Program: BE Electrical Engineering

Curriculum Scheme: Revised 2012

Examination: Final Year Semester VII

Course Code: EEC 703

Course Name: Electrical Machine Design

Time: 1 hour Max. Marks: 50

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Q. 1	Materials exhibiting zero value of resistivity are known as ------
Option A	Conductors
Option B	Semiconductors
Option C	Insulators
Option D	Superconductors
Q. 2	Commercial available medium size machines have a speed range of ------- .
Option A	200 to 400 r.p.m.
Option B	600 to 1000 r.p.m.
Option C	1000 to 1500 r.p.m.
Option D	2000 to 2500 r.p.m.
Q. 3	-------- has a low-relative permeability and is used principally in field frames when cost is of primary importance and extra weight is not objectionable
Option A	Cast steel
Option B	Aluminum
Option C	Soft steel
Option D	Cast iron
Q. 4	In how many ways does heat dissipation occur in transformers?
Option A	2
Option B	3
Option C	4
Option D	5
Q. 5	Operating transformers in parallel gives the advantage of
Option A	reliable loading
Option B	increased capacity of power system
Option C	reducing the capacity of substation
Option D	all of the mentioned
Q. 6	The transformer which is more feasible to use in the distribution ends should be
Option A	star-delta
Option B	delta-star
Option C	scott
Option D	delta-delta

Q. 7	If Para magnetic core is used in the place of the ferromagnetic core of the transformer, then magnetostriction will
Option A	be vanished
Option B	reduce
Option C	increase
Option D	not be affected
Q. 8	What is the relation of the increase of the oil circulation rate with energy losses?
Option A	increase of the oil circulation rate is not depending with energy losses
Option B	increase of the oil circulation rate is directly proportional to the energy losses
Option C	increase of the oil circulation rate is directly proportional to the square of energy losses
Option D	increase of the oil circulation rate is indirectly proportional to energy losses
Q. 9	What is the usage of the tanks with tubes?
Option A	if the temperature rise with plain tank is very low
Option B	if the temperature rise with plain tank is very high
Option C	if the temperature rise is zero
Option D	if the temperature rise with plain tank exceeds the specific limit
Q. 10	What is the relation of the provision of tubes with respect to dissipation of heat?
Option A	the provision of tubes is directly proportional to the dissipation of heat
Option B	the provision of tubes is indirectly proportional to the dissipation of heat
Option C	the provision of tubes is directly proportional to square of the dissipation of heat
Option D	the provision of tubes is indirectly proportional to square of the dissipation of heat
Q. 11	What is the relation of the transformer surface with respect to dissipation of heat?
Option A	transformer surface has no relation with respect to dissipation of heat
Option B	transformer surface has minor changes with respect to dissipation of heat
Option C	transformer surface has major changes with respect to dissipation of heat
Option D	transformer surface has no change with respect to dissipation of heat
Q. 12	What type is the stator winding of the single phase induction motor?
Option A	hollow
Option B	cylindrical
Option C	concentric
Option D	rectangular
Q. 13	How much of the total slots are used for the reduction of the mmf wave harmonics?
Option A	0.6
Option B	0.65
Option C	0.7
Option D	0.8
Q. 14	How can the small single phase motor reduce the harmonics still much further?
Option A	removing the winding
Option B	insulating the winding
Option C	grading the winding
Option D	shading the winding

Q. 15	What is the formula for the mean pitch factor?
Option A	mean pitch factor = pitch factor of each coil per pole group + turns in the coil / total number of turns
Option B	mean pitch factor = pitch factor of each coil per pole group / turns in the coil * total number of turns
Option C	mean pitch factor = pitch factor of each coil per pole group * turns in the coil * total number of turns
Option D	mean pitch factor = pitch factor of each coil per pole group * turns in the coil / total number of turns
Q. 16	What is the range of the winding factor for the usual windings distribution?
Option A	0.70-0.80
Option B	0.75-0.85
Option C	0.70-0.85
Option D	0.70-0.75
Q. 17	The slot leakage flux is more in case of……..
Option A	open type of slots
Option B	semi closed slots
Option C	closed slots
Option D	open slots with aluminum conductors
Q. 18	What is the relation of the total slot leakage reactance with number of stator slots?
Option A	slot leakage reactance is indirectly proportional to the number of stator slots
Option B	slot leakage reactance is directly proportional to the number of stator slots
Option C	slot leakage reactance is directly proportional to the square of the number of stator slots
Option D	Slot leakage reactance is indirectly proportional to the square of the number of stator slots
Q. 19	Carter's coefficient, It is a function of ratio of …….. and ……..
Option A	air gap length and slot opening
Option B	slot opening and air gap length
Option C	air gap length and inner diameter of rotor
Option D	slot opening and number of slots
Q. 20	What do you mean by B60?
Option A	value of flux density at 60° from the inter polar axis
Option B	value of flux density at 60° from the direct axis
Option C	value of flux density at 60° from the Quadrature axis
Option D	value of flux density at 60° from the rotor main axis
Q. 21	Dispersion Coefficient is defined as the ratio of ……..
Option A	Ideal short circuit current per phase to magnetizing current per phase
Option B	Magnetizing current per phase to ideal short circuit current per phase.
Option C	No load current per phase to ideal short circuit current per phase.
Option D	No load current per phase to magnetizing current per phase
Q. 22	What is the relation between the overload capacity and magnetizing current?
Option A	overload capacity is directly proportional to the magnetizing current
Option B	overload capacity is indirectly proportional to the magnetizing current
Option C	overload capacity is directly proportional to the square of the magnetizing current
Option D	overload capacity is indirectly proportional to the square of the

	magnetizing current
Q. 23	What would happen if a power transformer designed for operation on 50 Hz (frequency) were connected to a 500 Hz (frequency) source of the same voltage?
Option A	Current will be too much high
Option B	Transformer may start to smoke and burn
Option C	Eddy Current and Hysteresis loss will be excessive
Option D	No effect
Q. 24	The efficiency of a transformer at full load 0.85 PF lag is 90%. Its efficiency at full load 0.85 PF lead is
Option A	less than 90%
Option B	90 %
Option C	More than 90%
Option D	Unpredictable
Q. 25	A transformer is designed to convert the voltage from 240 V a.c mains to 12 V, and has 4000 turns on its primary coil. The turns on its secondary coil should be
Option A	100
Option B	200
Option C	120
Option D	480

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Question	**Correct Option**
Q. 1	D
Q. 2	D
Q. 3	D
Q. 4	B
Q. 5	D
Q. 6	A
Q. 7	A
Q. 8	B
Q. 9	D
Q. 10	B
Q. 11	D
Q. 12	C
Q. 13	C
Q. 14	C
Q. 15	D
Q. 16	B
Q. 17	C
Q. 18	A

Q. 19	B
Q. 20	A
Q. 21	B
Q. 22	A
Q. 23	C
Q. 24	B
Q. 25	B