Tolani Maritime Institute, Induri
Off campus centre of Birla Institute of Technology & Science, Pilani
Multi Choice Question paper
Program: BTechME / ~~BSNT / MCEC / DNS/OTHERS~~
Form No. **FEX - 2A**
Revn. 0

Signature of Invigilator _____ Division:._____ ID No _____

Session: _2015-16__ Year: _SECOND____ Semester: _FIRST Examination:_Mid-sem-II_____
Course:_Electronics-I_Course Code: METI ZC 213_Durn: 1.15 Hour_Max. Marks: 30 _ Date: 05.11.2015

Instructions:
1. All questions are compulsory. Don't put tick mark on options A, B, C, D given along with questions.
2. Fill the most appropriate option (A, B, C, D) using blue /black pen in the answer table only given on page no. 1.
3. Q1 to Q10 carries 1 mark each. Q11 to Q15 carries 2 marks each. Q16 to Q25 carries 1 mark each.
4. Use blank spaces on any page for rough calculations.

Answer Table: Total Marks obtained: / 30

Sr. No	1	2	3	4	5	6	7	8	9	10		11	12	13	14	15	
ANS																	

Sr. No	16	17	18	19	20	21	22	23	24	25	
ANS											

Sr. No	Question Text	A	B	C	D
1	The PIV of half wave rectifier circuit with a shunt capacitor filter is	3 Vm	Vm	Vm / 2	2 Vm
2	The drawback of Bridge rectifier is	Ripple frequency is double the Supply frequency	PIV is Vm	Requires 4 diodes	Optimum utilization of transformer
3	If by mistake, ac source in a bridge rectifier is connected across the DC terminals it will burn out _____ diodes	four	two	three	one
4	A full wave rectifier fed with 10V AC supply is terminated into capacitor filter. The open circuit voltage on DC voltmeter will be	10V	6.36	9V	14.14V
5	The ripple factor of a power supply is a measure of	purity of power supply	its voltage regulation	diode rating	its filter efifiency
6	The value of filter capacitor required for bridge rectifier operating from 60Hz supply feeding load of 10K Ω - 10M Ω to maintain ripple factor of 0.5 % is:	4.8 micro farad	48 nano farad	48 micro farad	4.8 nano farad

Sr. No	Question Text	A	B	C	D
7	Which stage of dc power supply uses a Zener as athe main component	rectifier	regulator	voltage divider	filter
8	For generating fixed + 12V dc supply, 3 pin regulator IC to be used is _____. This IC will require minimum input DC voltage as _____	7815, 13V	7812, 14V	7912, 14V	7812, 17V
9	A +15V variable dc supply is built using LM 317. If value of fixed resistor is 240Ω, value of potentio meter to be used will be____	1.6 KΩ	2.6 KΩ	3.6 KΩ	4.6 KΩ
10	To build a Quadrupler, minimum number of diode-capacitor sections required are:	Six	Five	Four	Three
11	For zener regulator circuit, supply voltage is 16V, Zener is 10V, current limiting resistor is 1000 Ω and Load is 1K2 Ω. The values of Total Current, Zener current and Load current in mA are :	6,-2.33,8.33	8.33, 0, 8.33	7.27, 0, 7.27	10.33, 2, 8.33
12	A positive clamper is supplied with a square wave input of ± 10V. A battery of 2.5V is added such that battery positive is connected to anode of the diode. Assuming ideal diode output swing will be:	-5V to +15V	0 to +20V	-2.5V to +17.5V	+2.5V to +22.5V
13	A negative clamper is supplied with a square wave input of ± 10V. A battery of 2.5V is added such that battery positive is connected to anode of the diode. Assuming ideal diode output swing will be:	-5V to -25V	o to -20V	-2.5V to -22.5V	+2.5V to -17.5V
14	A positive series clipper is supplied with a sinusoidal wave input of ± 10V. A battery of 2V is added such that battery negative is connected to cathode of the diode. Assuming ideal diode output will be:	0V to -10V; conduction of diode for entire half cycle	starts from -2V upto -12V; conduction of diode more than half cycle	0V to -8V; conduction of diode less than half cycle	none of the above
15	A negative series clipper is supplied with a sinusoidal wave input of ± 10V. A battery of 2V is added such that battery positive is connected to anode of the diode. Assuming ideal diode output will be:	0V to +10V; conduction of diode for entire half cycle	starts from -2V upto +8V; conduction of diode less than half cycle	starts from +2V upto +12V; conduction of diode more than half cycle	none of the above

Sr. No.	Question Text	Choice A	Choice B	Choice C	Choice D
16	UJT pulse generator is used to	charging and discharging of capacitor	Turn-ON and Turn-OFF UJT	change the delay angle of SCR	Cause the commutation of SCR.
17	The commutating components in load commutation method are	Inductor and capacitor.	Inductor, capacitor and auxiliary SCR.	capacitor and auxiliary SCR.	Inductor, capacitor and freewheeling diode.
18	Cycloconverter uses …….. Commutation.	Natural	Class A	Class B	Class C
19	GTO can be used in …… for electric propulsion onboard ship	Cycloconverter	Inverter	Voltage regulator	Controlled Rectifier
20	Find minimum and maximum pulse frequency using UJT oscillator for Ip=60μA, Vv=2.5V, Iv=4mA, RBB=5kΩ, η=0.72, Vd=0.6V, Triggering frequency=1KHz, C=0.05μF.VBB=15V.	Fmin= 261.86 Hz Fmax= 5.03 Hz	Fmin= 261.86KHz Fmax= 5.03KHz	Fmin= 2618 KHz Fmax= 503 KHz	Fmin= 1.683 KHz Fmax= 2.05 KHz
21	Which of the following circuit does may not be implemented using transistor(s)	Amplifier	Electronic Switch	Rectifier	Oscillator
22	Which one is the correct relationship between I_B, I_C and I_E	$I_C = I_B + I_E$	$I_C = I_E - I_B$	$I_B = I_C - I_E$	None of these is true
23	While using as amplifier, collector current of the transistor remains practically constant (in linear range) due to	Low resistance provided by BE junction	Constant DC bias voltage	High resistance of BC junction	High input impedance of the transistor input terminals
24	Common Base Configuration gives	Voltage gain but no currents gain	None of voltage or current gain	Both voltage and current gain	Current gain but no voltage gain
25	The forward current transfer ratio refers to	Ratio of input current to output current	Ratio of base current to collector current	Ratio of collector current to base current	Ratio of output current to input current