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M.E. Second Semester (Electrical Engineering (Electrical Power System))

13578 : Application of Power Electronics to Power System : EP 2205

P. Pages : 2 | **AW - 3869**

Time : Three Hours | Max. Marks : 80

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Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION - A

1. Describe how power transfer capacity and transient stability can improve with mid point shunt compensation. **14**

OR

2. Explain senses capacitance compensation of transmission line. **14**

3. a) Explain briefly Thyristor control phase shifting transformer. **7**

b) Explain advantages and type of FACTS devices. **6**

OR

4. a) Explain principle of operation of SVC. **7**

b) Explain briefly static phase shifter. **6**

5. a) Explain static synchronous compensator SSSC and its application. **7**

b) Describe importance of series compensation and its use in power system. **6**

OR

6. Explain in detail Unified Power Flow Controller. (UPFC) **13**

SECTION - B

7. a) Describe equivalent circuit for FACTS controller. **7**

b) Explain the various influences of load on power quality. **7**

OR

8. Discuss the different control technique for active power filter, explain any one in detail. **14**

9. a) Explain different type of harmonics creating load. **8**

b) State the concept of filter and their types. **5**

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OR

10.	a)	Explain resonance in power circuit and explain series resonance and its effect on power system.	**8**
	b)	Explain voltage sag and swell, its causes.	**5**
11.	a)	Explain various application of UPFC on the power system.	**7**
	b)	How power quality problems can be minimized using power electronics conditioners.	**6**

OR

12.	a)	Write the various IEEE power quality standards.	**6**
	b)	Explain modelling of UPFC in detail.	**7**

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