.
- Q. 5 (B) Answer the following questions. (Any two) (10)**
(1) Explain classification of water pollution.
(2) Discuss the major source of air pollution.
(3) Discuss (i) chemically oxygen demand (COD)
(ii) Biologically oxygen demand (BOD).
