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Fourth Semester B.E. Degree Examination, July/August 2022
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 the mechanics of chip formation and types of chips with suitable sketches. (10 Marks)
b. Write a short note on:
(i) Effects of cutting parameters on tool life
(ii) Taylor's tool life equation. (10 Marks)

OR

- 2 a. Explain the properties of following cutting tools:
(i) Ceramic tools
(ii) Carbide control tools. (10 Marks)
b. Describe the properties and types of cutting fluids. (10 Marks)

Module-2

- 3 a. With a neat sketch, explain the construction and working of Turret lathe. (10 Marks)
b. Explain any 5 operations of lathe with neat sketches. (10 Marks)

OR

- 4 a. Explain the construction and working 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. Use compound indexing method for calculating the index crank movement to divide the periphery of the job into 87 divisions. (10 Marks)

OR

- 6 a. Write a short note on drilling and truing of grinding wheels. (10 Marks)
b. Explain the different types of abrasives used in grinding wheels. (10 Marks)

Module-4

- 7 a. With a neat sketch, give the nomenclature of drill bit. (10 Marks)
b. Explain the construction and working of vertical broaching machine. (10 Marks)

OR

- 8 a. Compare hand lapping and machine lapping. (10 Marks)
b. What is honing? Explain the principle, advantages, disadvantages of honing. (10 Marks)

Module-5

- 9 a. Explain the need of non-traditional machining and give the classification of the same. (10 Marks)
- b. Explain the working principle of Electric Discharge Machining (EDM) with a neat sketch. (10 Marks)

OR

- 10 a. Explain the advantages, disadvantages and applications of Plasma Arc Machining (PLM). (10 Marks)
- b. Explain the working principle of Abrasive Jet Machining (AJM) with a neat sketch. (10 Marks)
