

## **Elective 1            PHILOSOPHY OF SCIENCE**

### **Unit – 1**

Nature and Function of Philosophy of Science – Science and Common sense.

### **Unit – 2**

#### **Scientific Theories**

Hypothesis - Laws – Principles and Theories in Science – Thomas Kuhn's Paradigm shift – Karl Popper's Falsification theory.

### **Unit – 3**

#### **Scientific Explanations**

Deductive Pattern of Scientific Explanation – Four types of Scientific Explanation – Requirements of Scientific Explanations.

### **Unit – 4**

Reductionism in Biology – Causality and Indeterminism in Physics – Alternate Descriptions of Physical State.

### **Unit – 5**

#### **Methodological problems of Social Science**

Controlled Inquiry – Subjective Nature of Social Subject Matter – Cultural relativity and Social Laws – Value-oriented bias of Social Inquiry.

### **Books for Study: (Relevant Chapters only)**

1. Peter Caws, Philosophy of Science.
2. Earnest Nagel, Structure of Science.
3. R. Harre, Philosophy of Science.
4. Thomas Kuhn, The Structure of Scientific Revolution.
5. Karl Popper, The Logic of Scientific Discovery.