

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (Electronics & Electrical) (2013 Onwards)**B.Tech.(Electronics & Electrical) (2011 Onwards)****(Sem.-5)****POWER SYSTEMS – II****Subject Code : BTEEE-502****Paper ID : [A2138]****Time : 3 Hrs.****Max. Marks : 60****INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**1. Answer briefly :**

- a) An air blast circuit breaker designed to interrupt a transformer magnetizing current of 15A (r.m.s.) chops the current at an instantaneous value of 12A. The values of L and C in the circuit are 8H and 0.009 μ F, respectively. Find the voltage that appears across the circuit breaker. Assume that the inductance energy is transformed to capacitance.
- b) Differentiate between a fuse and a circuit breaker.
- c) What is the need of carrier current protection of lines?
- d) Differentiate between a circuit breaker and a relay.
- e) What is the need of protective relaying?
- f) What are ground wires?
- g) What are the various ratings specified for a fuse?
- h) What is the purpose of oil in a minimum oil circuit breaker?
- i) Differentiate between making capacity and breaking capacity.
- j) What are the various methods of neutral grounding?

SECTION-B

2. What is distance protection? Discuss and compare the various distance protection schemes.
3. What are the various bus-bar schemes that are used in a sub-station? Discuss these, in detail.
4. Explain the Negative Sequence Protection scheme for protection of generators.
5. What is a circuit breaker? Explain its construction, working and classification.
6. Explain the construction and working of an Impulse gap.

SECTION-C

7. What are the main equipments used in a substation? Explain the function of each equipment. Also, discuss the classification of substations alongwith their application area.
8. What are the various types of air blast circuit breakers? Discuss their construction and working. Also, list atleast six advantages of SF₆ circuit breaker over oil circuit breaker.
9. Write short notes on the following :
 - a) Neutral Grounding.
 - b) Air Blast circuit breaker.
 - c) Buchholz relay.
 - d) Static relay.