



**Manufacturing Engineering - II**  
**(124115 / 214115)**

**P. Pages : 2**

**Time : Three Hours**

**Max. Marks : 80**

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Answer **any two** subquestions from each unit.
5. Draw neat sketches wherever necessary.
6. Figures to the right indicate full marks.

**UNIT - I**

1. a) Sketch a single point cutting tool & show on it the various tool elements & tool angles. Explain tool geometry in brief. **8**
- b) Define "Tool Life". State the various factor with explanation which affect tool life. **8**
- c) During orthogonal cutting of M.S. tube at 15 m / min with HSS tool having  $15^\circ$  rake the chip thickness ratio was 0.35 and the friction force on the tool chip interface measured by means of a special set up was 48 kgf with coefficient of friction 0.6. Estimate the component of the cutting force's shear angle, shear strain and workdone in deformation. **8**

**UNIT - II**

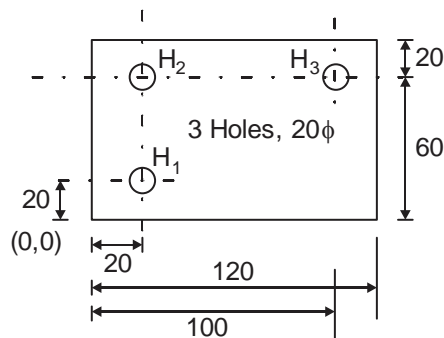
2. a) i) What are the need of Jigs and Fixtures ? **4**  
ii) What are the design principles for Jigs and Fixture ? **4**
- b) Explain different types of clamp with sketch. **8**
- c) i) Explain different types of Milling Fixture. **4**  
ii) Explain design principle of location with neat sketch. **4**

**UNIT - III**

3. a) State the classification of presses ? Explain in brief main parts of press and selection of press. **8**
- b) Explain the design procedure for Blanking dies ? **8**
- c) Write short notes on **8**
- i) Strippers.
- ii) Pilots.

**UNIT - IV**

4. a) What is C.N.C. machine ? Classify it. Give its advantages and limitations. **8**
- b) Explain Broaching and Lapping process with it's application. **8**
- c) Prepare the part programme for a job as shown in following figure. Take, the depth of hole as 10 mm, z = 00 at the surface of workpiece and cutting tool is positioned above the workpiece surface. **8**

**UNIT - V**

5. a) Describe with neat sketch working principle of Abrasive Jet Machining. State advantages, disadvantages and application of it. **8**
- b) Explain with neat sketch plasma Arc Machining. State advantages, disadvantages & application of it. **8**
- c) Explain the following **8**
- i) Electric discharge Machining.
- ii) Electrochemical Machining.

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