

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 :IV	Unit Name :Unsymmetrical Fault Analysis	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1	What percentage of fault occurring in the power system is line to line fault? a. 5 % b. 30 % c. 25 % d. 15 %	L2
2.	What is the value of zero sequence impedance in line to line faults? a. $Z_0 = 1$ b. $Z_0 = \infty$ c. $Z_0 = 3 Z_n$ d. $Z_0 = 0$	L2
3.	What is the expression for fault current in line to line fault? a. $I_f = \sqrt{3} * (E_a / Z_1 + Z_2)$ b. $I_f = 3 * (E_a / Z_1 + Z_2)$ c. $I_f = \sqrt{3} * (E_a / Z_1 + Z_2 + Z_0)$ d. $I_f = 3 * (E_a / Z_1 + Z_2 + Z_0)$	L3
4.	What will be the sum of $(I_B + I_Y)$ in case of line to line fault, if the fault is occurring in the B and Y lines? a. ∞ b. 0 c. 1 d. IR	L2
5.	What happens to the value of the fault current in case of SLG fault, if fault impedance is introduced? a. The fault current increase b. The fault current remains same as in case of SLG fault. c. The fault current becomes zero d. The fault current is reduced	L1
6.	What happens if the neutral is not grounded in case of the single line to ground fault? a. Only the zero sequence impedance will be zero b. The zero sequence impedance will be infinite c. Fault current will be zero d. Both (b) and (c)	L1
7.	What is the value of fault current I_f , in case of SLG fault? a. $3 * (E_a / Z_1 + Z_2 + Z_0)$ b. $2 * (E_a / Z_1 + Z_0)$ c. $3 * (E_a / Z_1 + Z_2)$ d. $2 * (E_a / Z_1 + Z_2 + Z_0)$	L2

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8.	What are the terminal conditions in case of SLG fault, if the fault occurs in the phase A? a. $V_b = 0, I_a = 0, I_c = 0$ b. $V_a = 0, I_b = 0, I_c = 0$ c. $V_a = 0, I_a = 0, I_c = 0$ d. $V_b = 0, I_a = 0, I_b = 0$	L3
9.	What are cross country faults? a. A fault occurring at any point of the power system b. Two or more faults occurring simultaneously on the power system c. Line to line fault d. All of these	L2
10.	What percentage of faults occurring is single line to ground fault? a. 50 % b. 60 % c. 35 % d. 70 %	L2
11.	What are the types of unsymmetrical faults? a. Single line to ground fault b. Double line to ground fault c. Line to line fault d. All of these	L1
12.	A transmission line has self and mutual impedances of 0.8 pu and 0.2 pu. Find the positive, negative and zero sequence impedances respectively? a. 0.6, 0.8 and 1.2 pu b. 0.6, 0.6 and 1.2 pu c. 0.8, 0.8 and 1.2 pu d. 0.8, 0.6 and 1.2 pu	L4
13.	For symmetrical network, the neutral current is a. zero b. infinity c. maximum d. any of the above	L1
14.	When reactance grounding is used in network, the voltage between neutral and ground is a. $I_N \times X_n$ b. $I_{R0} \times X_n$ c. $3 \times I_{R0} \times X_n$ d. both 1 and 3	L2

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15.	The value of inductance used for compensation of arcing grounds is a. $3\omega^2C$ b. $1/3\omega^2C$ c. $3/\omega^2C$ d. $\omega^2C/3$	L2
16.	Earth fault relay uses the which of the following sequence currents? a. positive sequence b. negative sequence c. zero sequence d. any of the above	L1
17.	Ferranti effect is more prominent due to _____ a. line capacitance b. surge capacitance c. stray capacitance d. all of the mentioned	L1
18.	The receiving end voltage at the no load will be _____ a. $V_s(1+ \omega^2CLI^2)$ b. $(1+ \omega^2CLI^2)$ c. $V_s/(1+ \omega^2CLI^2)$ d. V_s	L3
19.	The most frequently occurring fault in the power system is a. LG b. LL c. LLG d. 3 phase fault	L1
20.	In which type of fault ,all the 3 components I_{a0}, I_{a1}, I_{a2} are equal a. LG b. LLG c. LL d. none of these	L1
21.	Which of the following network gets affected by the method of neutral grounding a. positive sequence b. negative sequence c. zero sequence d. none of these	L1
22.	For a single line to ground fault the zero sequence current is given by $j0.3p.u.$. The current carried by the neutral during the fault is a. $j1.0pu$ b. $j3.0pu$ c. $j9.0pu$ d. $j6.0pu$	L2

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23.	For a given power system, its zero and maximum regulation will occur at the impedance angle of a) 45 b) 90 c) 0 d) 60	L3
24.	The maximum power delivered to the load for short transmission line is at a) $\beta = \alpha$ b) $\beta > \alpha$ c) $\beta = \delta$ d) $\beta > \delta$	L2
25.	When a fault occurs in a power system the zero sequence component of current becomes zero. the type of fault is a.3 phase to ground fault b.double line fault c.double line to ground fault d.single line to ground fault	L1

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