

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch :B.E/EEE	Year / Semester :III/V	Format No.	NAC/TLP-07a.13
Subject Code :EE8501	Subject Name :Power System Analysis	Rev. No.	02
Unit No :I	Unit Name :Power System	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1	Which one of the following statements is not correct for the use of bundled conductors in transmission line? a)control of voltage gradient b)reduction in corona loss c)reduction in radio interference d)Increase in interference with communication lines	L1
2.	The transmission line feeding power on either side of the main transmission line is called a)secondary distribution b)secondary transmission c)primary transmission d)primary distribution	L1
3.	Which of the following is correct operating voltage range for short transmission lines. a)Less than 456 KV b)Less than 132 KV c)Less than 20 KV d)Less than 100 KV	L2
4.	What is the per unit impedance Z(Pu) in a three phase system? a) $(Z * (MVA)B) / (KV)^2$ b) $(1000 * (KV)B) / \sqrt{3} IB$ c) $(Z * (KV)^2) / (MVA)B$ d)None of these	L2
5.	What is the formula to calculate the (kV)B on the HT section? a)(kV)B on HT section * (HT voltage rating) / (LT voltage rating) b)(kV)B on LT section * (HT voltage rating) / (LT voltage rating) c)(kV)B on HT section * (LT voltage rating) / (HT voltage rating) d)(kV)B on LT section * (LT voltage rating) / (HT voltage rating)	L2
6.	Which among these is the major advantage of per unit computations? a) Per unit impedance of transformers is the same referred to either side of it. b)For simulating steady state and transient models in the computer this method is very useful. c)Manufacturers usually specify the impedance of an apparatus in per unit system. d)All of these	L1
7.	What is the per unit system (PU)? a)A ratio of actual value in any units to the base or reference value in the same units b)A ratio of the base or reference value in any units to the actual value in the same units. c)Ratio of the square of the actual value in any units to the square of base or the d)reference value in the same unit	L2

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch :B.E/EEE	Year / Semester :III/V	Format No.	NAC/TLP-07a.13
Subject Code :EE8501	Subject Name :Power System Analysis	Rev. No.	02
Unit No :I	Unit Name :Power System	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

8.	The base value of a power system is chosen based upon a)The rating of one machine in the system b)The largest machine in the system C)some average (rounded) values such that the pu machine ratings are not too large or too small. d)none of these	L2
9.	The value of off diagonal elements is a)which is connected between bus i and bus j with negative sign b)which is connected between bus i and bus j with positive sign c)sum of admittances connected at bus i d)sum of admittances connected at bus j	L2
10.	Find the number of strands of ACSR conductor for 4 layer transmission line? a)1 b)7 c)37 d)29	L3
11.	For n bus power system size of Y bus matrix is a)(n-1)×(n-1) b)(n-2)×(n-2) c)n×n d)(n-1)×(n-2)	L2
12.	Normally Z bus matrix is a a)null matrix b)sparse matrix c)full matrix d)unit matrix	L1
13.	What is the simplified diagram called, after omitting all resistances, static loads, capacitance of the transmission lines and magnetising circuit of the transformer? a)Single line diagram b)Resistance diagram c)Reactance diagram d)None of these	L1
14.	What is the per unit impedance Z(Pu) in a three phase system? a)(Z * (MVA)B) / (KV)2 b)(1000 * (KV)B) / √3 IB c)(Z * (KV)2) / (MVA)B d)None of these	L2

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch :B.E/EEE	Year / Semester :III/V	Format No.	NAC/TLP-07a.13
Subject Code :EE8501	Subject Name :Power System Analysis	Rev. No.	02
Unit No :I	Unit Name :Power System	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

15.	<p>A 75 MVA, 10 KV synchronous generator has $X_d=0.4$ p.u. The value in p.u to a base of 100MVA, 11 KV is -----</p> <p>a)0.44077 p.u b)0.44278 p.u c)0.22054 p.u d)0.22677 p.u</p>	L3
16.	<p>For given base voltage & Base V-A the per unit impedance of an element is x, What will be the per unit impedance value of this element when the voltage and volt-Amp are doubled?</p> <p>a)X/4 b)X/6 c)X/2 d)None of these</p>	L2
17.	<p>Advantage/s of per unit system as compare to absolute system?</p> <p>a)only one equation is required b)calculation time is less c)memory required is less d)all of the above</p>	L1
18.	<p>A transmission line has $(2 + j4)\Omega$ impedance, 100 MVA and base voltage is 10 KV. Find the per unit impedance value of transmission line?</p> <p>a)(2 + j4) pu b)(1 + j2) pu c)(4 + j8) pu d)(0.5 + j1) pu</p>	L3
19.	<div style="text-align: center;"> </div> <p>The diagonal elements of Y bus matrix are $Y_{11}=-j12$p.u, $Y_{12}=-j15$p.u, $Y_{33}=-j7$</p> <p>a)p=-0.2,q=-0.1,r=-0.5 b)p=0.2,q=0.1,r=0.5 c)p=-5,q=-10,r=-2 d)p=5,q=10,r=2</p>	L4

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch :B.E/EEE	Year / Semester :III/V	Format No.	NAC/TLP-07a.13
Subject Code :EE8501	Subject Name :Power System Analysis	Rev. No.	02
Unit No :I	Unit Name :Power System	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

20.	<p>A 3-bus power system network consists of 3 transmission lines. The bus admittance matrix of the uncompensated system is</p> $\begin{bmatrix} -j6 & j3 & j4 \\ j3 & -j7 & j5 \\ -j4 & j & -j8 \end{bmatrix} \text{ pu.}$ <p>If the shunt capacitance of all transmission line is 50% compensated, the imaginary part of the 3rd row 3rd column element (in pu) of the bus admittance matrix after compensation is</p> <p>a)– j 7.0 b)– j 8.5 c)– j 7.5 d)– j 9.0</p>	L4
21.	<p>Single line diagram does not represents:</p> <p>a) Star connection of transformer winding b) Delta connection of transformer winding c) Neutral wire of transmission lines d) Ratings of machines</p>	L2
22.	<p>Charging current in medium transmission line is _____</p> <p>a) Maximum at receiving end b) Maximum at sending end c) More in between sending and receiving end d) Equal throughout the line</p>	L2
23.	<p>Medium transmission line operates below voltage level of 20 KV.</p> <p>a) True b) False</p>	L1
24.	<p>With respect to Graph theory in Power System Analysis for n number of nodes the rank of graph is:</p> <p>a)n+2 b)n c)n-1 d)none of these</p>	L2
25.	<p>What is the unit of transmission loss coefficient?</p> <p>a)MW b)(MW)-1 c)Unit less d)(MW)2</p>	L1

NADAR SARASWATHI COLLEGE OF ENGINEERING AND TECHNOLOGY, THENI.

Course/Branch :B.E/EEE	Year / Semester :III/V	Format No.	NAC/TLP-07a.13
Subject Code :EE8501	Subject Name :Power System Analysis	Rev. No.	02
Unit No :I	Unit Name :Power System	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

26.	<p>A single phase distributor of 1 km long has resistance and reactance per conductor of 0.1Ω and 0.15Ω respectively. If the far end voltage $V_b=200V$ and current is at 100A at 0.8 lag. At the midpoint a current of 100A is tapped at a pf of 0.6 pf with ref to voltage V_m at mid point. The voltage magnitude at M is _____</p> <p>a) 218V b) 200V c) 232V d) 220V</p>	L4
27.	<p>A 275 kV TL has following line constants $A=0.85\angle 5^\circ$, $B=200\angle 75^\circ$. The active power received if the voltage to be maintained is 275kV will be _____</p> <p>a) 117.63 b) 220 c) 120 d) 115.25</p>	L3
28.	<p>A power system has a maximum load of 15 MW. Annual load factor is 50%. The reserve capacity of plant is _____ if the plant capacity factor is 40%.</p> <p>a) 3.75 MW b) 4.75 MW c) 18.75 MW d) 5.75 MW</p>	L3
29.	<p>How can we improve the steady state stability of the synchronous generator for a better performance?</p> <p>a) Increasing the excitation b) Increasing reactance c) Decreasing moment of inertia d) Increasing moment of inertia</p>	L2
30.	<p>For a given power system, its zero and maximum regulation will occur at the impedance angle of</p> <p>a) 45 b) 90 c) 0 d) 60</p>	L2