

QP Code : 29691

(3 Hours)

[ Total Marks :100

- N.B. : (1) Question No.1 is compulsory.  
 (2) Solve any **Four** Questions out of remaining  
 (3) Assume the suitable data if required and specify the same

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|----|---|----|
| 1. | Solve the following questions.  | 20 |
|    | (a) Which features make a motor an energy efficient                             |    |
|    | (b) What are various types of transformer tank design                           |    |
|    | (c) What is magnetic and electric loading in motors                             |    |
|    | (d) What is standardization in design.  |    |
| 2. | (a) Derive the out put equation of a three phase transformer                    | 10 |
| 2. | (b) Derive the out put equation of a three phase induction motor.               | 10 |
| 3. | (a) Discuss the magnetization current calculation in transformer.               | 10 |
| 3. | (b) Discuss the end ring current calculation in induction motor.                | 10 |
| 4. | (a) Discuss the various types of windings used in transformer.                  | 10 |
| 4. | (b) Discuss the various modifications of design in induction motor.             | 10 |
| 5. | (a) Derive the equation for leakage reactance of a two winding transformer.     | 10 |
| 5. | (b) Discuss the concept of frame and frame size.                                | 10 |
| 6. | (a) Discuss the various cooling methods in transformer.                         | 10 |
| 6. | (b) What are desired properties of insulating materials and magnetic materials. | 10 |
| 7. | (a) Discuss the factors affecting the slip in induction motor.                  | 10 |
| 7. | (b) Discuss the designing of air gap in motor.                                  | 10 |