ADAMAS UNIVERSITY PURSUE EXCELLENCE	**ADAMAS UNIVERSITY** **END-SEMESTER EXAMINATION: JANUARY 2021** (Academic Session: 2020 – 21)		
Name of the Program: (Example: B. Sc./BBA/MA/B.Tech.)	B.Tech	**Semester:** (I/III/ V/ VII/IX)	V
Paper Title :	Power System-I	**Paper Code:**	**EEE43101**
Maximum Marks :	40	**Time duration:**	3 hours
Total No of questions:	03	**Total No of Pages:**	02
(Any other information for the student may be mentioned here)			

PART– A

(Multiple Choice Question)

Answer all the five Questions **5** X 1 = 5

1. (i) Objectives of power system is/are: a. Cost of electrical energy per KWh is to be minimum b. Rated voltage and frequency has to be supplied to the consumers. c. both 1 and 2 d. none

(ii) Advantages of higher transmission voltage is/are: a. Power transfer capability of the transmission line is increased b. Transmission line losses are reduced c. Area of cross section and volume of the conductor is reduced. d. all of the above.

(iii) At higher voltage transmission: a. cost of transmission is reduced b. cost of transmission is increased. C. efficiency decreased d. all of the above.

(iv) Ferranti effect will not occur in which of the following transmission lines: a. long transmission lines b. short transmission lines c. medium transmission lines d. all of the above.

(v) Corona creates- a. Power loss b. sound c. violet glow d. All

PART– B

(Short Answer Type Question)

Answer any three questions (out of 4 questions) 3 X 5= 15

2. (i) What is Critical disruptive voltage and Visual critical voltage.?
(ii)What is property of an Insulator? Explain difference between Pin type and Suspension type insulator?
(iii) What is Inductive value for Single phase two wire line?
(iv) What is sag? Explain the sag value for the supports are at unequal levels.

PART– C

(Long Answer Type Question)

Answer any two questions (out of 3 questions) 2 X 10= 20

3. (i) The tower of height of 30m and 90m respectively supports a transmission line conductor at water crossing. The horizontal distance between the towers is 500m. If the tension in the conductor is 600 kg find the minimum clearance of the conductor and water and clearance mid way between the supports. Weight of the conductor is 1.5kg/m. Base of the towers can be considered to be at water level.

(ii) Explain unsymmetrical condition for transmission line with its capacitive and inductive effects.

(iii) 15000 kva is receiving at 33 kv at 0.85 power factor lagging over an 8km three phase over head line. Each line has =0.29 Ω per km, and X= 0.65Ω per km. Calculate the voltage at sending end, the power factor at sending end, the regulation.