

Prof.Brijmohan Mishra Institute of Medical & Technical sciences
,Burhanpur

Class- B.sc 1 Semester

Subject- Chemistry

Q.1) Explain Maxwell –Boltzmann distribution of molecular velocities.
Write its equation and explain the meaning of terms used in this equation.

Q.2) Write notes on following .

A) Schottky defect B) Frankel defect

Q.3) Explain Schrodinger wave equation.

Q.4) Write diagonal relationship between lithium and magnesium.

Q.5) Discuss the types of organic reactions explain with suitable examples.

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Class- B.sc 2 Semester

Subject- Chemistry

Q.1) Explain the Arrhenius equation .write method of determination of activation energy.

Q.2) Draw Born-Haber cycle and give the equation to relate the energies involved in the cycle.

Q.3) What is hard and soft acid bases (HSAB) concept of pearson? It this extension of lewis concept for acid bases ? Explain.

Q.4) Explain the free radical mechanism of halogenations of alkane.

Q.5) Explain SN1 and SN2 mechanism with example of alkyl halides.

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Class- B.sc 3 Semester

Subject- Chemistry

Q.1) Explain orbital structure of benzene.

Q.2) What are alcohols? How are they classified give method of preparation of monohydric alcohols.

Q.3) What are binary compound ? write carbide of metal of first transition series in detail.

Q.4) What is carnot cycle ? explain its different steps.

Q.5) Derive the Gibbs- Helmholtz equations.

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Class- B.sc 4 Semester

Subject- Chemistry

Q.1) Apply phase rule to water system .

Q.2) Write the postulates of debye- hukel theory .

Q.3) What is lanthanide contraction? What is the effect on the properties of lanthanides?

Q.4) Write notes or reaction mechanism on the following.

A) Knoevenagel reaction B) Aldol condensation C) Benzoin condensation

Q.5) Give an account of preparation, properties and uses of nitroalkanes.

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Class- B.sc 5 Semester

Subject- Chemistry

- Q.1) Give an account of preparation, properties and uses of nitroalkanes.
- Q.2) What are carbohydrates? Write the mechanism of osazone formation.
- Q.3) Woodward-Fieser rules for determining λ_{max} of α - β unsaturated carbonyl compound .
- Q.4) What is nitrogen fixation? Explain.
- Q.5) Describe pearson theory of soft and hard acid bases and discuss its applications.
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Class- B.sc 6 Semester

Subject- Chemistry

- Q.1) What are nucleic acid ? Describe double helix structure of DNA.
- Q.2) Write synthetic applications of Grignard reagent and organolithium compound .
- Q.3) What do you mean by L-S coupling? Explain the term symbols obtained by L-S coupling with one example.
- Q.4) Describe energy levels of rigid rotator.
- Q.5) What is the principle of N.M.R. spectroscopy? What type of information may be obtained from this spectroscopy?
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