

CNC EDM (Electrical Discharge Machining)

Prepared by

P.Janagarathinam, Ap/Mech

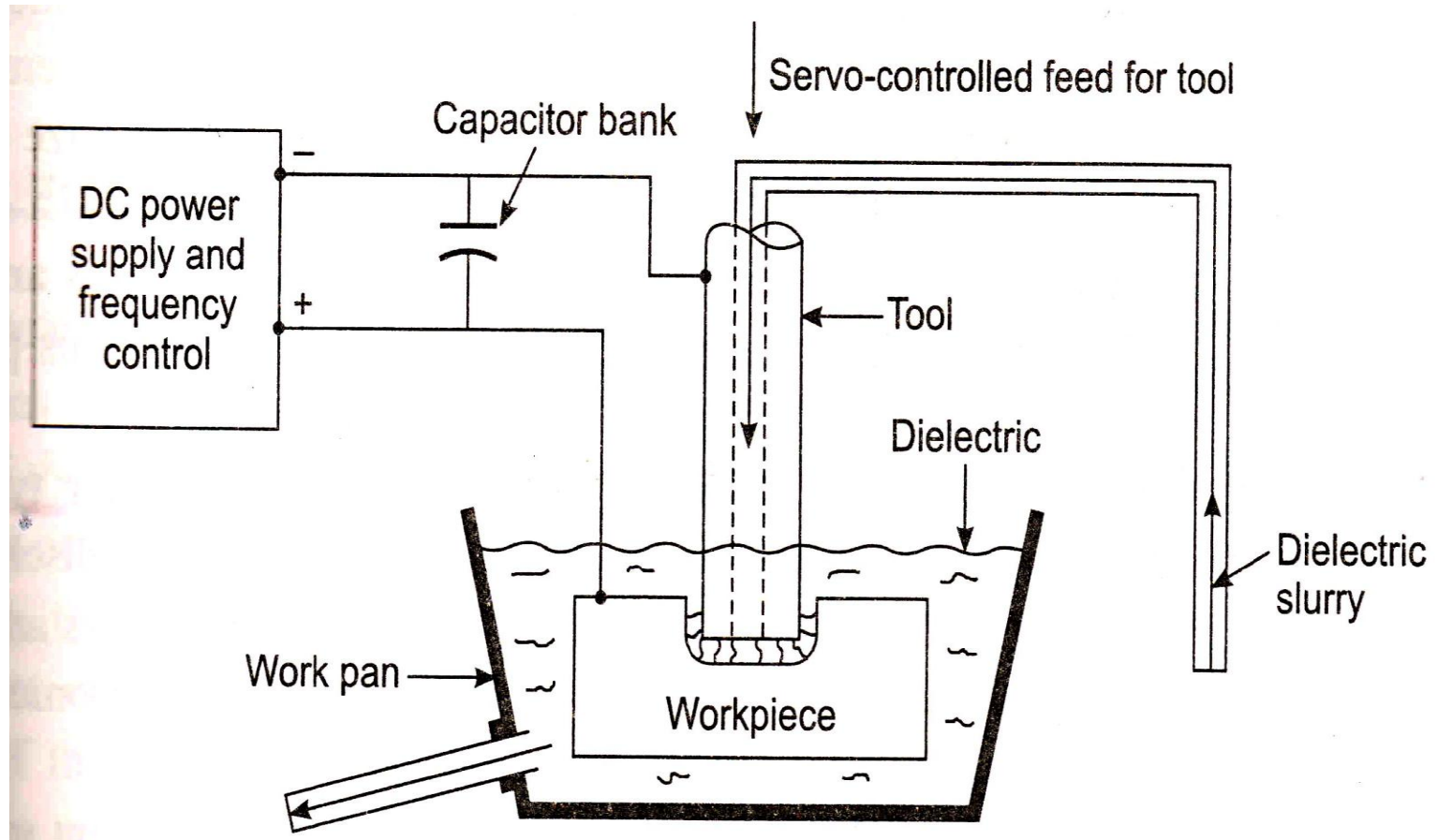
Department of Mechanical Engineering

Electric Discharge Machining – EDM

- Based on erosion of metals by spark discharges.
- EDM system consist of a tool (electrode) and work piece, connected to a dc power supply and placed in a dielectric fluid.
- when potential difference between tool and work piece is high, a transient spark discharges through the fluid, removing a small amount of metal from the work piece surface.
- This process is repeated with capacitor discharge rates of 50-500 kHz.

- dielectric fluid – mineral oils, kerosene, distilled and deionized water etc.
 - role of the dielectric fluid
 1. acts as a insulator until the potential is sufficiently high.
 2. acts as a flushing medium and carries away the debris.
 3. also acts as a cooling medium.
- Electrodes – usually made of graphite.
- EDM can be used for die cavities, small diameter deep holes, turbine blades and various intricate shapes

EDM



Annexure II - Questions

- 1 What is the purpose of dielectric medium in EDM ?
- 2 Name some dielectric medium used in EDM
- 3 Why graphite electrode is widely used in EDM?
- 4 What are the typical application areas of EDM?