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Rejinpaul.com Unique Important Questions – 4th Semester BE/BTECH
ME8451 MANUFACTURING TECHNOLOGY II
PART B & PART C QUESTIONS – UNIT WISE

Unit I

1. Define tool wear and explain the reasons of tool – failure.
2. Mention the functions of Cutting Fluids. What is meant by orthogonal cutting and oblique cutting?
3. How chips are classified in metal cutting? What are the conditions for the formation of different types of chips?
4. Write a short note on cutting fluids in metal cutting.
5. A) Explain merchant force circle assumptions. B) Explain the geometry of a single point cutting tool with suitable sketches?
6. Explain the properties of cutting tool materials, essential requirements and classification of tool materials.
7. Describe an expression for the shear angle in Orthogonal metal cutting
8. A specimen of 100mm length along the stroke of shaper is machined with a tool with 15° rake angle. The uncut chip thickness is 1.5mm. If a chip length of 40mm is obtained during one stroke of machining, find the shear plane angle and thickness of cut-chip.
9. A turning tool with side and end cutting edge of 20 degree and 30 degree respectively operates at a speed of 0.2 mm/rev. Calculate the CLA of the surface produced if the tool force radius is 3 mm

Unit II

1. Explain the specification of a lathe and various attachments used on a centre lathe.
2. Explain with neat sketches the working principle of taper turning operation with different methods?
3. Explain parallel action and progressive action multi spindle automatics.
4. Explain the working principle of turret lathe and Geneva mechanism of turret lathe.
5. Describe the working principle of Automatic cutting off machine and Swiss type automatic lathes.

Unit III

1. Explain the principle of operation of a shaper machine with a neat sketch.
2. Describe with neat sketch the drive mechanisms used in shaper.
3. Sketch and explain the working principle of upright and radial drilling machine and twist drill.
4. Sketch the following operations performed in drilling machine. i. Drilling ii. Reaming iii. Boring iv. Counter boring v. Counter sinking vi. Spot facing vii. Tapping viii. Trepanning
5. Explain the horizontal knee type milling machine and types of milling cutters with neat sketch.
6. Explain the principle of operation of gear hobbing, gear shaving, gear shaping, gear finishing and gear forming
7. Explain the working of Jig boring and vertical boring machine with neat sketch.

Unit IV

1. Discuss the various bonding materials and abrasives used for making grinding wheels.
2. Explain the working principle of cylindrical, surface and centerless grinding process.
3. Classify the grinding machines, factors considered to select grinding wheels also explain about truing and dressing.
4. Write briefly about broaching machines and its operations with neat sketches.
5. Discuss push and pull type broaching machines with neat sketches.
6. Explain the working principles of continuous broaching machine and also state the advantages and limitations of broaching.

Unit V

1. Explain the working of a NC machine tool with the help of a diagram. Also state advantages and limitations of NC machines.
2. Discuss about the closed loop system and open loop system with a neat sketch and with suitable example.
3. Describe the spindle drives, feed drives, and slide ways used in CNC machines.
4. With a neat sketch explain the working of ATC and APT language.
5. Explain the various steps to be followed while developing CNC part program and also explain about linear and circular interpolation.
6. Write short notes on: Micro machining, Wafer machining and machining centers.

Questions Are Expected for University Exams This May or may Not Be Asked for Exams

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