

SUBJECT CODE NO:- P-237
FACULTY OF ENGINEERING AND TECHNOLOGY
B.E.(EEE/EEP/EE) Examination MAY/JUNE-2016
Elective-I: Flexible AC Transmission System
(Revised)

[Time:Three Hours]

[Max Marks:80]

“Please check whether you have got the right question paper.”

- N.B
- i) Q.No.1 from section A and Q.No.6 from section B are compulsory.
 - ii) Attempt any two questions from the remaining questions in each section.
 - iv) Assume suitable data, if necessary.

Section A

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|-----|---|----------|
| Q.1 | Solve <u>any five</u> | 10 |
| | <ol style="list-style-type: none"> a) What is the necessity of compensation? b) What are the objectives of facts controller in power system network? c) Define term VAR compensator d) What are different power electronic switching devices? e) What is best location of SVC? f) What are different types of storages? g) What are different modes of operation of TCSC? h) Define sub synchronous resonance | |
| Q.2 | <ol style="list-style-type: none"> a) Explain the working of TSC-TCR b) Explain the midpoint voltage Regulation for line segmentation for shunt compensation | 08
07 |
| Q.3 | <ol style="list-style-type: none"> a) Explain the working of 3Q full wave bridge converter b) Explain the working of thyristor switched capacitor (TSC) with diagram & waveform | 08
07 |
| Q.4 | <ol style="list-style-type: none"> a) Explain the static var generator control scheme b) Explain construction and working of FC-TCR | 08
07 |
| Q.5 | <ol style="list-style-type: none"> a) Explain the power flow in parallel and meshed system b) Compare SVC & STATCOM. | 08
07 |

Section B

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|-----|--|----|
| Q.6 | Solve <u>any five</u> | 10 |
| | <ol style="list-style-type: none"> a) What are application of TCSC? b) How is system voltage stability limit improved? c) What are Bang-Bang control? d) What is STAT COM? e) What is UPFC? f) What are different constraints for operating UPFC? g) What are applications of SVC? h) What do you mean by load compensation? | |

Q.7	a) Explain working of Thyristor controlled service capacitor (TCSC)	08
	b) Explain the functional control scheme for the GCSC with waveform	07
Q.8	a) Explain working of static synchronous series compensator (SSSC)	08
	b) Explain with output waveform of delay angle controlled thyristor tap changer supplying purely capacitive load	07
Q.9	a) Explain the working of Hybrid phase angle regulator	08
	b) Compare UPFC to series compensator	07
Q.10	a) Explain the NGH-SSR Damping scheme	08
	b) Explain switching converter based voltage & Phase angle regulator	07