Total No. of Questions :8] *[Total No. of Printed Pages :1*

Roll No .....

MMTP-301(A)

M.E./M.Tech., III Semester Examination, June 2016

Computer Aided Design of Thermal System (Elective-I)

Time : Three Hours

Maximum Marks: 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. What are the basic elements of thermal system design? How will you formulate design problems? Explain design process with an example.

2. What is meant by modelling? Explain physical and mathematical modelling? How thermal design of heat engine is done?

3. a) What is meant by system simulation? Differentiate between the followings with examples
   i) Continuous and discrete
   ii) Steady state and dynamic
   b) Explain simulation of a queuing system.

4. Design a capillary tube. Discuss the cycle involved in VCR systems.

5. What is optimization? Discuss different types of optimization techniques.

6. Give the design steps for the evaporator. Explain each step in detail. What are the different design process for material selection of refrigeration systems.

7. a) What is linear programming? Explain different optimization methods.
   b) What is genetic algorithm? Explain dynamic programming.

8. Write short notes on (any three):
   a) Neural network
   b) Simplex method
   c) Numerical computation techniques for continuous model
   d) Objectives of optimization

******