



Module 3

5. a) Derive the condition for maximum efficiency of a single phase Transformer [09 Marks] CO3 L2
- b) Derive a torque equation of a DC Motor [09 Marks] CO3 L2
- c) A 250 KVA, 11000/415V, 50Hz single phase transformer has 80 turns on the secondary. Calculate i) The rated primary and secondary currents ii) The number of primary turns iii) The maximum value of flux iv) Voltage induced per turn [07 Marks] CO3 L3

OR

6. a) With a relevant waveform derive an EMF Equation of Transformer [09 Marks] CO3 L2
- b) What is Back EMF. Explain the importance of Back EMF produced by DC Motor [09 Marks] CO3 L2
- c) A 4 pole DC shunt motor takes 25A from a 250V supply. The armature & field resistance are 0.5Ω and 125Ω respectively. The wave wound armature has 30 slots and each slot contains 10 conductors. If the flux per pole is 0.02wb. Calculate (i) speed (ii) torque developed (iii) power developed [07 Marks] CO3 L3

Module 4

7. a) Explain the various factors that are required to be considered in selecting the type of wiring for domestic wiring [07 Marks] CO4 L2
- b) Explain two part tariff and also state the advantages and disadvantages. [08 Marks] CO4 L2
- c) With a neat sketch explain the plate earthing. [10 Marks] CO4 L2

OR

8. a) State any seven precautionary measures taken against electric shock [07 Marks] CO1 L2
- b) Differentiate MCB with fuse [08 Marks] CO1 L2
- c) With a neat sketch explain the pipe earthing [10 Marks] CO4 L2

Module 5

9. a) Briefly explain on coal, oil & natural gas energy sector reforms [08 Marks] CO5 L2
- b) Briefly explain on Green House effect and Carbon cycle. [08 Marks] CO5 L2
- c) Briefly explain on energy conservation & its importance [09 Marks] CO5 L2

OR

10. a) Explain briefly on any two principal pollutants [08 Marks] CO5 L2
- b) Explain the need for energy and explain Phase-1 pre-audit phase activities. [09 Marks] CO5 L2
- c) Explain on Identification of Energy Conservation Opportunities [08 Marks] CO5 L2
