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# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

M.Tech II Semester End Examinations (Supplementary) - January, 2018

Regulation: IARE-R16

## COMPUTER AIDED PROCESS PLANNING (CAD/CAM)

Time: 3 Hours

Max Marks: 70

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Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

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### UNIT – I

- (a) Explain the role of process planning with an example. [7M]  
(b) Discuss the advantages of conventional process planning over CAPP. [7M]
- (a) Explain the working of generative CAPP system with a neat sketch. [7M]  
(b) Discuss the structure and features of automated resource planning. [7M]

### UNIT – II

- (a) Discuss the significance and structure of group technology with neat sketch. [7M]  
(b) List and explain the applications of group technology in detail. [7M]
- (a) “How reduction of total set up cost for particular sequence effects of manufacture sequence”, Explain with case study. [7M]  
(b) Explain selection of manufacturing sequence in making an automobile vehicle with a neat sketch. [7M]

### UNIT – III

- (a) Explain solving of optimization models of machining process in detail. [7M]  
(b) Describe how production i-rate, surface quality effect on machining parameters. [7M]
- (a) Explain reasons for optimal selection of machining parameters with a case study. [7M]  
(b) Discuss the advantages of mathematical approach over conventional approach. [7M]

### UNIT – IV

- (a) Distinguish between design tolerances and manufacturing tolerance with an example. [7M]  
(b) Explain the integration of design and manufacturing tolerances. Mention the advantages of integrated approach over sequential approach. [7M]
- (a) Explain the determination of manufacturing tolerance with an example. [7M]  
(b) Give out the advantages and disadvantages of design tolerance. [7M]

**UNIT – V**

9. (a) Explain briefly the determination of optimal index positions for executing fixed sequence. [7M]  
(b) Explain criteria for selection of a CAPP in computer integrated planning system. [7M]
10. (a) Explain the functions and benefits of Computer integrated planning systems. [7M]  
(b) Discuss the MIPLAN system and capacity planning system. [7M]

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