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Fourth Semester B.E. Degree Examination, Feb./Mar. 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. Draw a neat sketch of a single point cutting tool nomenclature. Explain briefly. (08 Marks)
b. With a neat sketch, explain the types of chips formed during metal cutting. (06 Marks)
c. Draw a Merchant's circle diagram and write the expression of different forces. (06 Marks)

OR

- 2 a. What are the factors affecting the tool life. Explain briefly. (08 Marks)
b. List and explain the any two cutting tool materials. (06 Marks)
c. List and explain the types of cutting fluids. (06 Marks)

Module-2

- 3 a. What are the operations performed on a lathe machine. Explain any four operations with a neat sketch. (10 Marks)
b. Explain with a neat sketch capstan and Turret lathe. (10 Marks)

OR

- 4 a. Sketch and explain principle parts of Horizontal shaper machine. (10 Marks)
b. What are the comparison between shaper and planer? (05 Marks)
c. Explain with a neat sketch working principle of planer machine. (05 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 consider 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. (04 Marks)
b. Explain with a neat diagram, working principle of Radial drilling machine. (06 Marks)
c. What are the operations performed on a drilling machine. Explain with neat sketches any four operations. (10 Marks)

OR

- 8 a. What is the principle of broaching? (02 Marks)
b. What are advantages, disadvantages and applications of broaching machine? (06 Marks)
c. Explain with a neat sketch Lapping and honing process. (08 Marks)
d. Explain super finishing and polishing. (04 Marks)

Module-5

- 9 a. Explain the need of Non-traditional machining process. (05 Marks)
b. Sketch and explain Laser beam machining process. (05 Marks)
c. Sketch and explain Ultrasonic machining process. (05 Marks)
d. Explain the influence of various process parameters on MRR in USM. (05 Marks)

OR

- 10 a. With help of neat diagram, working principle of abrasive Jet machining process. Explain briefly. (08 Marks)
b. Explain with neat diagram EDM process. (06 Marks)
c. With neat sketch, explain the working principle of EBM process. (06 Marks)
