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Name.....

Reg. No.....

SEVENTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION, MAY 2013

EE 04 704 – POWER SYSTEMS – III

(2004 Admissions)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

I. (a) What is the best location of a lightning arrester and why?

(b) What are the various causes of over-voltages?

(c) What type of protective scheme is employed for the protection of a large power transformer against short circuits?

(d) State the advantages of static relays.

(e) Draw a typical speed-time curve for urban service.

(f) What are the various methods of heat transfer?

(g) What are the functions of SCADA?

(h) List out the various classifications of d.c. links in HVDC transmission.

(8 × 5 = 40 marks)

II. (a) Describe the construction, operating principle and application of Vacuum circuit breaker. What are its advantages over conventional circuit breakers?

Or

(b) With a neat sketch, explain the construction and working of Ferranti Surge absorber.

III. (a) (i) Describe with a neat sketch, a protective scheme for parallel feeders.

(ii) Compare the merits and demerits of various pilot were relaying schemes for protecting transmission lines.

Or

(b) (i) With a neat sketch, explain the differential system of protection applied to star-delta connected transformers.

(ii) What are the difficulties experienced in the above method and how are they overcome?

Turn over

IV. (a) Write short notes on :

(i) Speed time curve.

(ii) Mechanics of traction.

Or

(b) Discuss briefly the importance of temperature control of furnace. Describe the various methods used in practice.

V. (a) Briefly discuss the various functions of three level control systems.

Or

(b) Explain with neat sketches, the different basic types of FACTS controllers.

(4 × 15 = 60 marks)