



Fourth Semester B.E. Degree Examination, June/July 2024  
**Manufacturing Process – II**

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

**Module-1**

- 1 a. Draw a neat sketch of a single point cutting tool nomenclature. Explain briefly. (10 Marks)  
b. Draw a Merchant's circle diagram and write the expression of different forces. (10 Marks)

OR

- 2 a. List and explain the desired properties of cutting tool materials. (10 Marks)  
b. What are the factors affecting the tool life. Explain briefly. (10 Marks)

**Module-2**

- 3 a. Explain constructional features of turret lathe with neat sketch. (10 Marks)  
b. Explain operations performed on lathe with neat diagram. (10 Marks)

OR

- 4 a. Explain difference between shaper and planer. (05 Marks)  
b. A shaper makes 36 complete strokes per minute and the stroke length is 30cm. The shaper has a cutting stroke to return stroke ratio of 3:2. Determine the cutting speed in m/min, without considering clearance. (05 Marks)  
c. Explain constructional features of double housing planer. (10 Marks)

**Module-3**

- 5 a. Explain with neat sketch up milling and down milling. (06 Marks)  
b. What are the operations performed on a milling machine. Explain any four operations with neat sketches. (08 Marks)  
c. Define Indexing. Explain different types of Indexing. (06 Marks)

OR

- 6 a. Explain with a neat diagram, constructional features of center-less cylindrical and surface grinding. (10 Marks)  
b. What factors are considered for selection of grinding wheel. Explain. (06 Marks)  
c. Explain with a neat sketch, Dressing and truing of grinding. (04 Marks)

**Module-4**

- 7 a. Define drilling. Give complete classification of drilling machine. (10 Marks)  
b. Explain with a neat sketch, working principle of radial drilling machine. (10 Marks)

OR

- 8 a. What are the advantages and disadvantages and application of broaching machine? (10 Marks)  
b. Explain with a neat sketch lapping and honing process. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.

**Module-5**

- 9 a. Explain Ultrasonic machining. (10 Marks)  
b. Explain principle, equipment, advantages, and disadvantages of Abrasive jet machining. (10 Marks)

OR

- 10 a. Explain Electrochemical machining with neat diagram along with advantages and limitations. (10 Marks)  
b. Explain plasma arc machining with neat diagram along with advantages and disadvantages. (10 Marks)

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