Total No. of Questions : 8] *[Total No. of Printed Pages : 4*

Roll No .....

EE/EX-402-CBGS

B.Tech., IV Semester

Examination, June 2020

Choice Based Grading System (CBGS)

Electrical Machine-I

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

iii)Sketch neat diagram.

iv) In case of any doubt or dispute the English version question should be treated as final.

1. a) Explain about hysteresis and eddy current losses in transformer. 7

   b) Explain about open circuit and short circuit tests in single phase transformer. 7

2. a) Explain about parallel operation of transformers and its application. 7

   b) Explain about conservator and breather in transformers. 7

3. a) Explain about power-speed characteristic of three phase induction motion. Also tell its losses and efficiency. 7

   b) Give comparison between Slip ring and squirrel cage motors. 7

4. a) Give speed control and braking mechanism in three phase induction motor. 7

   b) Explain about cogging and crawling mechanism in three phase induction motor. 7

5. a) Discuss in detail about Servo motors. 7

   b) Write about types of single phase induction motor with their working principle. 7

6. a) Explain construction, working and advantages of a single phase auto transformer. 7

b) Explain about pulse and high frequency transformers. 7

7. a) The power supplied to a 3-phase 4 pole, 50 Hz induction motor is 50 kW and the corresponding stator losses are 2.5 kW. While motor is operating with 4% slip, the mechanical losses are 1.2 kW. Calculate the efficiency of the motor and shaft torque. 7

b) Give impact of unbalanced supply and harmonics on performance of three phase induction motor. 7

8. Write short notes on the following : 14

a) Linear Induction Motor

b) Sumpner's test

c) Single phase A.C. series motor