CBCS SCHEME

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18EPS22

# Second Semester M.Tech. Degree Examination, June/July 2019
## Switching in Power Systems

Time: 3 hrs. Max. Marks: 100

***Note: Answer any FIVE full questions, choosing ONE full question from each module.***



### Module-1

1 a. Why Switching is an important aspect in power system? **(10 Marks)**
b. With a neat waveform explain Transient Recovery Voltage (TRV). **(10 Marks)**

**OR**

2 a. Write a note on Reactor-Limited Faults. **(10 Marks)**
b. Write a short note on classification of circuit breakers. **(10 Marks)**

### Module-2

3 a. With reference to short line faults explain i) Travelling wave concept ii) Time delay. **(10 Marks)**
b. With neat equivalent circuit and wave forms, explain out of phase switching. **(10 Marks)**

**OR**

4 a. Explain capacitive-load switching. **(10 Marks)**
b. Explain overhead-line switching. **(10 Marks)**

### Module-3

5 a. Explain the electromagnetic transients program. **(10 Marks)**
b. Explain air as an interrupting medium for fault current interruption by Arc Elongation. **(10 Marks)**

**OR**

6 a. Explain oil as an interrupting medium. **(10 Marks)**
b. Explain $SF_6$ as an interrupting medium. **(10 Marks)**

### Module-4

7 a. Explain Double-pressure $SF_6$ circuit breakers. **(10 Marks)**
b. Explain Vaccum as on interruption environment. **(10 Marks)**

**OR**

8 a. Write a note on contact material for vaccum switchgear. **(10 Marks)**
b. Compare HV vaccum and HV $SF_6$ circuit breakers. **(10 Marks)**

### Module-5

9 a. Explain switching related to series capacitor banks. **(10 Marks)**
b. Explain switching in Ultra-High Voltage (UHV) systems. **(10 Marks)**

**OR**

10 a. Explain switching in DC systems. **(10 Marks)**
b. Explain controlled switching of transformers. **(10 Marks)**

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