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THIRD SEMESTER
SUPPLEMENTARY EXAMINATION

Roll No.

B.Tech.(PE)
FEBRUARY-2019

PE-205 Manufacturing Machines

Time: 3:00 Hours

Max. Marks: 40

Note: Answer any FIVE questions.
Assume suitable missing data, if any.

- 1a Evaluate the machining parameters for the case of cylindrical turning of a 25 mm diameter brass bar at a spindle speed of 900 rpm. Depth of cut is 3 mm and longitudinal feed rate is 0.2 mm per revolution. The length of work piece is 50 cm. Stock to be removed is 6 mm and side cutting edge angle of tool is 30°. Approach allowance= 3mm. 5
- b Sketch three views of a single point cutting tool and show its various angles. 3
- 2a What is the main function of a lathe? State the different types of lathes. 4
- b Why mandrels are used on a lathe? Distinguish between driving plate and mandrel. 4
- 3 State with sketches and show the job-tool motion of the following drilling operations: 8
- (i) Counter boring
 - (ii) Counter sinking
 - (iii) Spot facing
 - (iv) Undercutting
- 4a Enumerate the machining parameters and related quantities in shaping. 4
- b Explain any two types of milling cutters. 4
- 5 Explain with sketches the following milling operations: 8
- (i) Slab milling
 - (ii) Face milling
 - (iii) Straddle milling
 - (iv) T- slot milling

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- 6a Discuss how speeds, feeds and power requirements are chosen for a proposed machine tool. 5
- b Name the gear generating cutting processes. Explain the gear shaping process. 3
- 7a What are the motions required for grinding a cylindrical workpiece? 4
- b Enumerate the machining parameters and related quantities in surface grinding. 4
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