

Code No: 117BD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, November/December - 2017

CAD/CAM

(Common to AE, AME, MSNT, ME)

Time: 3 Hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

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|------|---|-----|
| 1.a) | What are the computer peripherals of CAD? | [2] |
| b) | What are the functions of Geometric Modelling in design? | [3] |
| c) | What are the properties of B-spline curve? | [2] |
| d) | Distinguish between Algebraic and Geometric form of a curve. | [3] |
| e) | What are M03, M30 codes stands for in NC Programming? | [2] |
| f) | What are the elements of NC system? | [3] |
| g) | What are the various approaches available for CAPP? | [2] |
| h) | What factors must be considered in selecting a classification and coding systems? | [3] |
| i) | What are the benefits of CIM? | [2] |
| j) | What are the inputs and outputs of FMS? | [3] |

PART-B

(50 Marks)

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|------|--|-------|
| 2.a) | What are the requirements of geometric modeling? | |
| b) | Describe with the help of neat sketches the major surfaces entities provided by the CAD/CAM systems. | [5+5] |

OR

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|------|--|-------|
| 3.a) | What is the most commonly used graphics terminal? Explain its working? | |
| b) | Define the cubic spline and bezier curves? Which of them is more popular in CAD and Why? | [5+5] |

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|----|--|------|
| 4. | Explain the following terms in detail with respect to surface modelling? | |
| a) | Cylindrical surface | |
| b) | Ruled Surface and | |
| c) | Composite surface. | [10] |

OR

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|------|---|-------|
| 5.a) | Disitinguish between surface modelling and wire frame modelling in detail? | |
| b) | What is meant by sweep? Discuss in detail the various types of sweep techniques available for 3Dgeometric construction. | [5+5] |

- 6.a) Distinguish between ACO (Adaptive Control Optimization) and ACC (Adaptive control constraint) types of adaptive control systems?
- b) With a neat sketch, explain the functioning of a NC machine. State two important differences between NC and CNC? [5+5]

OR

- 7.a) Discuss the basic feedback control system used in CNC machine tools.
- b) Write the procedure for writing computer assisted part programming? [5+5]
- 8.a) Discuss how part classification is done in the context of GT. What are the essential attributes such a coding system should take care of?
- b) Explain the various difficulties in traditional process planning in detail. [5+5]

OR

- 9.a) Distinguish between MRP and ERP with suitable examples.
- b) Discuss how a company can benefit from a suitable classification and coding systems? [5+5]

- 10.a) Describe the Scheduling and Dispatching issues related to Flexible Manufacturing System.
- b) Does CIM required for Indian industry? Discuss various issues of implementations, challenges in CIM. [5+5]

OR

- 11.a) Define computer aided quality control. Explain how it is implemented.
- b) State the advantages of CIM in manufacturing industry in detail. [5+5]

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