

Code: EE7T2

**IV B.Tech - I Semester – Regular/Supplementary Examinations
October - 2019**

**HVDC TRANSMISSION
(ELECTRICAL & ELECTRONICS ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) Name any two modern trends in DC transmission.
- b) What is Monopolar DC link system?
- c) Define pulse number.
- d) What is meant by neglecting overlap in Graetz bridge circuit?
- e) Mention the use of a dc link.
- f) Mention the principle of current angle control.
- g) What is meant by Misfire?
- h) Name any two sources of reactive power in power networks.
- i) List out two types of harmonics.
- j) List the various types of filters.
- k) What are the equipments used in a HVDC system?

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) State the advantages and disadvantages of dc transmission system with respect to economics, reliability, performance etc. 8 M
- b) What are the different applications of dc transmission system? Explain them in detail. 8 M
3. Explain in detail a 3 phase 6 pulse Graetz circuit and draw it's output wave forms. 16 M
4. With block diagram discuss the principle of operation of basic DC link control. 16 M
5. a) Discuss various converter faults in HVDC systems. 8 M
- b) Explain the concept of reactive power requirement in HVDC converters. 8 M
6. a) Discuss harmonic instability problems in HVDC systems. 8 M
- b) Explain the design of a single tuned filter. 8 M