Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

EX-801

B.E. VIII Semester

Examination, June 2017

Computer Aided Electrical Machine Design

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.
ii) Each question carries 14 marks.
iii) Part (a) and (b) of a question carries 7 marks each.

1. Explain the following types of optimization problems:
   a) Non linear programming problem
   b) Linear programming problem
   c) Integer programming problem

2. With the help of flow chart, explain Hooke and Jeeves method to solve unconstrained optimization problem.

3. With the help of flow chart, explain the synthesis method of machine design problem.

4. a) Explain, how to decide the objective function and constraint function for the optimal design of a power transformer.
   b) Give a flow chart to design the core of a power transformer.

715

5. a) Explain the steps to formulate the design problem of a DC machine.
   b) With the help of flow chart explain the main dimensions design of a DC motor.

6. a) Explain the different constraints and limitations of a synchronous machine design.
   b) What are specifications of the motors supplied to the consumers? How these specifications helps in designing of motors?

7. a) What do you understand by intuitive solution by Computer-Aided Design? Whether human intuition can be programmed in a computer language? Explain its draw backs.
   b) Define algorithm. Explain the role of algorithm in computer programming. Explain the different stages of algorithm.

8. a) With the help of flow chart explain the design of squirrel cage rotor of an induction motor.
   b) With the help of flow chart explain the steps for designing the main dimensions of an alternator.

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716