

# APJ ABDUL KAMAL TECHNOLOGICAL UNIVERSITY

08 PALAKKAD CLUSTER

6242(A)-APRIL 17-2

(pages: 2)

Name:

Reg No.:



SECOND SEMESTER M.TECH DEGREE EXAMINATION

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	Explain the flow of power in an ac system.	3
<b>Answer b or c</b>		
b	Explain the working of a three phase converter with a neat sketch and show that the harmonics is reduced at higher levels.	6
c	Explain the different types of FACTS controllers.	6
Q.no	Module 2	Marks
2.a	Explain the concept of a Multilevel inverter.	3
<b>Answer b or c</b>		
b	Explain the working of Flying Capacitor type Multilevel inverter with diagrams.	6
c	Explain the concept of SVM.	6
Q.no	Module 3	Marks
3.a	Explain the working of a shunt compensator.	3
<b>Answer b or c</b>		
b	Compare SVC and STATCOM.	6

c Explain the operation of TSC. 6

Q.no

Module 4

Marks

4.a Compare TCR and GCSC. 3

Answer b or c

b What is SSR? Explain NGH-SSR damping scheme. 6

c Explain the operation and control of SSSC. 6

Q.no

Module 5

Marks

5.a Explain the operating principle of UPFC. 4

Answer b or c

b Explain the P and Q control in UPFC. 8

c Explain the operation and control of IPFC. 8

Q.no

Module 6

Marks

6.a What is Power Quality? 4

Answer b or c

b What are the Power Quality issues related to distribution systems? 8

c Explain the operation and control of UPQC. 8