

Roll No.

24320

B. Tech 6th Semester (EEE)

Examination – May, 2018

COMPUTER ADDED ELECTRIC MACHINES

Paper : EE-314-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in total. Question No. 1 (Section A) is *compulsory*. Attempt *four* more questions from remaining *four* Sections (B, C, D & E) by selecting at least *one* question from each Section.

SECTION – A

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|--------------------------------------------------|---|
| 1. (a) Explain Magnetic loading. | 5 |
| (b) Explain the design of field magnet in brief. | 5 |

- (c) Differentiate between Induction motor and Synchronous motors design criteria in brief. 5
- (d) What do you mean by computer aided design of Electric Machines? 5

SECTION - B

2. Write down the General features of and limitations of electric machine design in detail. 20
3. Derive the output equation for Electrical Machines. Also explain output co-efficient. 20

SECTION - C

4. Explain the Estimation of Magnetic current of transformers in detail. 20
5. Explain MMF calculation for airgun and iron parts of electrical machines. 20

SECTION - D

6. Explain the detailed design of induction motor. 20

7. Discuss and explain the detailed design of Synchronous machine and their performance calculations. 20

SECTION – E

8. Discuss and explain the development of computer program and performance prediction in detail. 20
9. Explain the different optimization techniques used for the design problems of Electrical Machines. 20
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