M.E. Second Semester (Electrical Engineering (Electrical Power System))

13577 : HVDC Transmission : EP 2204

P. Pages : 2 | AW - 3597

Time : Three Hours | Max. Marks : 80

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Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Assume suitable data wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION – A

1. a) With relevant figure, Explain the construction of EHV-AC and DC link. 7

   b) Explain the need for HVDC system. 6

OR

2. a) With a neat diagram – Explain different kind of DC links. Explain necessity of back to back HVDC link. 7

   b) Compare HVAC and HVDC transmission for economic of operation, stability limit and reactive power limit. 6

3. a) Explain the need of bandle conductor in transmission system. 7

   b) What are sequence components & how they are represented. 6

OR

4. With neat sketches explain the zero sequence representation of transformer for various winding arrangement. 13

5. Explain the construction & working of single phase full controlled bridge rectifier. 14

OR

6. a) Draw the schematic circuit diagram or 6 pulse Graetz circuit. 7

   b) Explain the construction & operation of thyristor also draw its characteristics. 7

SECTION – B

7. a) Explain series operation of converters. 7

   b) Explain parallel operation of converters. 6

OR

8. Explain power flow analysis of AC/DC system. 13

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9.	a)	Explain the calculation of voltage gradients of conductors.	7
	b)	Explain Electrostatic field of EHV lines.	6

OR

10.	a)	Explain Audible noise : generation & characteristics.	7
	b)	Explain corona loss & factors affecting corona loss.	6
11.	a)	Explain the Wilson's theory of charge formation or separation in clouds.	7
	b)	Explain the mechanism of lighting phenomenon.	7

OR

12.	a)	Explain Simpson's theory of charge formation in clouds.	7
	b)	What are the properties of lighting discharge.	7

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