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10ME/AU45

Fourth Semester B.E. Degree Examination, June/July 2017
Manufacturing Process – II

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Give the nomenclature of single point cutting tool. (05 Marks)
b. Briefly explain the types of chips. (08 Marks)
c. What are the effects of cutting tool parameters on tool life (07 Marks)
- 2 a. Discuss the properties of following cutting tool materials:
(i) CBN (ii) Cemented carbides (iii) HSS (10 Marks)
b. Explain with a neat sketch how tool tip temperature is measured. (10 Marks)
- 3 a. Differentiate between capstan and turret lathe. (06 Marks)
b. Draw the tool layout to produce a hexagonal headed bolt on capstan lathe. (07 Marks)
c. With a neat sketch, explain the quick return mechanism of a shaper. (07 Marks)
- 4 a. Explain universal radial arm drilling machine with sketch. (08 Marks)
b. With a neat sketch explain the nomenclature of a drill bit. (06 Marks)
c. Briefly explain the principle of operation of CNC machines. (06 Marks)

PART – B

- 5 a. Differentiate between :
(i) Upmilling and down milling. (10 Marks)
(ii) Face milling and end milling. (10 Marks)
b. What is indexing? List the different methods of indexing. Explain compound indexing.
- 6 a. Briefly explain cylindrical centreless grinding process, with a neat sketch. Mention advantages of it over centre type grinding. (08 Marks)
b. Explain :
(i) GRIT (ii) GRADE (iii) Structure (06 Marks)
c. What are the factors considered while selecting grinding wheel? (06 Marks)
- 7 a. Sketch and explain Honing process and state its advantages. (07 Marks)
b. Explain the principle of broaching machine. (07 Marks)
c. Briefly explain :
(i) Super finishing process. (ii) Polishing (iii) Buffing operation. (06 Marks)
- 8 a. Differentiate between conventional and non-conventional machining process. (06 Marks)
b. Explain principle, equipment and operation of
(i) Laser Beam machining (LBM) (ii) Electron Discharge machining (EDM). (14 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