


GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

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 Name of Examination : **Summer 2021** - (Preview)

 Course Code & Course Name : **EE453B - Elective -III-HVDC & FACTS**

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 Maximum Marks : **60**

 Duration : **3 Hrs**
[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

1) Attempt any two sub questions

- a) Explain the different components of a converter station [6]
- b) state and Explain the major problem in operating HVDC technology [6]
- c) Give the advantages of voltage source converter over connected converters in HVDC link [6]

2) Attempt ant two sub questions

- a) What factors are consider in selecting the choice of converter configuration for any pulse number [6]
- b) Explain three level voltage source converter [6]
- c) What are the sources of reactive power and compare them [6]

3) Attempt ant two sub questions

- a) state the types of filters and their applications [6]
- b) Explain the factors that affect the design of passive DC filters [6]
- c) Explain Thyristor controlled series capacitor(TCSC)and its mode of operation [6]

4) Attempt the following

- a) Compare FACTS with HVDC [6]
- b) Explain shunt and series FACTS controller [6]

5) Attempt the following

- a) UPFC is most versatile FACT controller for regulation of voltage and power flow in transmission line Explain? [6]
- b) Explain the operation of static VAR compensator(SVC) [6]

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