

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V • EXAMINATION – WINTER 2013****Subject Code: 153402****Date: 29-11-2013****Subject Name: Computer Aided Design and Analysis****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|------------|---|-----------|
| Q.1 | (a) Explain the product design process. | 07 |
| | (b) Compare surface modeling with solid modeling. | 07 |
| Q.2 | (a) Explain various solid modeling techniques. | 07 |
| | (b) Write about the different geometric entities. | 07 |
| | OR | |
| | (b) Write about top-down and bottom-up modeling methodologies. | 07 |
| Q.3 | (a) Explain Boolean operations with neat sketches. | 07 |
| | (b) Define feature and explain about the classification of features. | 07 |
| | OR | |
| Q.3 | (a) Explain the types of coordinate systems with neat sketches. | 07 |
| | (b) What is data exchange? Discuss about data exchange standards. | 07 |
| Q.4 | (a) Explain the element types and dimensionality. | 07 |
| | (b) Explain about fully automatic mesh generation methods. | 07 |
| | OR | |
| Q.4 | (a) What are the significance of FEA in product development? Explain. | 07 |
| | (b) Discuss about thermal analysis. | 07 |
| Q.5 | (a) Explain the mesh requirements in FEA. | 07 |
| | (b) Explain the problem solving methodology in FEA. | 07 |
| | OR | |
| Q.5 | (a) Write about time-history post processor. | 07 |
| | (b) What is modal analysis? Explain its advantages and applications. | 07 |
