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10ME/AU45

Fourth Semester B.E. Degree Examination, June/July 2015
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. Explain the various elements of a single point cutting tool, with the help of a neat sketch. (08 Marks)
 - b. With the help of neat sketches, explain the different types of chips that are formed during metal cutting. (06 Marks)
 - c. The following data refer to an orthogonal cutting process. Chip thickness 0.62mm, feed 0.2mm, rake angle 15° . Calculate chip reduction coefficient and shear angle. (06 Marks)
- 2
 - a. Clearly explain the different factors that are to be considered during the selection of a cutting tool material. (12 Marks)
 - b. Explain with neat sketch measurement of tool tip temperature. (08 Marks)
- 3
 - a. With the help of a neat sketch, explain the constructional feature of a capstan lathe. (06 Marks)
 - b. With a neat sketch, explain hydraulic driving mechanism of a shaper. (08 Marks)
 - c. Sketch and explain the open and cross belt driving mechanism of a planer. (06 Marks)
- 4
 - a. Draw a neat sketch of a drill bit and explain its nomenclature. (08 Marks)
 - b. With a neat sketch, explain the working of gang drilling machine. (06 Marks)
 - c. Explain with sketches the following operations in a drilling machine:
i) Spot facing ii) Tre panning. (06 Marks)

PART – B

- 5
 - a. With a neat sketch explain horizontal milling machine. (08 Marks)
 - b. Show the calculations for setting dividing head to mill 87 divisions on a shaper wheel blank by compound indexing. (06 Marks)
 - c. Sketch and explain the slab milling and gang milling operations. (06 Marks)
- 6
 - a. What do you mean by grit, grade and structure of grinding wheel? (06 Marks)
 - b. With the help of a block diagram, explain the working of a center type cylindrical grinding machine. (08 Marks)
 - c. Write a short note on selection of grinding wheel. (06 Marks)
- 7
 - a. With the help of neat sketches, discuss the working of continuous surface broaching machine. (10 Marks)
 - b. Sketch and explain the process of lapping on a lapping machine. (10 Marks)
- 8
 - a. Explain with neat sketch principle and advantages of electro chemical machining process. (10 Marks)
 - b. Explain with neat sketch principle and applications of ultrasonic machining process. (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.