

32042 – SPECIAL MACHINES

1. Manufacturing of Plastic Components

Part – A & Part - B

1. Give the types of plastics?
2. Compare thermo plastics & thermosetting plastics?
3. State the factors influencing the selection of plastics?
4. Explain Calendaring?
5. Write down design consideration for plastic components?
6. State the characteristics of composite manufacturing?
7. List out constituents of composites?

Part –C

1. Explain Glass fiber manufacturing with neat sketch?
2. Explain Hand laminating process?
3. Explain Autoclave processing with neat sketch?
4. Explain Filament winding with neat sketch?
5. Explain Pultrusion process with neat sketch?
6. Explain Liquid Composite Moulding process (LCM) with neat sketch?
7. Explain Single & Twin screw extruders with neat sketch?
8. Explain Rotational moulding with neat sketch?
9. Explain about injection moulding of thermosetting materials with neat sketch?
10. Explain Reciprocating screw injection process?

2. Reciprocating Machines

Part – A & Part - B

1. Classify a Planer?
2. Define Quick return mechanism?
3. State the specification of Planer?
4. State the specification of Shaper?
5. State the specification of Slotter?
6. Explain feed mechanism of Planer?
7. Explain feed mechanism of Shaper?
8. Explain feed mechanism of Slotter?
9. Explain operation done on Planner?
10. Explain operation done on Shaper?
11. Explain operation done on Slotter?
12. Explain operation done on Broacher?
13. Explain any one work holding device used in reciprocating machine?

32042 – SPECIAL MACHINES

Part –B

1. Explain Slotter machine with neat sketch?
2. Explain horizontal & vertical broaching machine with neat sketch?
3. Explain continuous broaching machine with neat sketch?
4. Explain Whitworth Quick return mechanism with neat sketch?
5. Explain the various types of broaching tools with neat sketches?
6. Explain the nomenclature of broach tool?
7. Explain Double housing planer with neat sketch?
8. Explain Crank & Slotted link quick return mechanism with neat sketch?
9. Explain any one quick return mechanism of Planer?

3. Milling Machines & Gear Generating Processes

Part – A & Part – B

1. Classify milling machines?
2. Name the work holding devices of miller?
3. Name the tool holding devices of miller?
4. Give the types of milling cutter?
5. Explain any one milling operations?
6. List out various indexing methods?
7. Differentiate between gear shaping & gear hobbing?
8. Give specification of milling machine?

Part – C

1. Explain about gear shaping process with neat diagram?
2. Explain about gear hobbing with neat diagram?
3. Explain any three gear finishing process?
4. Explain various gear materials?
5. Find gear combination & index crank movement for 99 divisions?
6. Explain column & knee type plain milling machine with neat diagram?
7. Explain universal & vertical milling machine?
8. Explain the nomenclature of plain milling cutter?

4. Abrasive process & Non conventional machining processes

Part – A & Part – B

1. Classify grinding machines?
2. Specify a grinding machine?
3. Explain portable grinder?
4. Define grit, grade & structure of wheels?
5. Write a note on grinding wheels?

32042 – SPECIAL MACHINES

6. List out factors considered for selection of grinding wheel?
7. Explain grinding wheel shapes & sizes?
8. Define dressing & truing of grinding wheels?
9. Draw the chemical machining sketch?

Part – C

1. Explain Ultrasonic machining (USM) with neat sketch?
2. Explain Chemical machining (CHM) with neat sketch?
3. Explain Electro Chemical Grinding (ECG) with neat sketch?
4. Explain Electrical Discharge Machining (EDM) with neat sketch?
5. Explain Plasma Arc Machining (PAM) with neat sketch?
6. Explain LASEM machining with neat sketch?
7. Explain Cylindrical grinder with neat sketch?
8. Explain Centre less grinder with neat sketch?
9. Explain any one Surface grinder with neat sketch?
10. Explain tool & cutter grinder with neat sketch?

5. CNC Machines & its components

Part – A & Part - B

1. Define Numerical control?
2. Difference between NC & CNC?
3. Write the requirements of slide ways
4. Classify slide ways?
5. Define In-process probing?
6. Write a short note on tool inserts?
7. Write a note on tool materials?
8. Mention the types of tool magazine?

Part – C

1. Explain working of CNC system?
2. Explain turning centre with neat sketch?
3. Explain machining centre with neat sketch?
4. Explain machine axes conventions of turning & machining centre with neat sketch?
5. Explain Co-ordinate Measuring Machine(CMM) with neat sketch?
6. Explain the working ATC with neat sketch?
7. Explain any three tool magazine?
8. Explain any two feedback devices system?
9. Explain Encoders with neat sketch?
10. Explain linear motion bearing & re-circulation ball screw with neat sketch?