BE SEM III (Mechanical Engg) Examination- QUESTION BANK

Sub.: Electrical Technology

All questions are of equal 10 marks

Q.1	What are the different types of Circuit Breaker? explain its principle and need?
Q.2	What is voltage regulation? Explain different losses in Transformer.
Q.3	What is need of fuse? On which principle does the fuse work?
Q.4	State the different conditions for the parallel operation of Transformer.
Q.5	3300/110 V, 50 Hz, 60 KVA single phase transformer has iron losses of 600 Watts. Primary and secondary winding resistances are 3.3 ohm and 0.011 ohm. Determine the efficiency of the transfromer on full load at 0.8 lag power factor load.
Q.6	Explain the principle of Transformer, Construction. Why do we have rating of transformer in KVA?
Q.7	Answer the following questions: (any three)
Q.8	Write a short note on : Auto Transformer.
Q.9	Draw the layout of distribution substation.
Q.10	What are the advantages and disadvatanges of overhead and underground transmission?
Q.11	Draw the equivalent circuit of transformer. Explain the experiments which can determine these parameters.
Q.12	Explain the construction of Induction Motor.
Q.13	Explain the principle of operation of DC Motor and drive the equation of output Torque.
Q.14	(1) A 4-pole lap wound armature dc motor draws 40 A armature current. The number of armature conductors is 380. Flux per pole is 22 mWb. Calculate the gross torque developed by the armature of the dc motor. (2) A dc series motor runs at 600 rpm taking 100 A from 230 V supply. Armature and series field winding resistances are 0.12 ohm and 0.03 ohm. Calculate the speed when current has fallen to 45 A. Assume flux to be directly proportional to field current.
Q.15	A 3 ph star connected, 48 pole, 50 Hz alternator has 9 slots/pole carrying full pithc two layer winding. Each coil has 4 turns and flux in the air gap is 50 mWb/pole. Calculate : (i) turns/pole (ii) belt factor (iii) induced terminal emf (iv) speed.
Q.16	Explain construction of Alternator.
Q.17	Explain different types of DC Generator with circuit diagram.
Q.18	Explain various methods of speed control of DC Series motor
Q.19	Comparision between Squirrel cage rotor and Slip ring rotor
Q.20	Methods of speed control of Induction Motor.
Q.21	Comparison between core type and shell type transformer.
Q.22	Write a Short note on "Three point Starter".
Q.23	State different types of transformer and explain any one in detail.