

Register No: .....

**B.E., DEGREE EXAMINATIONS: NOV/DEC 2012**

Seventh Semester

**ELECTRICAL AND ELECTRONICS ENGINEERING**

EEE 323: Computer Aided Design of Electrical Machines

**Time: Three Hours**

**Maximum Marks: 100**

**Answer All the Questions**

**PART A (10 x 1 = 10 Marks)**

1. In \_\_\_\_\_ programming technique of solving optimization problem the original model is decomposed into smaller sub problems  
A. Integer                  B. Dynamic                  C. Linear                  D. Network
2. In \_\_\_\_\_ programming technique the graphical representation of project operation based on activities and nodes are used  
A. Integer                  B. Dynamic                  C. Linear                  D. Network
3. The \_\_\_\_\_ cost includes the cost of remuneration of employees in a concern  
A. Direct                  B. Indirect                  C. Labour                  D. Material
4. The \_\_\_\_\_ overhead covers all expenses connected with transporting products to customers and storing them when necessary  
A. Production                  B. Administrative                  C. Distribution                  D. Selling
5. In induction motors for overall good design  $L/\tau$  ratio should be equal to \_\_\_\_  
A.1.25                  B.1.0                  C.1.5                  D.2.0
6. Stylus is present in \_\_\_\_\_  
A. Joystick                  B. Printer                  C. Digitizer                  D. Light pen
7. The \_\_\_\_\_ printer is the highest quality printer  
A. Inkjet                  B. Laser                  C. Dot matrix                  D. Drum
8. The \_\_\_\_\_ printer is a non impact printer  
A. Drum                  B. Dot matrix                  C. Inkjet                  D. All the above
9. The radial dimensions for circles and arcs can be done in AutoCAD using \_\_\_\_\_ command  
A.DIMLINEAR                  B.DIMANGULAR                  C.DIMRADIUS                  D.DIMLEADER
10. The solid rectangle in AutoCAD can be converted to 4 different lines using \_\_\_\_\_ command  
A. Pline                  B. Explode                  C. Mirror                  D. Block

**PART B (10 x 2 = 20 Marks)**

11. Give the advantages of CAD
12. Describe the role of flowcharting in CAD
13. Distinguish between direct and indirect material cost
14. What is meant by objective function?
15. What is the significance of  $L/\tau$  ratio in Induction machine design?
16. Give the advantages and disadvantages of inkjet and laser printer
17. Give the steps involved in setting dimensions of AutoCAD drawings
18. Explain how the trim and chamfer commands are used in AutoCAD
19. Explain how the mirror and offset commands are used in AutoCAD
20. Explain any two 3D commands in AutoCAD

**PART C (5 x 14 = 70 Marks)**

21. a). (i) Draw the flowchart and explain the analysis and synthesis approaches in CAD (10)  
(ii) Explain briefly the need for CAD (4)  
**(OR)**  
b). (i) What is the need for flowcharting? Explain the typical design procedure for rotating electrical machine with a flowchart. (8)  
(ii) Draw a typical flow chart for CAD and explain in detail. (6)
22. a) Draw the flowchart and explain the solution of unconstrained optimization problem using hookes and jeeves method  
**(OR)**  
b) What is the need for cost estimation during design process?  
Explain the importance of the various costs involved in cost estimation.
23. a) Briefly explain any two graphic input devices and any two graphic output devices used in CAD  
**(OR)**  
b) With the help of a flow chart explain in detail the design of a three phase induction motor.

24. a). (i) What is AutoCAD? With neat sketch Explain the various parts of the AutoCAD window. (10)

(ii) What is the significance of line weights in AutoCAD drawing? (4)

**(OR)**

b) (i) Explain the Erasing facilities and 2D drafting features in AutoCAD software (8)

(ii) Write short notes on 3D drawing facilities in AutoCAD (6)

25. a) Explain the 1 Phase Induction machine drawings in AutoCAD by mentioning the tools used.

**(OR)**

b) Explain how BASIC commands can be linked in AutoCAD during the drawing process of an object.

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