

Program: BE Electrical Engineering

Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII

Course Code: EEDLO7034 and Course Name: Power Quality

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 is the least accurate method to measure Flickering in power system?
Option A:	Fast Fourier transform method
Option B:	RMS strip chart method
Option C:	Meter with filters
Option D:	IEC flicker meter
Q2.	Fuel Cell is an electrochemical device that is used to convert _____ into electrical energy.
Option A:	mechanical energy
Option B:	potential energy
Option C:	kinetic energy
Option D:	chemical energy
Q3.	Which filters can generate parallel and series resonance?
Option A:	Passive filter
Option B:	Active filter
Option C:	Both Passive and active filters
Option D:	Neither Passive and nor active filters
Q4.	A wound coil that has an inductance of 180mH and a resistance of 35ohm is connected to a 100Vrms, 50Hz supply. Calculate the Apparent power consumed by the coil.
Option A:	127.5VA
Option B:	79VA
Option C:	150VA
Option D:	50VA
Q5.	Total demand distortion
Option A:	Refers THD to the fundamental of the present sample
Option B:	Refers THD to the fundamental of the peak demand load current
Option C:	is the ratio of the Actual Fundamental to RMS harmonic content
Option D:	Is the ratio of the fundamental to the average harmonic content

Q6.	Power factor is
Option A:	the ratio of the active power with reactive power
Option B:	leading If load is capacitive
Option C:	improved by connecting an inductor in parallel with the load
Option D:	the ratio of the reactive power with apparent power
Q7.	_____ is defined as the maximum deviation from the average of the three-phase voltages divided by the average of the three-phase voltages.
Option A:	Voltage imbalance
Option B:	Under Voltage
Option C:	Over Voltage
Option D:	Voltage interruptions
Q8.	A circuit having poor power factor will draw
Option A:	No current
Option B:	Normal current
Option C:	High Current
Option D:	Low Current
Q9.	Guidelines for characterizing different power quality phenomena is related to which working group?
Option A:	IEEE 1159.4
Option B:	IEEE 1159.3
Option C:	IEEE 1159.1
Option D:	IEEE 1159.2
Q10.	THD increases
Option A:	with increase in distortion
Option B:	with decrease in distortion
Option C:	linearly with distortion
Option D:	Does not depend on distortion
Q11.	When the supply voltage becomes zero for a period of time in excess of 1 min, the long-duration voltage variation is considered a
Option A:	Voltage imbalance
Option B:	Inter harmonics
Option C:	Over Voltage
Option D:	Sustained Interruption
Q12.	A periodic voltage disturbance caused by the normal operation of power electronic devices when current is commutated from one phase to another is known as_____.
Option A:	power frequency variation
Option B:	commutation
Option C:	Notching
Option D:	DC offset

Q13.	A wound coil that has an inductance of 180mH and a resistance of 35ohm is connected to a 100Vrms, 50Hz supply. Calculate the Reactive power consumed by the coil.
Option A:	127.5VAR
Option B:	79VAR
Option C:	150VAR
Option D:	50VAR
Q14.	The third harmonic currents are known as _____ type
Option A:	Zero sequence
Option B:	Positive sequence
Option C:	Negative sequence
Option D:	Combination of positive and negative sequence
Q15.	Which of the following IEEE Standard is addressing requirements for inverters used in photovoltaic systems interconnection?
Option A:	929-1999
Option B:	929-2020
Option C:	929-2000
Option D:	929-2200
Q16.	Which of the following statement is not correct?
Option A:	Series Active compensators inserts voltages so as to control the load voltages
Option B:	Shunt Active filters injects currents in the ac system such that the source current become balanced
Option C:	Shunt active filters injects harmonic current demanded by the load
Option D:	Shunt active filters are responsible for mitigating the supply side voltage disturbances
Q17.	Which of the following heating effect in transformer is because of the harmonic content in load currents
Option A:	Zero sequence fluxes in the core
Option B:	Increased Core loss
Option C:	DC offset in the current
Option D:	Conducting element Near the core
Q18.	Maximum value of the power factor in a circuit with nonlinear load and sinusoidal supply is
Option A:	Displacement Factor
Option B:	Distortion Factor
Option C:	unity
Option D:	infinity
Q19.	The presence of a dc voltage in an ac power system is known as_____.
Option A:	Inter harmonics

Option B:	Voltage distortion
Option C:	Voltage imbalance
Option D:	DC offset
Q20.	A distributed generation technology which occupies a relatively small footprint, very quiet, and has virtually no harmful emissions during operation
Option A:	Reciprocating engine genset
Option B:	Gas Turbine
Option C:	Fuel Cell
Option D:	Thermal Power
Q21.	Calculate THD of the signal for the following data: Magnitude at fundamental=120, Magnitude at 2nd harmonic=50, Magnitude at 4th harmonic=10, Magnitude at 6th harmonic=8
Option A:	36.7
Option B:	22.6
Option C:	34.08
Option D:	43.01
Q22.	Which of the following statement is correct related to the selection of transducers for power quality monitoring?
Option A:	Signal input should never be less than one-eighth of the full-scale value
Option B:	Voltage transducers should have a low impedance burden
Option C:	The steady-state voltage should be right at the full-scale value
Option D:	Current Transducers are usually rated for minimum continuous load current.
Q23.	Which filter can block multiple or widespread harmonic frequencies?
Option A:	A series passive filter
Option B:	A shunt passive filter
Option C:	A low-pass broadband filter
Option D:	A notch filter
Q24.	Harmonics present in the system will cause interference with neighboring Telephone Lines is measured as
Option A:	Displacement index
Option B:	Telephone interference factor (TIF)
Option C:	C-message index
Option D:	Distortion <i>index</i> (DIN)
Q25.	An 11KV 50Hz, 15kW load has a power factor of 0.6 lag. A shunt capacitor is used to improve the power factor to unity. The value of the capacitance in microfarad is -----
Option A:	4
Option B:	1.316
Option C:	0.5
Option D:	11.844

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

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