

C 31633

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Name.....

Reg. No.....



**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, JUNE 2007**

Electrical and Electronics Engineering

PTEE 2K 702/EE 2K 804—POWER SYSTEMS—III

Time : Three Hours

Maximum : 100 Marks

- I. (a) Write any *two* methods of testing of circuit breaker and explain which method is suitable for testing of circuit breakers of large capacity.  
(b) Write the advantages of Airblast circuit breaker over Oil circuit breaker.  
(c) Mention the causes of over voltages in power system.  
(d) Explain neutral earthing.  
(e) Explain the function of a relay in protection system.  
(f) Describe voltage distortion.  
(g) Write the application of induction heating.  
(h) Name the methods of energy conservation in Electric Motors.

(8 × 5 = 40 marks)

- II. (a) Define the terms breaking capacity, making capacity and short time capacity.

(5 marks)

Describe the following airblast circuit breakers in detail with neat sketches :

- (i) Axial blast circuit breaker.  
(ii) Cross blast circuit breaker.

(10 marks)

Or

- (b) Write a short note on :

- (i) Ferranti surge absorber.  
(ii) Surge arrester.

(5 marks)

Describe the protection of stations and substations against direct lightning strokes.

(10 marks)

- III. (a) Describe the construction, principle of operation of a direction over current relay. (10 marks)  
What is the need for protective relaying ? (5 marks)

Or

- (b) Explain the principle of Merzprice protection used for power transformer. What are the limitations of this scheme and how they are overcome ?

(15 marks)

Turn over

IV. (a) Explain Dielectric heating and list the application of it.

Or

(b) Explain about the Electric traction used in sub-urban area.

(15 marks)

V. (a) Explain the different methods adopted for conservation of Electrical Energy in :

(i) Industrial Motor.

(ii) Lighting Systems.

Or

(b) Explain any *three* power quality problems and the corresponding Mitigation methods.

(15 marks)

[4 × 15 = 60 marks]