

C14-EE-502

4637

BOARD DIPLOMA EXAMINATION, (C-14) MARCH/APRIL—2017 DEEE—FIFTH SEMESTER EXAMINATION

AC MACHINES—II

Time: 3 hours [Total Marks: 80

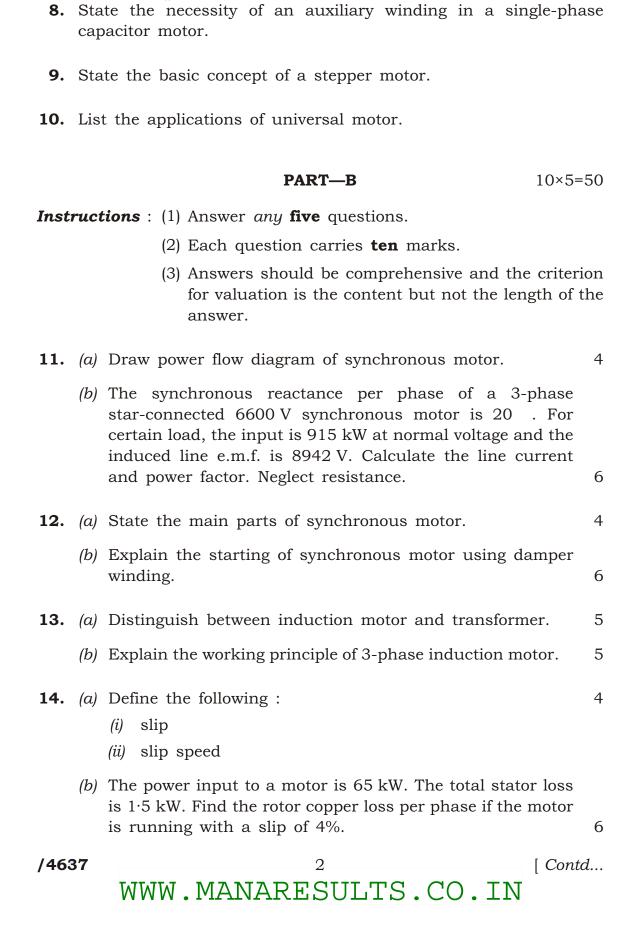
PART—A

 $3 \times 10 = 30$

Instructions: (1) Answer **all** questions.

- (2) Each question carries **three** marks.
- (3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.
- 1. How is hunting prevented in a synchronous motor?
- 2. Draw V and inverted V curves of synchronous motor.
- **3.** A 6-pole, 50-Hz induction motor has a slip of 2.5%. Find its actual speed and slip speed.
- 4. Enumerate different losses in an induction motor.
- **5.** State any four applications of 3-phase induction motors.
- **6.** List different types of single-phase induction motor.
- **7.** Draw the diagram of capacitor star induction motor.

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15.	(a)	motors.	4
	(b)	A 50 Hz, 8-pole induction motor has a full-load slip of 4%. The rotor resistance and reactance are 0 01 and 0 01 per phase respectively. Find the ratio of maximum to full-load torque and speed at which the maximum torque occurs.	6
16.	A 200 V, 50 Hz, 7460 watts, 3-phase induction motor w star-connected stator having a winding ratio of unity. T stator resistance of 0.38 /phase and rotor resistance of 0/phase. The test results are		
		no. load test : 200 V, 7·7 A, PF = 0·195	
		Blocked rotor test : 100 V, 47.6 A, PF = 0.454	
	Drawing the circle diagram and find (a) FL current and (b) power factor.		10
17.	(a)	Explain the working of a split-phase induction motor with neat sketch.	7
	(b)	What are the applications of split-phase induction motor?	3
18.	(a)	Explain the construction and working of universal motor.	7
	(b)	List the applications of stepper motor.	3

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