

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name : EHVAC and HVDC Transmission

Subject Code : 4TE08HVT1

Branch: B.Tech (Electrical)

Semester : 8

Date : 22/04/2019

Time : 10:30 To 01:30

Marks : 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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Q-1 Attempt the following questions: (14)

- a) Corona effects are important in following case.
1) Low volt D.C. System 2) Distribution System 3) EHV AC 4) none of the above
- b) The phenomenon of corona is generally accompanied by
1) a bang 2) a hissing sound 3) a magnetic hum 4) None of the above
- c) State the location of 400 kV substation in Surendranagar District
1) Muli 2) Wadhwan 3) Limbdi 4) Surendranagar
- d) _____ Types of conductors are used in EHV AC System
1) Copper 2) Copper alloys 3) Bundled 4) None of the above
- e) The calorific value of sub bituminous coal is _____ kcal. (7000/15000)
- f) The EHV lines are more suitable for _____ distances.
1) Medium 2) Short 3) Long 4) None of the above
- g) The fact that conductor carries more current on surface as compare to core is known as _____.
1) Skin effect 2) Ferranti effect 3) Core effect 4) Temperature effect
- h) The _____ circuit breaker is used for EHV AC application.
1) SF6 2) ACB 3) Vacuum 4) None of the above
- i) Surge voltage originate in the power system due to
1) Lightening 2) Switching 3) Any of the above 4) None of the above
- j) State the importance of earth wire on transmission towers.
- k) Corona results in _____.
1) Improvement of power factor 2) Radio interference 3) Better regulation .
- l) The main reason behind the skin effect is high voltage. (True/False)
- m) If the gap between two sphere gaps is less than its radius , the electric field is well determined. (True/False)
- n) Due to the corona the air ionization occurs. (True/False)

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions (14)
(a) Briefly explain about dampers and spacers. (7)



- (b) State the name of locally usable power for generation of electricity. Explain any two. (7)
- Q-3 Attempt all questions (14)**
(a) Briefly explain about Aeolian vibration. (7)
(b) List any four formulae of corona losses with proper description of parameters. (7)
- Q-4 Attempt all questions (14)**
(a) Briefly explain about Galloping phenomena. (7)
(b) Briefly explain the properties of Bundle Conductor. (7)
- Q-5 Attempt all questions (14)**
(a) Briefly explain about the Bessel function of first kind and second kind. (7)
(b) State the level of standard voltages under operation in India. (7)
- Q-6 Attempt all questions (14)**
(a) Briefly describe on frequency spectrum of pulse. (7)
(b) Write short note on tower footing resistance. (7)
- Q-7 Attempt all questions (14)**
(a) Compare the economics of power transmission for EHV AC and HVDC System. (7)
(b) Briefly describe on HVDC Converter stations. (7)
- Q-8 Attempt all questions (14)**
(a) Briefly discuss about Ferro resonance over voltages. (7)
(b) Briefly describe the Lightning Impulse Test of EHV A.C. Equipment. (7)

