DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE
Winter Examination - 2022

Course: B. Tech. Branch: Electrical Engineering Semester: VII

Subject Code & Name: (BTEEE704A) Special Purpose Electrical Machine

Max Marks: 60 Date:07/02/2023 Duration: 3 Hr.

Instructions to the Students:
1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

		(Level/CO)	Marks
Q. 1	**Solve Any Two of the following.**		**12**
A)	Describe the constructional features of axial and radial flux synchronous reluctance motor?	Understand	6
B)	Draw and explain the characteristics of synchronous reluctance motor?	Analysis	6
C)	Explain in detail about vernier motor?	Remember	6
Q.2	**Solve Any Two of the following.**		**12**
A)	Explain in detail a Multi-Stack Variable Reluctance Stepper Motor?	Analysis	6
B)	What is Hybrid Stepper Motor& Give Advantages of Hybrid Stepper Motor?	Remember	6
C)	What is Single-Stack Variable Reluctance Stepper Motor?	Remember	6
Q. 3	**Solve Any Two of the following.**		**12**
A)	Draw the general torque - speed characteristics of switched reluctance motor?	Remember	6
B)	Explain the construction and working of rotary and linear switched reluctance motor?	Remember	6
C)	Explain the role of computers in the control of SRM?	Understand	6
Q.4	**Solve Any Two of the following.**		**12**
A)	What is a Brushless DC Motor and How Does It Work?	Remember	6
B)	Explain in BLPM Square wave dc motor & BLPM sinusoidal wavemotor ?	Understand	6
C)	Explain in detail Variable Frequency Drive for BLDC Motor?	Remember	6
Q. 5	**Solve Any Two of the following.**		**12**
A)	What is a Permanent Magnet Synchronous Motor & Its Working?	Remember	6

B)	Explain the advantages & Disadvantages permanent magnet synchronous motor? Also give its application?	Understand	6
C)	How self-excited induction generator works explain with suitable diagram?	Understand	6

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