



# CBCS SCHEME

17AU46

## Fourth Semester B.E. Degree Examination, Jan./Feb.2021 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. Explain with a neat sketch the mechanism of chip formation. (10 Marks)  
b. Explain the factors affecting tool life in detail. (10 Marks)

OR

- 2 a. Write a short note on types of cutting fluids. (10 Marks)  
b. With a neat sketch explain the measurement of tool tip temperature. (10 Marks)

### Module-2

- 3 a. Differentiate between Capstun and turret lathe. (10 Marks)  
b. Explain the following operations on a lathe:  
(i) Facing (ii) Form turning (iii) Knurling (10 Marks)

OR

- 4 a. Explain the construction of double housing planer with a neat sketch. (10 Marks)  
b. A cast iron plate measuring  $300 \times 100 \times 40$  mm is to be rough shaped along its wider face. Calculate the machining time taking approach = 25 mm, over travel = 25 mm, Cutting speed = 12 m/min, Return speed = 20 m/min, allowance on either side of the plate width = 5 mm and feed per cycle = 1 mm. (10 Marks)

### Module-3

- 5 a. Compare and contrast up milling and down milling. (10 Marks)  
b. Index 51 divisions by compound on a universal dividing head having a index plate with circle of holes – 15, 16, 17, 18, 19, 20 (10 Marks)

OR

- 6 a. Write a short note on types of abrasives used in grinding wheels. (10 Marks)  
b. Illustrate the factors affecting selection of grinding wheel. (10 Marks)

### Module-4

- 7 a. Explain the following drilling operations in drilling machine : (i) Reaming (ii) Boring (12 Marks)  
(iii) Counter sinking.  
b. Explain the advantages and disadvantages of broaching. (08 Marks)

OR

- 8 a. Write a short note on super finishing process and list the applications. (10 Marks)  
b. Illustrate the nomenclature of broach. (10 Marks)

### Module-5

- 9 a. With a neat sketch, explain the working principle of Plasma Arch Machining (PAM) and list its applications. (10 Marks)  
b. Write a short note on principle of Electron Beam Machining (EBM). (10 Marks)

OR

- 10 a. Explain the working principle of Abrasive Jet Machining and list its advantages. (10 Marks)  
b. What is Electrical Discharge Machining? Explain the principle of EDM with a neat sketch. (10 Marks)

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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.