B.E- Mechanical and Mechatronics Engineering (Additive Manufacturing)

19EC309 – Electrical Machines and Power Systems

Regulations 2019

UNIT II – TRANSFORMERS

PART A

1. Justify why the transformer rating is in kVA?
2. Will a transformer work if a DC supply is applied to it justify.
3. Compare core and shell type transformer.
4. The No-load ratio required in a 1 phase 50HZ transformers is 6600 / 300 V. if the maximum value of the flux in the core is to be about 0.09wb. Find the Number of turns in each winding.
5. What is a Transformer?
6. Draw the phasor diagram of an ideal transformer.

7. Write the EMF equation of the transformer.
8. Draw the equivalent circuit of single phase transformer.
9. State the different losses in transformer.
10. Define voltage regulation.
11. What are the different three phase transformer connections?
12. What is transformation ratio?

PART B

1. Elaborate the construction and principle of operation of single phase transformer.
2. Derive the emf equation of Single Phase transformer.
3. Classify the different types of transformers according to the construction and explain each of it with neat schematic diagram.
4. Explain the operation of transformer in no load and loaded condition with phasor diagram.
5. Draw the equivalent circuit of a transformer and derive the components with respect to primary side.
6. Explain the various three phase transformers connections.