

Roll No.

24031

**B. Tech 3rd Semester (ECE)
Examination – December, 2018**

ELECTRO – MECHANICAL ENERGY CONVERSION

Paper : EE-205-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 all, selecting *one* question from each Section. Question No. 1 is *compulsory*.

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| 1. (a) Discuss Static and Dynamic emf's. | 5 |
| (b) Derive emf equation for dc generators. | 5 |
| (c) Discuss Voltage Regulation. | 5 |
| (d) Discuss Universal Motor. | 5 |

SECTION – A

2. How we can compare Magnetic and Electric circuits.
Explain. 20
3. (a) Discuss Eddy and Hysteresis current Losses. 10
(b) Explain Magnetic Materials & their properties. 10

SECTION – B

4. (a) Explain concept of back emf in DC Motors. 10
(b) Give various applications of DC motors. 10
5. Discuss starting and speed control of DC Motors. 20

SECTION – C

6. (a) Explain the working and contraction of
Synchronous motor. 10
(b) Explain O. C. and S. C. Test. 10
7. Explain the effect of varying field current at different
loads in case of synchronous Motors. 20

SECTION – D

8. Explain contraction and operation of Induction
Machine. 20
9. Write note on any *two* : 10 × 2 = 20
(a) Stepper Motor
(b) Three Phase Transformer
(c) Induction generator and its applications.
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