Reg. No. :

Question Paper Code: 39034

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Elective

Electrical and Electronics Engineering

01UEE912 - HVDC TRANSMISSION

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List the types of MTDC system.

2. Mention the types of DC links.

3. Indicate the need for smoothing reactor.

4. Draw the Graetz bridge circuit.

5. Classify the types of individual phase control and equidistant pulse control?

6. List any two single commutation failures.

7. What is a need for filters?

8. Classify the types of filter?

9. What are the constraints in power flow analysis?

10. State the advantages of per unit system.

PART - B (5 x 16 = 80 Marks)

11. (a) Discuss the advantages, disadvantages and application of HVDC transmission system. (16)

Or

(b) Describe with a neat diagram, the different configurations of asynchronous interconnection in HVDC system. (16)

12. (a) Describe with a neat diagram, the operation of 6 pulse VSC circuit. (16)

Or

(b) Briefly analyze the two and three valve conduction mode for bridge circuit. (16)

13. (a) Illustrate the individual phase control method for generating gate pulse of HVDC valves. (16)

Or

(b) Discuss the working of firing angle control circuit with a neat sketch. (16)

14. (a) Compare the salient features of SVC and STATCOM based on all operational aspects. (16)

Or

(b) How characteristics and non characteristics harmonics can be generated? Derive an expression for AC voltage harmonics. (16)

15. (a) Discuss the concept of flexible per unit system for DC quantities and explain the basic assumptions made in AC to DC converter. (16)

Or

(b) Derive the discrete time converter model for 3 valve conduction. (16)

—————————————

39034