

Enroll No

K.E.Society's
Rajarambapu Institute of Technology, Rajaramnagar
 (An Empowered Autonomous Institute, affiliated to SUK)

Q.P. Code
UT2969

Unit Test -I (2025-26)

S.Y. B.Tech.-Electrical Engineering

Course Code:EE213; Course Name: Power Transmission & Distribution System

Day & Date: Tuesday 12/08/2025

Time: 11:45 To 12:45

Max Marks- 25

Instructions: 1) All questions are compulsory.

2) Figures in rounded () brackets within the question, indicate the scheme of marking for respective part of the question, whereas, figures in the first right column indicate total marks for that whole question.

3) CO is the index number of the Course Outcome statement.

4) The Bloom's taxonomy level (BL) for 1,2,3,4,5 and 6 is remember, understand, apply, analyze, evaluate and create respectively.

5) Assume suitable data if necessary.

6) Use of non-programmable calculators is allowed

			Marks	BT Level	COs
Q.1	A	Explain any four types of tariffs (4) and list down objectives (2) of tariff	06	4, 1	1
Q.1	B	A generating station has a maximum demand of 25MW, a load factor of 60%, a plant capacity factor of 50% and a plant use factor of 72%. Calculate (i) the reserve capacity of the plant (ii) the daily energy produced and (iii) maximum energy that could be produced daily if the plant running as per schedule.	06	4	1

OR

Q.1	B	A factory has a maximum load of 240 kW at 0.8 p.f. lagging with an annual consumption of 50,000 units. The tariff is Rs 50 per kVA of maximum demand plus 10 paise per unit. Calculate the flat rate of energy consumption. What will be annual saving if p. f. is raised to unity	06	4	1
Q.2	A	List properties of conductor materials (2) used for overhead line and explain any two conductor materials (4) with advantages and disadvantage.	06	4,1	3



- Q.2 B A 3-phase transmission line is being supported by three-disc insulators. The potentials across top unit (i.e., near to the tower) and middle unit are 8 kV and 11 kV respectively. Calculate (i) the ratio of capacitance between pin and earth to the self-capacitance of each unit (ii) the line voltage and (iii) string efficiency 07 4 2

OR

- Q.2 B A 3-phase, 220 kV (rms), 50 Hz transmission line consists of 1.5 cm radius conductor spaced 2 meters apart in equilateral triangular formation. If the temperature is 40°C and atmospheric pressure is 76 cm, calculate the corona loss per km of the line. Take $m_0 = 0.85$, $g_0 = 21.2$ kV/cm (rms). 07 4 2

