



B.Tech VI Semester Supplementary Examinations, December 2024

POWER SYSTEMS-II
(EEE)

Maximum Marks: 70

Date: 10.01.2025

Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20) Marks)		CO	Bloom Tx
1	What are bundled conductors?	1	L1
2	ACSR conductor having 7 steel strands surrounded by 25 aluminum conductor will be specified as?	1	L1
3	What is the GMD & GMR?	2	L1
4	What is GMR write the relationship with radius?	2	L1
5	What surge impedance?	3	L1
6	Define visual critical voltage.	3	L1
7	Give applications of sag template.	4	L1
8	Write the methods to reducing the corona effect?	4	L1
9	What are Commonly used conductor materials used in overhead lines?	5	L1
10	What are the factors affecting the corona?	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Derive the expression for inductance of a three-phase double circuit line. [10M]	1	L2
OR			
12	Derive the expression for the capacitance of a conductor in a double line circuit equal spaced three phase system? [10M]	1	L2
13	Analyze a medium transmission line with nominal π method. [10M]	2	L2
OR			
14	Explain and derive expression for surge impedance and surge impedance loading? [10M]	2	L2
15	Derive the expressions for regulation and efficiency of a short transmission line. Draw required circuit and phasor diagram. [10M]	3	L2
OR			
16	Derive the expressions for regulation and efficiency of long transmission line using rigorous method. [10M]	3	L2

17	Explain the reflection and refraction coefficient for long transmission line in T-type open circuited line. [10M]	4	L2
	OR		
18	Explain the factors effecting the Corona in long transmission line. [10M]	4	L2
19	With neat sketch explain about suspension type and strain type insulators. [10M]	5	L2
	OR		
20	Derive the sag expression for a transmission line at equal level supports. [10M]	5	L2