

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: EHVAC and HVDC Transmission

Subject Code: 4TE08HVT1

Branch: B.Tech (Electrical)

Semester: 8

Date: 01/05/2018

Time: 2:30 To 05:30

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 can be identified by (1)
1) Bushy sparks 2) Faint violet glow
3) Red light 4) None of the above
- b) The phenomenon of corona is generally accompanied by (1)
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)
1) Muli 2) Wadhwan
3) Limbdi 4) Surendranagar
- d) _____ Types of conductors are used in EHV AC System (1)
1) Copper 2) Copper alloys 3) Bundled 4) None of the above
- e) A tesla coil is a _____. (1)
1) Core less transformer 2) Cascaded Transformer
3) High frequency resonant transformer 4) None of the above
- f) The EHV lines are more suitable for _____ distances. (1)
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)
1) Skin effect 2) Ferranti effect
3) Core effect 4) Temperature effect
- h) The _____ circuit breaker is used for EHV AC application. (1)
1) SF6 2) ACB 3) Vacuum 4) None of the above
- i) Surge voltage originate in the power system due to (1)
1) Lightening 2) Switching
3) Any of the above 4) None of the above
- j) High frequency, low magnitude type conductor motion is termed as _____. (1)
1) Galloping 2) Developing 3) Canopy 4) None of the above
- k) Corona results in _____. (1)
1) Improvement of power factor 2) Radio interference
3) Better regulation 4) None of above



- l) The main reason behind the skin effect is high voltage. (True/False) (1)
- m) If the gap between two sphere gaps is less than its radius, the electric field is well determined. (True/False) (1)
- n) Due to the corona the air ionization occurs. (True/False) (1)

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

- Q-2 Attempt all questions (14)**
- (a) List any four formulae of corona losses with proper description of parameters. (7)
- (b) Write a note on Aeolian vibration. (7)
- Q-3 Attempt all questions (14)**
- (a) State the name of locally usable power for generation of electricity. Explain any two. (7)
- (b) Briefly explain about dampers and spacers. (7)
- Q-4 Attempt all questions (14)**
- (a) Briefly explain about Galloping phenomena. (7)
- (b) Write and explain the properties of Bundle Conductor. (7)
- Q-5 Attempt all questions (14)**
- (a) Explain types of MTDC system. (7)
- (b) Write a note on ac and dc filters. (7)
- Q-6 Attempt all questions (14)**
- (a) Explain the properties of pulse train generated as part of discharges in EHV system. (7)
- (b) Write a 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) State the disadvantages of power transmission. State how could they overcome. (7)
- Q-8 Attempt all questions (14)**
- (a) Briefly discuss about Ferro resonance over voltages. (7)
- (b) State and sketch various types of H.V.D.C. Link. (7)

