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Question Paper Code: BCC202



**INSTITUTE OF AERONAUTICAL ENGINEERING**  
(Autonomous)

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

Regulation: IARE-R16

**DESIGN FOR MANUFACTURING AND ASSEMBLY**  
(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**

1. (a) What are the different phases to be followed while designing a product? [7M]  
(b) Explain the design rules for Manufacturability. [7M]
2. (a) Justify the Statement: Materials selection and process selection goes hand-in- hand with design process. [7M]  
(b) Discuss various design guidelines for selection of materials. [7M]

**UNIT – II**

3. (a) Explain, how does dimensional tolerances and surface finish affects the design for machining. [7M]  
(b) Discuss the general design recommendations for machined parts. [7M]
4. (a) Discuss the design considerations for a casting process. [7M]  
(b) Justify the need of solidification simulation for casting design. [7M]

**UNIT – III**

5. (a) Discuss the general guide lines for design of weldments. [7M]  
(b) List out various types of forging techniques. Explain open die forging. [7M]
6. (a) Explain the differences between punching and blanking with neat sketches. [7M]  
(b) What is Keeler Goodman diagram? Explain briefly with neat diagram. [7M]

**UNIT – IV**

7. (a) Discuss the various types of assembly methods with an example. [7M]  
(b) Explain the social effects of automation, explain with a case study. [7M]
8. (a) Explain the automatic assembly transfer systems. [7M]  
(b) Explain Continuous transfer system with an example. [7M]

**UNIT – V**

9. (a) Explain the development of the systematic DFA methodology. [7M]  
(b) What is assembly efficiency? Explain with an example. [7M]
10. (a) Explain the general design guide lines in manual assembly. [7M]  
(b) Explain effect of part symmetry on handling Time with an example. [7M]

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