

Program: BE Electrical Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: EEC602 and Course Name: _ELECTRICAL MACHINES-IV

Time: 1 hour

Max. Marks: 50

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

Q1.	Under no load condition ,power drawn by the prime mover goes to
Option A:	produce induced emf in armature winding
Option B:	meet no load losses
Option C:	produce power in the armature
Option D:	meet cu losses both in armature and rotor
Q2.	Due to short pitching, the induced emf gets
Option A:	Reduced
Option B:	Increased
Option C:	remains same
Option D:	None of these
Q3.	Consider a purely inductive load connected to the alternator having zero lagging power factor. In this case the effect of armature reaction will be
Option A:	Demagnetizing effect
Option B:	Cross magnetizing effect
Option C:	Both (a) or (b)
Option D:	None of above
Q4.	High speed alternator are driven by -----

Option A:	diesel engine
Option B:	hydraulic turbines
Option C:	steam turbines
Option D:	water turbines
Q5.	The speed at which a 4 pole alternator should be driven to generate 50cycles per second
Option A:	1500rpm
Option B:	3000rpm
Option C:	1000rpm
Option D:	750rpm
Q6.	What is the maximum speed of a 50Hz alternator?
Option A:	3000rpm
Option B:	1500rpm
Option C:	750rpm
Option D:	1000rpm
Q7.	When the speed of alternator changed from 3600rpm to 1800rpm the generated emf /phase become---
Option A:	One-fifth
Option B:	One-fourth
Option C:	Twice
Option D:	One-half
Q8.	Load sharing between the alternators connected in parallel can be changed by
Option A:	By changing the mechanical torque imposed on prime mover
Option B:	By changing excitation
Option C:	By changing operating frequency
Option D:	By changing the mechanical torque imposed on prime mover and By changing operating frequency
Q9.	Two alternators sharing a common load and are working in parallel. If excitation of any one alternator changes. Which parameter remains unchanged

Option A:	Induced e.m.f.s of each alternator
Option B:	load power factor
Option C:	Armature currents of each alternator
Option D:	Operating power factors of each alternator
Q10.	For synchronous generator at maximum power input load angle (δ) is equal to
Option A:	90 degree minus impedance angle (θ)
Option B:	120 degree minus impedance angle (θ)
Option C:	180 degree minus impedance angle (θ)
Option D:	360 degree minus impedance angle (θ)
Q11.	Name the method giving the optimistic value of the regulation of an alternator.
Option A:	EMF Method
Option B:	MMF Method
Option C:	ZPF Method
Option D:	New ASA Method
Q12.	In an alternator chording angle for a flux wave is α its value for 7th harmonic is ---
Option A:	5α
Option B:	7α
Option C:	8α
Option D:	2α
Q13.	The internal power factor angle is given for a lagging load of a 3- phase alternator.
Option A:	$\psi = \delta - \theta$
Option B:	$\psi = \delta + \theta$
Option C:	$\psi = -\delta - \theta$
Option D:	$\psi = \delta - \theta$

Q14.	If the internal power factor angle of synchronous motor is 60 degree. Then the direct-axis component of the armature current will be
Option A:	0.5 p.u.
Option B:	0.866 p.u.
Option C:	1.07 p.u.
Option D:	Zero
Q15.	The reluctance offered to the mmf wave is lowest when
Option A:	It is oriented at 90 degree to the field pole axis
Option B:	It is oriented at 45 degree to the field pole axis
Option C:	It is oriented at 60 degree to the field pole axis
Option D:	It is aligned with the field pole axis
Q16.	If the field of a synchronous motor is under excited, the power factor of the machine is
Option A:	Lagging
Option B:	Unity
Option C:	Leading
Option D:	Maybe Lagging Or Leading
Q17.	The current consumed by a synchronous motor is minimum when its power factor is
Option A:	Unity
Option B:	Lagging
Option C:	Leading
Option D:	Zero
Q18.	While starting a synchronous motor by induction motor action, field winding is usually
Option A:	a connect to DC supply
Option B:	short circuited or connected to resistance whose value is about 7 to 10 times the field winding resistance
Option C:	kept open circuited
Option D:	connect AC supply

Q19.	In Synchronous Motor, V curves represent relation between
Option A:	armature current and field current
Option B:	power factor and speed
Option C:	field current and speed
Option D:	field current and power factor
Q20.	Synchronous motor are generally not self-starting because
Option A:	the direction of rotation is not fixed
Option B:	the direction of instantaneous torque reverses after half cycle
Option C:	starter cannot be used on these machines
Option D:	starting winding is not provided on the machines
Q21.	Maximum power developed in a cylindrical synchronous machine depends on
Option A:	excitation
Option B:	synchronous reactance
Option C:	load angle
Option D:	both excitation and synchronous reactance
Q22.	In a synchronous machine, if ϕ is the flux per pole and f is the frequency of the emf induced E then
Option A:	$E \propto \Phi f$
Option B:	$E \propto \Phi/f$
Option C:	$E \propto 1/\Phi f$
Option D:	$E \propto f/\Phi$

Q23.	The phase displacement between d-axis and q-axis is
Option A:	45 degree
Option B:	90 degree
Option C:	30 degree
Option D:	180 degree
Q24.	In BLDC motor field winding is kept on
Option A:	Rotor
Option B:	Stator
Option C:	Can Be Placed Anywhere
Option D:	Absent
Q25.	Which of the following are the types of BLDC motor?
Option A:	Unipolar, Bipolar
Option B:	Unipolar, PWM
Option C:	Bipolar, PWM
Option D:	Synchronous, Induction

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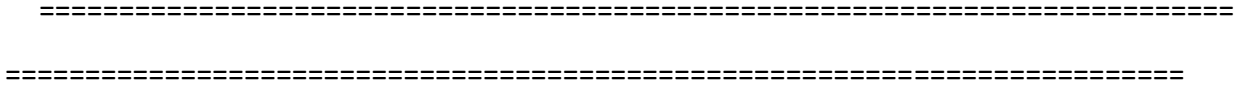
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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	B
Q2.	A
Q3.	A
Q4	C
Q5	A
Q6	A
Q7	D
Q8.	D
Q9.	B
Q10.	C
Q11.	B
Q12.	B
Q13.	B
Q14.	B
Q15.	D

Q16.	A
Q17.	A
Q18.	B
Q19.	A
Q20.	B
Q21.	D
Q22.	A
Q23.	B
Q24.	A
Q25.	A