

Program: BE ELECTRICAL Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: EEDLO6023 and Course Name: ADVANCE POWER ELECTRONICS

Time: 1 hour

Max. Marks: 50

=====

=====

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

Q1.	In a Linear Power Supply the transistor acts in the _____ region
Option A:	Cutoff
Option B:	Saturation
Option C:	Active
Option D:	Depletion Region
Q2.	In a Linear Power Supply the losses in the transistor are higher because
Option A:	Transistor operates in Cutoff region
Option B:	Transistor operates in Saturation region
Option C:	Transistor operates in active region
Option D:	Transistor operates in Depletion region
Q3.	In a switching voltage regulator the switch acts in:
Option A:	Only on state
Option B:	Only off state
Option C:	Either on or off state
Option D:	Active state
Q4.	In an isolated switching voltage regulator isolation is provided by a:
Option A:	Diode
Option B:	MOSFET
Option C:	Transistor
Option D:	transformer
Q5.	In Bi directional core excitation which parts of the of the B H loop are used:
Option A:	Quadrant 1 & 5
Option B:	Quadrant 1 & 4
Option C:	Quadrant 1 & 2
Option D:	Quadrant 1&3
Q6.	At the boundary between continuous and discontinuous conduction modes

	inductor current goes to _____ at the end of the off period
Option A:	Zero
Option B:	1A
Option C:	2A
Option D:	3A
Q7.	In a forward converter the function of the third demagnetizing winding is:
Option A:	transformer magnetic energy is recovered and fed back to the supply
Option B:	Mutual coupling
Option C:	transformer magnetic energy is recovered and fed back to the load
Option D:	It has no added advantage
Q8.	In a buck boost regulator the polarity of the output voltage is _____ with respect to the input
Option A:	Opposite
Option B:	Same
Option C:	Opposite or same
Option D:	It has no polarity
Q9.	Flyback converter is an isolated converter that is based on ____ converter topology.
Option A:	Buck Boost
Option B:	BOOST
Option C:	Buck
Option D:	Buck
Q10.	In a switch mode power supply EMI is produced due to
Option A:	Large di/dt
Option B:	Large dv/dt
Option C:	large di/dt & dv/dt
Option D:	Low load
Q11.	Which resonant converter is preferred at higher switching frequencies?
Option A:	ZVS
Option B:	ZCS
Option C:	Buck
Option D:	Boost
Q12.	In which resonant converter the switch is required to carry a peak current higher than the load current?
Option A:	Zcs
Option B:	Zvs
Option C:	Buck
Option D:	Half bridge rectifier
Q13.	For an inductor with inductance 0.1553mH and peak current of 5.25A energy

	stored in inductor is given by:
Option A:	0.00214 J
Option B:	0.1J
Option C:	0.2J
Option D:	0.3J
Q14.	For an inductor with current $I = 5$ A and current density $J = 3$ A / mm <sup>2</sup> the cross sectional area of wire is given by:
Option A:	1.6666 mm <sup>2</sup>
Option B:	2.6666 mm <sup>2</sup>
Option C:	3.6666 mm <sup>2</sup>
Option D:	4.6666 mm <sup>2</sup>
Q15.	After designing and implementing an inductor in hardware the value of L needs to be adjusted by:
Option A:	Adjusting the air gap
Option B:	Adjusting the winding
Option C:	Changing the winding
Option D:	Changing the core
Q16.	The function of an air gap in core for inductor design is:
Option A:	coil can carry larger current without saturating the core
Option B:	coil can carry smaller current without saturating the core
Option C:	develop a linear model of the power stage & nonlinear model of the output filter
Option D:	develop a nonlinear model of the power stage & nonlinear model of the output filter
Q17.	When we develop state space model for a switching voltage regulator ,we :
Option A:	develop a linear model of the power stage including the output filter
Option B:	coil can carry smaller current without saturating the core
Option C:	develop a linear model of the power stage & nonlinear model of the output filter
Option D:	develop a nonlinear model of the power stage & nonlinear model of the output filter
Q18.	In state space modeling of a converter we have to develop state space model for the linear circuit when
Option A:	The switch of the converter is On
Option B:	The switch of the converter is Off
Option C:	when the switch in the converter is on & when the switch of the converter is off
Option D:	we develop linear model of average circuit
Q19.	In voltage mode control output voltage is compared to a _____ voltage in order to control the PWM duty cycle.

Option A:	Reference
Option B:	High
Option C:	Low
Option D:	Medium
Q20.	Current mode control ensures _____ does not go into saturation.
Option A:	Resistor
Option B:	Capacitor
Option C:	Inductor
Option D:	Diode
Q21.	A multilevel inverter provides _____ output power from _____ voltage sources.
Option A:	High,medium
Option B:	High,low
Option C:	Low,medium
Option D:	Medium,low
Q22.	Solar Power Conditioning unit (SPCU) is an integrated system that provides the facility to charge the battery bank through
Option A:	Photovoltaic panels
Option B:	Grid
Option C:	Diesel generator set
Option D:	Photovoltaic panels, grid
Q23.	Active power filters perform the job of :
Option A:	Current elimination
Option B:	Harmonic elimination
Option C:	Voltage elimination
Option D:	Current and voltage elimination
Q24.	In order to minimize heating losses in a switch which losses must be controlled
Option A:	Switching losses
Option B:	Conduction losses
Option C:	Switching and conduction losses
Option D:	Current losses
Q25.	EMI in power electronic systems can be controlled by using:
Option A:	ZVS
Option B:	ZCS
Option C:	Both ZVS and ZCS
Option D:	Current control

Program: BE ELECTRICAL Engineering

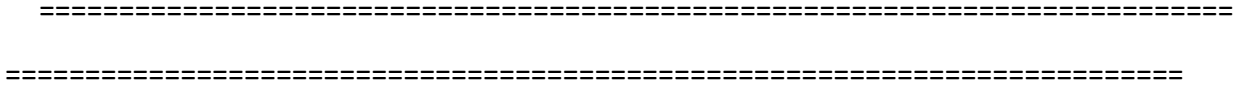
Curriculum Scheme: Revised 2016

Examination: Third Year Semester VI

Course Code: EEDLO6023 and Course Name: Advance Power Electronics

Time: 1 hour

Max. Marks: 50



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

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