



TAMIL NADU OPEN UNIVERSITY

Chennai - 15

School of Science

Department of Chemistry

ASSIGNMENT-I

Programme Code No : 182
Programme Name : B.Sc. Chemistry
Course Code & Name : BCHE - 11 & General Chemistry - I
Batch : AY 2018-19
No.of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Explain about the naming of organic compounds with two functional groups.
- 2) Describe about Madeleef's classical periodic law.
- 3) Write a note on brief introduction to Organic compounds.
- 4) Discuss about the kinetic theory of gases and van der waals equation.

Part - B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each.

- 1) Discuss in details about the Ideal gas laws and van der Waals forces.
- 2) Explain about the following
 - Surface tension and its molecular theory
 - Surface energy
 - Capillary rise
- 3) Describe in details about the f-Block elements.



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ASSIGNMENT-II

Programme Code No : 182
Programme Name : B.Sc. Chemistry
Course Code & Name : BCHE - 11 & General Chemistry - I
Batch : AY 2018-19
No.of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Discuss about the naming of organic compounds with one or more hetero atoms in five or six membered rings.
- 2) Give notes on the critical phenomena of the gases.
- 3) Give notes on the Carboxylic acid and acid derivatives.
- 4) Write notes on Born-Haber cycle.

Part - B (2 x 30 = 60 Marks)

Answer any two of the questions given below in 1000 words each.

- 1) Describe the following.
 - Inductive effect
 - Electromeric effect
 - Resonance or Mesomeric effect
 - van der Waals forces
- 2) Discuss in details about the classification of Organic compounds based on Carbon skeleton and Functional groups.
- 3) Discuss about the following.
 - Pauling scale of electronegativity
 - Mulliken scale of electronegativity
 - Polarizing power
 - Polarizability



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ASSIGNMENT-III

Programme Code No : 182

Programme Name : B.Sc. Chemistry

Course Code & Name : BCHE - 11 & General Chemistry - I

Batch : AY 2018-19

No. of Assignment : One Assignment for Each 2 Credits

Maximum Marks : 100

Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Explain in details about Electronegativity and Electron affinity with suitable examples.
- 2) Write notes on the drawing of resonance structures.
- 3) Discuss about the Hydrogen bonding and its properties.
- 4) Describe about the stability of resonance structures.

Part - B (2 x 30 = 60 Marks)

Answer any two of the questions given below in 1000 words each.

- 1) Describe the following with examples.
 - Hyperconjugation
 - Steric effect
 - Fajan's rule
 - Octet rule
- 2) Explain in details about the naming of organic compounds.
- 3) Discuss in details about the classification of s, p and d-Block elements.



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ASSIGNMENT-IV

Programme Code No : 182
Programme Name : B.Sc. Chemistry
Course Code & Name : BCHE - 11 & General Chemistry - I
Batch : AY 2018-19
No.of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Give notes on the relationship between surface energy and surface tension.
- 2) Write notes on the basic principles for naming of organic compounds
- 3) Explain about the Octet rule and Fajan's rule.
- 4) Describe about Moseley's modern periodic law.

Part - B (2 x 30 = 60 Marks)

Answer any two of the questions given below in 1000 words each.

- 1) Discuss in details about the classification of Organic compounds based on Carbon skeleton and Functional group.
- 2) Describe the following with examples.
 - Atomic radii
 - Ionic radii
 - Ionization energy
 - Electronegativity
 - Electron affinity
- 3) Describe in details about the Ideal gas laws and Intermolecular forces.



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ASSIGNMENT-I

Programme Code No : 182
Programme Name : B.Sc. Chemistry
Course Code & Name : BCHE - 12 & General Chemistry - II
Batch : AY 2018-19
No. of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 2) Explain about the Atomic orbitals and Quantum numbers.
- 2) Describe about the Organic pesticides.
- 3) Write a note on Elimination reactions.
- 4) Discuss about the Chemical bond disconnection.

Part - B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each.

- 1) Discuss in details about the chemistry of Addition reactions.
- 2) Explain about the important compounds and Uses of
 - Surface tension
 - Viscosity
 - Refraction
- 3) Describe in details about the Fertilizers.



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ASSIGNMENT-II

Programme Code No : 182
Programme Name : B.Sc. Chemistry
Course Code & Name : BCHE - 12 & General Chemistry - II
Batch : AY 2018-19
No. of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Discuss in details about the Fungicides and Repellents.
- 2) Give notes on Pauli's exclusion principle, Hund's rule and Aufbau principle.
- 3) Give notes on the Carbocations and Carbanions.
- 4) Write notes on the Orbital's overlapping.

Part - B (2 x 30 = 60 Marks)

Answer any two of the questions given below in 1000 words each.

- 1) Describe the following.
 - VSEPR theory
 - MO theory
- 2) Discuss in details about the Petrochemicals.
- 3) Discuss about the following with examples.
 - Wittig reaction
 - Mannich reaction
 - Benzoin condensation
 - Stobbe condensation



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ASSIGNMENT-III

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Course Code & Name : BCHE - 12 & General Chemistry - II
Batch : AY 2018-19
No. of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Explain in details about the Magnetic properties.
- 2) Write notes on the Liquid crystals.
- 3) Discuss about the mechanism of addition reactions of alkenes.
- 4) Describe about the characteristics of liquids.

Part - B (2 x 30 = 60 Marks)

Answer any two of the questions given below in 1000 words each.

- 1) Describe the following with examples.
 - Inert pair effect
 - VSEPR theory
 - Quantum numbers
 - Atomic orbitals
- 2) Explain in details about the Pesticides.
- 3) Discuss in details about the following reactions with examples.
 - Michael addition
 - Wurtz reaction
 - Wittig reaction
 - Mannich reaction



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ASSIGNMENT-IV

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Programme Name : B.Sc. Chemistry
Course Code & Name : BCHE - 12 & General Chemistry - II
Batch : AY 2018-19
No. of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

Part - A (4 x 10 = 40 Marks)

Answer the following in 200 words each. Each question carries 10 marks

- 1) Give notes on Chugaev and Cope elimination reactions.
- 2) Discuss about the chemical Fertilizers.
- 3) Explain about Trouton's rule and its significance.
- 4) Describe about Baeyer Strain theory.

Part - B (2 x 30 = 60 Marks)

Answer any two of the questions given below in 1000 words each

- 1) Explain about the important compounds and Uses of
 - 1,3-dipolar addition
 - Michael addition
 - Hydroxylation
 - Hydroboration
- 2) Describe the following with examples.
 - Cycloaddition reactions
 - Dehalogenation
 - Wurtz reaction
 - Diels Alder reaction
- 3) Describe in details about the principle and types of hybridisation.



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ASSIGNMENT-I (Allied Physics)

Programme Code No : 182
Programme Name : B.Sc. Chemistry
Course Code & Name : BCHEA - 01 & General Physics
Batch : AY 2018-19
No. of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

PART A (4 x 10 = 40)

Answer the following in 200 words each. Each question carries 10 marks

1. State and Explain Kepler's law of gravitation.
2. Explain the term Acoustics of Building.
3. State Hook's Law. Derive an expression for Young's Modulus.
4. Explain the construction and working of Carnot engine.

Part - B (2 x 30 = 60 Marks)

Answer any two of the questions given below in 1000 words each

1. What is cantilever? Derive an expression for bending moment.
2. Derive an expression for decay of sound using sabin's formula.
3. State and verify newton's law of cooling.



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ASSIGNMENT-I (Allied Physics)

Programme Code No : 182
Programme Name : B.Sc. Chemistry
Course Code & Name : BCHEA - 01 & General Physics
Batch : AY 2018-19
No. of Assignment : One Assignment for Each 2 Credits
Maximum Marks : 100
Weightage : 25%

PART A (4 x 10 = 40)

Answer the following in 200 words each. Each question carries 10 marks

1. What is the bridge balance condition in wheaston's bridge.
2. Explain the term Self Induction.
3. What are n-type and p-type semiconductor?
4. State and Explain demorgan's theorems.

Part - B (2 x 30 = 60 Marks)

Answer **any two** of the questions given below in 1000 words each

1. Explain the determination of refractive index of material by using spectrometer.
2. What is Raman effect? Derive an expression for Raman shift with necessary theory.
3. Explain Principle of Capacitor. Derive an expression for energy stored in a capacitor