

Program: BE --Electrical-- Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VII

Course Code: \_\_\_EEC701\_\_\_ and Course Name: \_\_\_Power System Operation and Control (PSOC)\_\_\_

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q1.	Which among the following formula is used for addition of an admittance element into the bus
Option A:	$Y_{ii \text{ new}} = Y_{ii \text{ old}} - y$
Option B:	$Y_{ii \text{ new}} = Y_{ii \text{ old}} - Y_{ij \text{ old}}$
Option C:	$Y_{ii \text{ new}} = Y_{ii \text{ old}} + Y_{ij \text{ old}}$
Option D:	$Y_{ii \text{ new}} = Y_{ii \text{ old}} + y$
Q2.	The bus current in matrix form is given by
Option A:	$I_{BUS} = Y_{BUS} / V_{BUS}$
Option B:	$I_{BUS} = Y_{BUS} V_{BUS}$
Option C:	$I_{BUS} = Z_{BUS} V_{BUS}$
Option D:	$I_{BUS} = Z_{BUS} / V_{BUS}$
Q3.	Which among the following quantities are specified at the load bus?
Option A:	P and  V
Option B:	P and $\delta$
Option C:	Q and  V
Option D:	P and Q
Q4.	Which of the following matrix is used for load flow studies?
Option A:	sparse matrix
Option B:	Y bus matrix
Option C:	Unit matrix
Option D:	Z bus matrix
Q5.	In load flow study total number of quantities existing at each bus are
Option A:	1
Option B:	2
Option C:	3
Option D:	4
Q6.	In which of the following power plant the maintenance cost is usually low
Option A:	Diesel engine plant

Option B:	Nuclear power plant
Option C:	Gas Turbine power plant
Option D:	Pumped storage plant
Q7.	Which of the following least affect the cost of electricity produced in thermal power plant
Option A:	Cost of fuel
Option B:	cost of transportation
Option C:	the load factor
Option D:	Salaries of officials
Q8.	Size and cost of installation of power plant depends on
Option A:	Average load
Option B:	Maximum demand
Option C:	Square mean load
Option D:	Square of peak load
Q9.	Incremental cost is
Option A:	Cost of producing 100 MW power of that unit
Option B:	Cost of producing 1 MW power of that unit
Option C:	Cost of producing 12 MW power of that unit
Option D:	Cost of producing 10kW power of that unit
Q10.	The transfer function of reheat type of steam turbine is of
Option A:	first order
Option B:	second order
Option C:	third order
Option D:	Constant
Q11.	Two synchronous generators are connected, loss of synchronism will result in
Option A:	stalling of generators
Option B:	fluctuations in current
Option C:	fluctuations in current & voltage
Option D:	no effect on both generators performance
Q12.	Permissible change in frequency is Plus or Minus
Option A:	0.5 Hz
Option B:	1 Hz
Option C:	5 Hz
Option D:	10 Hz
Q13.	Turbine time constant lies in the range of
Option A:	0 to 1
Option B:	1 to 1.5
Option C:	2 to 2.5
Option D:	3 to 3.5

Q14.	If system is subjected to small disturbances, the rotor angle____
Option A:	Change with small magnitude
Option B:	Change with large magnitude
Option C:	Does not change
Option D:	become zero
Q15.	The inertia constant of the two machines which are swinging together, are M1 and M2. The equivalent inertia constant of the system is
Option A:	$M1-M2$
Option B:	$M1+M2$
Option C:	$M1M2/(M1+M2)$
Option D:	$M1M2/(M1-M2)$
Q16.	The Critical Clearance time of a fault in the power system is related to
Option A:	Reactive power limit
Option B:	Short Circuit limit
Option C:	Steady state stability limit
Option D:	Transient stability limit
Q17.	For stable operation, the value of $\delta$ normally lies between
Option A:	0 to 30°
Option B:	0 to 90°
Option C:	0 to 60°
Option D:	0 to 180°
Q18.	If the inertia constant $H= 8 \text{ MJ/MVA}$ , for a 50MVA generator, then the stored Kinetic energy is
Option A:	8MJ
Option B:	50MJ
Option C:	400MJ
Option D:	200MJ
Q19.	What is the main reason for maintaining consumer end voltage within prescribed limit?
Option A:	Because it is declared by the supplier
Option B:	For satisfactory operation of electrical equipments
Option C:	For easy calculation of units supplied
Option D:	To increasing the line losses
Q20.	A lossless radial transmission line with surge impedance loading
Option A:	Takes negative VAR at sending end and zero VAR at receiving end
Option B:	Takes positive VAR at sending end and zero VAR at receiving end
Option C:	Has flat voltage profile and unity power factor at all points along it
Option D:	Has sending end voltage higher than receiving end voltage and unity power factor at

Q21.	PLCC means
Option A:	power line carrier communication
Option B:	power length carrier communication
Option C:	power level carrier communication
Option D:	power line carrier current
Q22.	What is unit of speed regulation of plant?
Option A:	Hz/ MW
Option B:	MW/ Hz
Option C:	Hz
Option D:	MW
Q23.	Which among the following plants have the least operating cost?
Option A:	Hydro plants
Option B:	steam power plant
Option C:	Nuclear plants
Option D:	Diesel plants
Q24.	To meet the reactive power requirements at load centers usually
Option A:	series capacitors are used
Option B:	shunt capacitors are used
Option C:	tap changing transformers are used
Option D:	shunt reactors are used
Q25.	The transfer function of non reheat type of steam turbine is of
Option A:	first order
Option B:	second order
Option C:	third order
Option D:	Fifth order

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<b>Question</b>	<b>Correct Option (Enter either 'A' or 'B' or 'C' or 'D')</b>
Q1.	D
Q2.	B
Q3.	D
Q4	B
Q5	D
Q6	B
Q7	D
Q8.	B
Q9.	B
Q10.	B
Q11.	A
Q12.	A
Q13.	C
Q14.	A
Q15.	B
Q16.	D

Q17.	A
Q18.	C
Q19.	B
Q20.	C
Q21.	A
Q22.	A
Q23.	A
Q24.	B
Q25.	A