

# CBCS SCHEME

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15MT44

## Fourth Semester B.E. Degree Examination, June/July 2018 Manufacturing Technology

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Define pattern and explain the types of pattern with suitable diagram. (08 Marks)  
b. Explain the classification of manufacturing process based on primary and secondary processes. (08 Marks)

OR

- 2 a. With the help of neat sketch explain the concept of Gating system. (08 Marks)  
b. With the help of neat sketch explain the types of risers. (08 Marks)

### Module-2

- 3 a. Explain the classification of metal working process. (08 Marks)  
b. Define forging process. Classify the different methods of forging. (08 Marks)

OR

- 4 a. Explain type of Rolling mills with suitable diagram. (08 Marks)  
b. Explain any two types of tube drawing and list the applications of it. (08 Marks)

### Module-3

- 5 a. Define blanking and piercing. Explain compound die process with a suitable diagram. (08 Marks)  
b. Explain any two types of extrusion process with the suitable diagram. List few applications of it. (08 Marks)

OR

- 6 a. Briefly explain with a sketch the principle of flux shielded metal arc welding (FSMAW) process. (08 Marks)  
b. Explain with a neat sketch submerged arc welding (SAW) process. List its advantages. (08 Marks)

### Module-4

- 7 a. Briefly explain with a neat sketch the arrangement and working principle of laser beam machining. (08 Marks)  
b. Briefly explain with a neat sketch the arrangement and working principle of abrasive jet machining. (08 Marks)

OR

- 8 a. Briefly explain the process of electron beam machining with a suitable diagram and list any two advantages. (08 Marks)  
b. Briefly explain with a neat sketch arrangement and principle operation of water jet machining process. (08 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. List and explain any four types of CNC machining centres. (08 Marks)  
 b. Explain the basic components of CNC machine tool. (08 Marks)

OR

- 10 a. What is DNC? Explain its types and list any two applications of DNC. (08 Marks)  
 b. Prepare the manual part programming to drill the holes for the part shown in the Fig.Q10(b) below. (08 Marks)

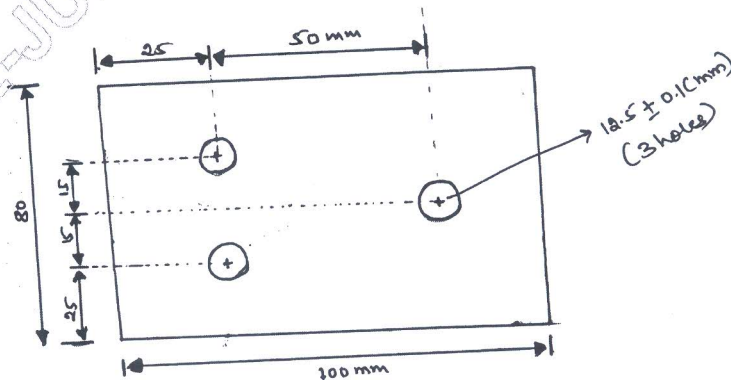


Fig.Q10(b)

Given data:

- Plate thickness – 20 mm  
 Drill hole diameter – 12.5 mm  
 Drill speed – 590 rpm  
 Drill feed rate – 90 mm/min  
 Starting tool position –  $(-25, 0, 50)$   $(0, 0, 0)$

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