

**APJ ABDUL KALAM TECHNOLOGICAL
UNIVERSITY**

08 PALAKKAD CLUSTER

(pages: 2)

Name:

Reg No:



SECOND SEMESTER M.TECH. DEGREE EXAMINATION MAY 2016

POWER ELECTRONICS

08EE6242(A) FACTS AND CUSTOM POWER DEVICES

Time:3 hours

Max.marks: 60

Answer all six questions. Part 'a' of each question is compulsory.

Answer either part 'b' or part 'c' of each question

Q.no.	Module 1	Marks
1.a	What are the stability issues that limit the transmission capability?	3
	Answer b or c	
b	Explain the basic types of FACTS Controllers?	6
c	With a neat circuit diagram explain pulse width modulated GTO inverters	6
	Module 2	
2.a	Briefly explain about different types of Multilevel inverters?	3
	Answer b or c	
b	Explain transformer connections for 12, 24 and 48 Pulse operation?	6
c	With neat circuit diagrams explain the working of diode clamped type multilevel inverters?	6
	Module 3	
3.a	Briefly explain about Shunt Compensator?	3
	Answer b or c	
b	Explain the principle of operation and working of a TSC?	6
c	Explain about Static VAR Compensator ?	6

Q.no.	Module 4	Marks
4.a	Explain the Voltage Stability in Series Compensators?	3
	Answer b or c	
b	With neat diagrams explain working of a TCSC?	6
c	Explain the concept of Phase and Voltage Regulation?	6

Q.no.	Module 5	Marks
5.a	What are the features of Unified Power Flow Controller?	4
	Answer b or c	
b	Explain the control of a UPFC with neat block diagrams.	8
c	Explain the principle of operation of Interline Power Flow Controller?	8

Q.no.	Module 6	Marks
6.a	What is meant by Custom Power devices?	4
	Answer b or c	
b	Enumerate the applications of DVR and UPQC ?	8
c	Explain the working of DVR?	8