

**SUBJECT CODE NO:- P-224**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**B.E. (EEP/EE/EEE) Examination May/June 2017**  
**High Voltage Engineering**  
**(Revised)**

[Time: Three Hours]

[Max.Marks:80]

- N.B
- 1) Q. No.1 & Q. No. 6 are compulsory.
  - 2) Solve any two questions from reaming in section 'A'
  - 3) Solve any two questions from reaming in section 'B'

## Section A

- Q.1 Answer in two/three sentences. (any five) 10
- a) Define Electric field stress?.
  - b) What is meant by Ionization process?
  - c) Define Electromechanical Breakdown?
  - d) What do you meant by "Impulse" current?
  - e) What is the time duration of "surface voltage"?
  - f) What is the function of "Bushings"?
  - g) Define "thermal Break Down"?
- Q.2 a) Explain Townsends' criteria of Break down in gases ; with neat sketches. 08  
b) Compare Break downs in pure & commercial liquids. 07
- Q.3 a) State & Explain Paschen's law 08  
b) What are the methods of generation of impulse voltages & explain any one. 07
- Q.4 a) Differentiate between Intrinsic and Electro mechanical Break downs. 08  
b) Write short note on solid Dielectrics used in Practice. 07
- Q.5 a) How will you obtain control of impulse generators? Explain with neat sketches. 08  
b) Explain in selection criteria for insulating materials for transformers, rotating M/CS. 07

## SECTION-B

- Q.6 Solve any five , answer in two lines 10
- a) Define impulse voltage.
  - b) What do you meant by "switching surges" ?
  - c) Define "partial Discharge"?
  - d) Define "DC resistivity"?
  - e) Define "Di-electric constant"?
  - f) What do you meant by "Natural Causes"?
  - g) What do you understand by "Insulation Co-ordination"?
  - h) State meaning of EMI?
- Q.7 a) How may methods are there for measurement of High D.C. voltages? List them & explain any one. 08  
With neat sketches.
- b) With neat sketches explain the lightning phenomenon. 07
- Q.8 a) What is the significance of "Faraday cage"? Explain in Details with sketches. 08  
b) Why partial Discharge measurements are required? With reasons, explain 07

- Q.9 a) Explain the working of any one of the lightning arrestor. 08  
b) Explain the working of any one of the surge arrestor. 07
- Q.10 a) Explain any one method of testing of pin type insulators with reference to Indian standard specifications. 08  
b) Explain the significance of Radio interference measurements. 07