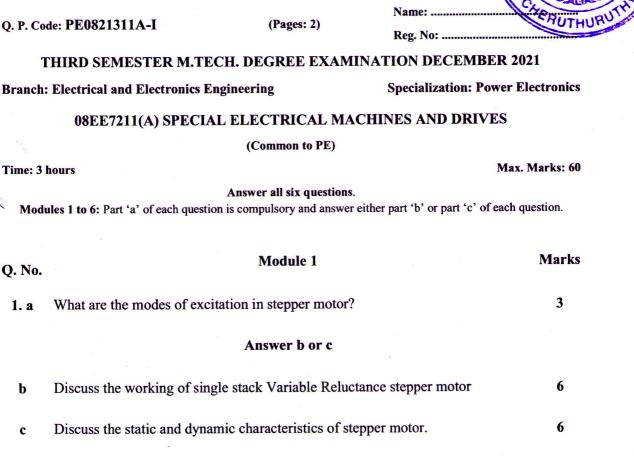
## APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY **08 PALAKKAD CLUSTER**



0TH

Q. 110.		
2. a	What are the merits and demerits of Switched Reluctance Motors?	3
	Answer b or c	
b	Explain the classical converter circuit for SRM control with the help of circuit diagram and operational waveform.	6
C	Explain the Microprocessor based control of Switched Reluctance Motors	6
Q. No.	Module 3	Marks
3. a	Mention the applications of synchronous reluctance motors	3

Module 2

**Branch: Electrical and Electronics Engineering** 

**Time: 3 hours** 

Q. No.

1. a

b

С

1

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

1

Marks

## Answer b or c

b	Draw and explain the phasor diagram and obtain the characteristics of Synchronous Reluctance motors.	6
c	Discuss the various types of rotors used in Synchronous Reluctance Motors.	6
Q. No.	Module 4	Marks
4. a	Compare mechanical and electronic commutation.	3
80 s.	Answer b or c	
b	Explain the principle of operation of a BLDC motor with neat sketches.	6
C	Discuss the role of Hall Sensors in Brushless DC motors	6
Q. No.	Module 5	Marks
5. a	A permanent magnet DC motor has an armature resistance of $1.03\Omega$ . It draws a current of 1.25 A at no load with 50 V supply and running at 2100 rpm. Find (a) speed -voltage constant and (b) rotational losses.	4
	Answer b or c	
b	Explain the sensorless control of BLDC motor in detail.	8
C	Obtain the emf and current waveforms in a BLDC square wave motor with 180° current sheet.	8
Q. No.	Module 6	Marks
6. a	What are the features of Permanent Magnet Synchronous Motors	4
	Answer b or c	
b	Draw and explain the phasor diagram of PMSM,	8
c	Discuss Sensor less control of PMSM	8