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 :II	**Unit Name** :**Power Flow Analysis**	Date	30.09.2020

OBJECTIVE TYPE QUESTION BANK

S. No.	Objective Questions (MCQ /True or False / Fill up with Choices)	BTL
1	The state variables in load flow studies are a)P and Q b)P and IVI c)P and δ **d)IVI and δ**	L2
2.	On slack bus _____ and _____ are specified a)Voltage Magnitude, Real power **b)Voltage Magnitude, Phase angle** c)Active, Reactive power d)Active power, phase angle	L1
3.	Which among the following buses constitute the maximum number in a power system? a)Slack bus b)PV bus **c)PQ bus** d)None of these	L1
4.	What percentage of buses in the power system are generator buses? a)5% b)25% c)70% **d)10%**	L2
5.	Why are load flow studies carried out? a)To study of stability of the system b)For fault calculations **c)For planning the power system** d)All pf these	L2
6.	What is infinite bus in power system? a)A large system with infinite voltage b)A large system in which the voltage and frequency varies **c) A large system whose voltage and frequency remains constant throughout.** d)None of these	L2
7.	Advantages of gauss siedel method is/are **a)calculation time for each iteration is less** b)number of iterations are less c)applicable for large power system network d)all of the above	L1

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8.	Which of the following matrix is used for load flow studies? a)Z bus matrix **b)Y bus matrix** c)Unit matrix d)Null matrix	L2
9.	Gauss Seidal method is also termed as a method of _____ **a)Successive displacement** b)Eliminations c)False positions d)Iterations	L1
10.	The Gauss-Seidel method is applicable to strictly diagonally dominant or symmetric_____ definite matrices. a)Negative **b)Positive** c)Zero d)None of these	L1
11.	In a load flow study a PV bus is treated as a PQ bus when a)Voltage limit is violated b)Active power limit is violated c)Phase angle is high **d)Reactive power limit is violated**	L2
12.	The main advantage of the Decoupled Load Flow (DLF) as compared to the NR method is a)number of iterations are less b)accuracy is more **c)reduced memory requirements in storing the Jacobian elements** d)none of these	L1
13.	Which of the following method is/are more reliable? a)Gauss-Siedel (GS) method b)Newton Raphson (NR) method **c)Fast Decoupled Load Flow (FDLF) method** d)All of these	L2
14.	In the following network, the voltage magnitudes at all buses are equal to 11 p.u., the voltage phase angles are very small, and the line resistance are negligible. All the line reactances are equal to j1Ω.	L4

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	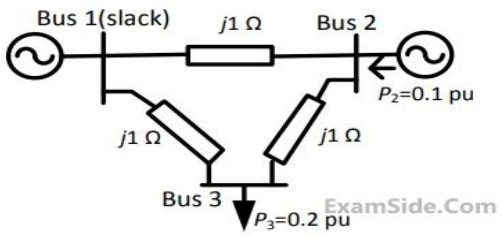 The voltage phase angles in rad at buses 2 and 3 are a)Theta2=-0.1, theta3=-0.2 **b)theta2=0,theta3=-0.1** c)theta2=-0.1,theta3=0.1 d)theta2=0.1,theta3=0.2	
15.	Initially what will be the voltage at all the PQ buses for solving the load flow problem using NR method? a)Vi = 1 ∠ 90° **b)Vi = 1 ∠ 0°** c)Vi = 1 ∠ 180° d)Vi = 1 ∠ 45°	L3
16.	What is the size of the sub matrix "H "of the jacobian, if n1 is the number of PV buses and n2 the number of PQ buses? **a)(n1 + n2)^2** b)n1 * n2 c)(n1 + n2) n1 d)(n1 + n2) n^2	L1
17.	Which among the following matrix is sparse? a)Jacobian matrix only b)Y bus matrix only c)Z bus matrix only **d)Both (a) and (b)**	L1
18.	What is the main drawback in NR method? a)Slow to converge **b)A large memory allocation is required to store the jacobian matrix** c)The number of iterations is more d)All of these	L2

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19.	Which types of equations are solved using Newton Raphson method? **a)Non linear differential equations** b)Linear differential equations c)Non linear algebraic equations d)Both (a) and (b)	L2
20.	A power system has 100 buses including 10 generator buses. For the load flow analysis using Newton-Raphson method in polar coordinates, the size of the Jacobian is **a)189*189** b)100*100 c)90*90 d)180*180	L3
21.	Consider two buses connected by an impedance of (0+j5) Ω. The bus 1 voltage is 100∠30°100∠30°V, and bus 2 voltage is 100∠ 0o100∠0°100∠0°V.The real and reactive power supplied by bus 1, respectively, are **a)1000W, 268VAr** b)–1000W, –134Var c)276.9W, –56.7Var d)–276.9W, 56.7Var	L3
22.	The Iterative formula for Newton Raphson method is given by _____ **a) x1 = x0-f(x0)/f'(x0)** b) x0 = x1-f(x0)/f'(x0) c) x0 = x1+f(x0)/f'(x0) d) x1 = x0+f(x0)/f'(x0)	L2
23.	In Newton Raphson method if the curve f f(x) is constant then _____ a) f''(x)=0 b) f(x)=0 **c) f'(x)=0** d) f'(x)=c	L1
24.	At which point the iterations in the Newton Raphson method are stopped? a) When the consecutive iterative values of x are not equal b) When the consecutive iterative values of x differ by 2 decimal places c) When the consecutive iterative values of x differ by 3 decimal places d) **When the consecutive iterative values of x are equal**	L2
25.	The Newton Raphson method fails if _____ **a) $f'(x_0)=0$** b) $f''(x_0)=0$ c) $f(x_0)=0$ d) $f'''(x_0)=0$	L3

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26.	The problems which deal with the analysis of electronic circuits consisting of invariant elements depend on _____ **a) The solution of simultaneous algebraic equations** b) Solution of transcendental equations c) Interpolation problems d) Finite difference method	L1
27.	Which of the methods is direct method for solving simultaneous algebraic equations? a) Jacobi's method b) Relaxation method **c) Cramer's rule** d) Gauss seidel method	L2
28.	Direct methods are preferred over iterative methods as they provide solution faster. a) True **b) False**	L1
29.	The Newton Raphson method is also called as _____ **a) Tangent method** b) Secant method c) Chord method d) Diameter method	L1
30.	A generator has a rating of 10MVA, 5KV has a reactance of 0.02p.u .Find the reactance at a new base values of 50MVA,10KV a)0.02 **b)0.025** c)0.05 d)0.25	L2