

**1) Assignments (Sample Copy)**

**Subject: Manufacturing Processs-III    Class : BTech**

**Assignment No.1**

1. Define CNC. Explain with neat sketch the components of CNC machines.
2. Explain with neat sketch types of linear motion guide ways.
3. Explain with neat sketch Ball screw mechanism in CNC.
4. Write short notes on:
  - a. Encoders
  - b. Tachometers
  - c. Linear motors
5. Explain with neat sketch CNC drives?

**Assignment No.2**

**CNC tooling & Programming**

1. With neat sketch explain Automatic tool changers (ATC)?
2. With neat sketch explain Automatic Pallet Changers (APC)?
3. Explain the steps in part programming?
4. Write short notes on following
  - a. NC words
  - b. NC data format
  - c. Canned cycle
  - d. APT Language
5. Explain computer assisted part programming with neat sketch?

**Assignment No.3**

**Advanced Machining Processes**

1. Explain why non-conventional machining processes are used? How they are classified?
2. What is “Electrical Discharge Machining (EDM)”? Explain its principle with the help of suitable diagram? State the advantages, disadvantages & applications of EDM?
3. Explain with neat sketch the principle & working of Electro-chemical machining processes (ECM). List the advantages, disadvantages and applications of ECM?
4. Describe briefly “Electro-Chemical Grinding (ECG)” process. State also its advantages, disadvantages and applications.

**Assignment No. 4**

**Surface Treatment & Coating**

Q.1 Explain Mechanical Plating & Cladding?

Q.2 Explain terms Electro plating, Electroless Plating & Electro forming Processes?

Q.3 Write Short Notes on:

- a. Thermal spraying
- b. Vapour deposition
- c. Laser treatments
- d. Porcelain enamelling
- e. Conversion coating
- f. Diamond coating
- g. Hot dipping

### **Assignment No. 5**

#### **Rapid Prototyping**

Q.1. What is rapid prototyping? What are its types?

Q.2. Explain with neat sketch Fused deposition Modeling?

Q.3. Explain with neat sketch 3D printing?

Q.4. Explain with neat sketch Laminated Object Manufacturing?

Q.5. Explain with neat sketch Solid ground Curing?

Q.6. Explain with neat sketch direct manufacturing & rapid tooling?