SNS COLLEGE OF ENGINEERING

(An Autonomous Institution)

COIMBATORE

19EE308- ELECTRICAL ENGINEERING AND INSTRUMENTATION

III SEMESTER

QUESTION BANK

PART A

UNIT I :

1. What is the back emf in a DC Motor?
2. Why is the emf not zero when the field current is reduced to zero in generator?
3. Starter is necessary for DC Motor. Justify
4. What is the principle of generator?
5. Compare and Contrast DC Motor and DC Generator
6. Mention different methods of speed control in DC Shunt motor.
7. State the effects of armature reaction in DC Machines.
8. Under what circumstances does a DC Shunt generator fails to build up.
9. DC Series motor should not be started without load. Why?
10. Write the general expression for the speed of a DC motor in terms of supply voltage and flux per pole.
11. State the Faradays Law for a Generator
12. Mention the types of starter

UNIT II :

1. Classify the transformer according to the construction.
2. Design an equivalent circuit of a transformer
3. Can a transformer work on DC? Justify.
4. What is a voltage regulation of a transformer?
5. Why short circuit test is performed on high voltage side of a transformer?
6. What is the necessity of parallel operation of transformer?
7. Why is the transformer core laminated?
8. Compare Core and Shell type transformer.
9. Give the emf equation of a transformer and define each term.
10. Define all day efficiency of a transformer.

UNIT III :

1. Why an induction motor is called as rotating transformer?

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2. Why an induction motor never runs at its synchronous speed?

3. Give the condition for maximum torque for 3 phase induction motor, When it is running?

4. What are the methods available for making single-phase induction motor a self-starting?

5. Why single phase induction motors have low PF?.

6. Differentiate between “capacitor start” & “capacitor start capacitor run” single phase induction motor?

7. Explain why single-phase induction motor is not a self-starting one?

8. Define slip in an Induction Machine.

9. List the applications of single-phase induction motor.

10. Advantages of OFDM

11. Compare and Contrast Simplex and Duplex Winding.

12. Why single phase induction motor is not self-starting?

UNIT IV:

1. List out the dynamic characteristics of any measuring instrument?
2. Give the principle of capacitive transducer.
3. Mention some advantages of electrical transducers
4. Mention the applications of LVDT
5. What is the piezoelectric effect?
6. Differentiate resistive and inductive transducer.
7. What is the standardization of the potentiometer?
8. List out the errors in the instrument
9. What is deflecting force in the instrument?
10. What is the controlling force in the instrument?
11. What is the purpose of damper winding in an Instrument?

UNIT V:

1. Draw the block diagram of UPS
2. List the application of Induction Motors
3. List out the application of DC Motors
4. Draw the block diagram of Agricultural pumps

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5. Draw the block diagram of Electric Traction
6. Draw the block diagram of the Electric Vehicle
7. Draw the block diagram of Air Conditioning system