**PCM/S/550**

**Fifth Semester B.Sc. in PCM**

**Examination Aug/Sep-2015**

**Fundamentals of Organic Chemistry-III**

**Time:-3Hours Max. Marks: - 75**

**SECTION-A**

**Answer any five questions. (5\*5)**

1. What is diagonal relationship?
2. Write the limitations of CFT.
3. Why are alkali metals univalent?
4. What are common oxidation state of lead and Bismuth?
5. Define the concept of CFSE.
6. Differentiate between Nucleophiles and Electrophones.
7. What is Claisen Condensation?

**SECTION-B**

**Answer any two questions. (10\*2)**

1. Describe each quantum number.
2. Write detail notes on:

(a) Hund’s rule.

(b) Aufbau principle, and

(c) Pauli’s exclusion principle.

1. Describe the “S-Block” and “P-Block” elements.

**SECTION-C**

**Answer any two questions. (15\*2)**

1. Why it is necessary to involve hybrid orbitals while trying to account for the geometry of methane molecules? Explain it with the help of examples.
2. Explain the concept of “Ionization energy”.
3. Explain the Basic Assumptions of CFT.