



Name :

Roll No. :

Invigilator's Signature :

CS / M.TECH(EE) / SEM-2 / MPS-202 / 2012

2012

POWER SYSTEM APPARATUS

Time Allotted : 3 Hours

Full Marks : 70

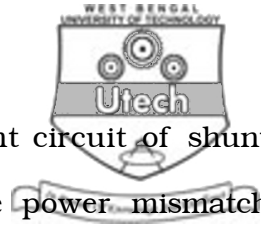
The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer any *five* questions.

5 × 14 = 70

1. a) Explain what is meant by FACTS devices.
b) Classify different types of FACTS controllers.
c) Describe with a schematic diagram, the static synchronous series compensator. 3 + 3 + 8
2. a) Discuss the basic concept of controlled series compensator.
b) Develop the power flow model of TCSC. 6 + 8
3. a) What is the role of SVC in voltage and power factor control of a transmission line ?
b) Develop the power flow model of SVC. 5 + 9



4. What is STATCOM ? Draw the equivalent circuit of shunt operated STATCOM. Hence, develop the power mismatch equation of STATCOM. Why is STATCOM superior to SVC ?

4 + 4 + 4 + 2

5. a) Discuss different types of arc extinguishing method.
b) Explain the operation of Air blast Circuit Breaker with a neat sketch.
6. a) Describe the current chopping and resistance switching phenomena of a circuit Breaker.
b) Write down the merits and demerits of Vacuum Circuit Breaker.
7. Write short notes on any *two* of the following :
- a) SPS
b) SSG
c) TCSR
d) UPFC.

6 + 8

8 + 6

2 × 7

=====