

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Scheme for Valuation/Answer Key

Scheme of evaluation (marks in brackets) and answers of problems/key

EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019

Course Code: EE402

Course Name: Special Electrical Machines

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 5 marks.

		Marks
1	Torque speed curve - 3 Marks Explanation - 2 Marks	(5)
2	Step angle - 3 Marks Detent torque - 2 Marks	(5)
3	Diagram – 3 Marks Explanation – 2 Marks	(5)
4	Explanation – 5 Marks	(5)
5	Five points – 5 Marks	(5)
6	Minimum three points – 5 Marks	(5)
7	Types – 3 Marks Applications – 2 Marks	(5)
8	Notes on LIM – 5 Marks	(5)

PART B

Answer any two full questions, each carries 10 marks.

9	a) Explanation – 4 Marks	(4)
	b) Diagram – 3 Marks	(6)
	Explanation – 3 Marks	
10	a) Excitation table – 3 Marks	(5)
	Explanation – 2 Marks	
	b) Diagram – 3 Marks	(5)
	Explanation – 2 Marks	



- 11 a) Comparison - minimum four points – 4 Marks (6)
Applications – 2 Marks
- b) (1). Start Stop Mode (Explanation/graph) - 2 Marks (4)
(2). Slewing mode (Explanation/graph) - 2 Marks

PART C

Answer any two full questions, each carries 10 marks.

- 12 a) Phasor diagram – 2 Marks (5)
Derivation of Voltage equation - 3 Marks
- b) Torque-Slip chara. /torque equation/any related explanation (5)
can be considered – 5 Marks
- 13 a) Diagram - 4 Marks (10)
Construction – 3 Marks
Operation – 3 Marks
- 14 a) Diagram – 2 Marks (5)
Explanation - 3 Marks
- b) Diagram – 2 Marks (5)
Explanation - 3 Marks

PART D

Answer any two full questions, each carries 10 marks.

- 15 Diagram - 3 Marks (10)
Waveform – 3 Marks
Explanation – 4 Marks
- 16 Diagram (Any one type of Linear Reluctance Motor)– 4 Marks (10)
Construction (Any one type of Linear Reluctance Motor) - 3 Marks
Operation (Any one type of Linear Reluctance Motor) - 3 Marks
- 17 a) Speed-Torque Characteristics Plot of BLDC Motor - 3 Marks (6)
Explanation – 3 Marks
- b) Derivation – 4 Marks (4)
