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Question Paper Code: 55003

Ph D.COURSE WORK EXAMINATION, MAY 2018

Elective

Course Work

15PPE503 - HVDC SYSTEMS AND CONTROL

(Regulation 2015)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) (i) Discuss the technical and economic aspects of of DC system over ac system. (15)
(ii) Discuss the modern trends in DC transmission. (5)
Or
- (b) (i) Discuss the various factors to be considered for planning HVDC transmission (15)
(ii) Describe the SCR in detail. (5)
2. (a) (i) Explain the simplified analysis of Graetz circuit. (14)
(ii) Discuss briefly the various choices of converter configuration. (6)
Or
- (b) (i) Derive the steady state current from steady state equivalent circuit of 2-terminal DC link. (14)
(ii) Discuss the telecommunication requirements in HVDC system. (6)
3. (a) (i) Classify the MTDC system. Explain each type. (15)
(ii) What is meant by current reference balancer? (5)

Or

- (b) (i) Discuss the protection of HVDC system. (15)
- (ii) Explain two automatic current regulator method for the dynamic simulation of HVDC system. (5)
4. (a) Briefly explain about the modeling the DC links. (20)

Or

- (b) Discuss the solution of ac load flow analysis with suitable example. (20)
5. (a) Explain the modeling of HVDC system for digital dynamic simulation. (20)

Or

- (b) (i) What are the problem that can be studied using DC simulator and the application of DC simulator and the application of DC simulator. (15)
- (ii) List the basic requirements of a good simulation tool. (5)
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