

**B.Tech. MECHANICAL ENGINEERING  
(COMPUTER INTEGRATED  
MANUFACTURING)**

00934

**Term-End Examination**

**June, 2017**

**BME-011 : COMPUTER AIDED PROCESS PLANNING**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Answer any **seven** questions. Assume suitable value for any missing data. Use of calculator is permitted.

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1. (a) Explain the objectives of Computer Aided Process Planning. 5
- (b) Differentiate between Variant and Knowledge based process planning. 5
  
2. (a) Describe the role of CAPP in CAD/CAM integration. 5
- (b) Briefly discuss the various approaches available for Computer Aided Process Planning. 5

3. (a) Describe the generative system of CAPP. 5
- (b) Explain the process of Computer Aided Material selection. 5
4. (a) Draw a neat sketch of a twisted drill bit, mentioning all the nomenclature. 5
- (b) Using the Taylor's equation for tool life and taking  $n = 0.5$  and  $c = 300$ , calculate the change in tool life when the cutting speed is reduced by 25%. 5
5. (a) With a neat graph, explain the relation between the machining cost and the cutting speed. 5
- (b) Explain the use of Break-Even Analysis in machine selection. 5
6. (a) With the help of a suitable block diagram, describe the database system for Machinability and Part Print analysis. 5
- (b) List the advantages of forging of metals. Why is Press Forging preferred over Hammer Forging process? 5
7. (a) How are Part Prints prepared? Explain. 5
- (b) Derive an equation for the estimation of machining time in the milling process. 5

8. (a) Briefly explain the methodology to be followed for developing retrieval type of Computer Aided Process Planning system. 5
- (b) Explain CAPP with respect to the casting process. 5
9. (a) Define Process Capability. What are the steps involved in the study of Process Capability? 5
- (b) Explain the CAPP process for Deep Drawing in brief. 5
10. Write short notes on the following :  $4 \times 2 \frac{1}{2} = 10$
- (a) Seam Welding
- (b) Group Technology
- (c) Interference
- (d) Product Flow Analysis
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