

6E6072	Roll No. : _____	Total Printed Pages : 3
	<div style="border: 1px solid black; padding: 5px; display: inline-block;">6E6072</div>	
	B.Tech. VI-Sem (Main & Back) Examination, April-May 2018	
	Electrical Engineering	
	6EE2A High Voltage Engineering	

Time : 3 Hours]

[Maximum Marks : 80
[Min. Passing Marks : 26

Attempt any five questions, selecting one question from each unit. All Questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. _____ 2. _____

UNIT - I

- 1/ (a) Discuss townsend's breakdown mechanism with suitable diagram. 10
- (b) Discuss the application of gases in power system. 6

OR

- 1 (a) Explain suspended solid particle mechanism and cavity breakdown with proper labelled diagram. 10
- (b) List out the application of oil in power apparatus. 6

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| P.T.O.

UNIT - II

2 Differentiate between high DC and AC voltage generation with proper circuit diagram.

16

OR

2 (a) Explain the construction and operation of sphere gap.

8

(b) Briefly discuss the working of Mark's multistage impulse generator.

8

UNIT - III

3 (a) How will you measure capacitance and dielectric loss using high voltage schering bridge ?

10

(b) Define Nondestructive Insulation tests.

6

OR

3 (a) Define partial discharge and draw its equivalent circuit.

6

(b) Explain the working of wideband and narrow band PD detection circuits.

10

UNIT - IV

4 (a) What are the causes of over voltages ? explain.

8

(b) Explain the phenomena of attenuation of travelling waves.

8

OR

4 Write short note on :

(a) Open end line and short circuited line.

(b) Reflection and Refraction at a T junction.

8×2=16

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[P.T.O.

UNIT - V

- 5 Discuss the insulation coordination in detail. Also define volt-time curves and basic impulse insulation levels.

16

OR

- 5 Discuss the construction and operation of ground wires and explain the following parameters :

- (a) Protection angle
- (b) Protection zone
- (c) Counterpoise
- (d) Surge absorber

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