## March 2018 / IN - SEM (T2) Paper Code - U127-104A (T2) F. Y. B.TECH. (COMMON) (SEMESTER - II) COURSE NAME: Basic Electronics Engineering (2017 PATTERN)

SCR:2M Explaination:2M    SCR:2M	Water Commercial Comme	Sub Q.NO	Marking Scheme	Marks	Difficult y Level	Cognitive level	CO Mapped
Circuit diagram: 2M Working with input output waveform: 2M Expression for average output voltage: 2M  C) K= 0.12 mA/V²: 2M ID= 1.08 mA: 2M  OR  Circuit diagram for lamp/ fan regulator using TRIAC: 3M waveforms at input and across lamp/fan load: 3M  b) V-I characteristics of SCR: 3M Definition of Latching current, Holding current and Forward break over voltage :3M  c) Diagram of two transistor analogy of [4] L SCR: 2M Explaination: 2M  Q3  a) concept of virtual ground: 2M Derive expression for the gain of inverting operation amplifier: 4M  b) Block diagram of Op-Amp: 2M Stating function of each block: 2M  c) Identification of circuit: Averaging amplifier: 1M Output voltage = -2.5V: 3M  OR	1	a)	MOSFET :2M Working explanation : 2M Transfer characteristics of P and N channel	[6]	·M		CO2
Q2 a) Circuit diagram for lamp/ fan regulator using TRIAC:3M waveforms at input and across lamp/fan load.: 3M  b) V-I characteristics of SCR:3M Definition of Latching current, Holding current and Forward break over voltage :3M  c) Diagram of two transistor analogy of [4] L Knowledge SCR:2M Explaination:2M  Q3 a) concept of virtual ground:2M Derive expression for the gain of inverting operation amplifier: 4M  b) Block diagram of Op-Amp: 2M Stating function of each block: 2M  c) Identification of circuit: Averaging amplifier: 1M Output voltage = -2.5V:3M  OR		b)	Circuit diagram : 2M Working with input output waveform:2M	[6]	M		CO2
Q2   a)   Circuit diagram for lamp/ fan regulator using TRIAC:3M waveforms at input and across lamp/fan load.: 3M   W-I characteristics of SCR:3M Definition of Latching current, Holding current and Forward break over voltage :3M   Explaination:2M   G  Explaination:2M   G  M   Comprehension   Compreh		c)		[4]	L	Comprehension	CO2
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Definition of Latching current, Holding current and Forward break over voltage:3M  c) Diagram of two transistor analogy of [4] L Knowledge SCR:2M Explaination:2M  Q3 a) concept of virtual ground:2M Derive expression for the gain of inverting operation amplifier: 4M  b) Block diagram of Op-Amp: 2M [4] L Knowledge Stating function of each block: 2M  c) Identification of circuit: Averaging amplifier: 1M Output voltage = -2.5V:3M  OR	2	a)	using TRIAC:3M waveforms at input and across lamp/fan	[6]	M	Comprehension	CO2
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Stating function of each block: 2M  c) Identification of circuit: Averaging [4] L Comprehension amplifier:1M Output voltage = -2.5V:3M  OR	3	a)	Derive expression for the gain of inverting	[6]	M	Comprehension	CO3
amplifier :1M Output voltage = -2.5V:3M OR	1	b)		[4]	L	Knowledge	CO3
	(	c)	amplifier :1M	[4]	L	Comprehension	CO3
			OR				
Q4 a) What is comparator:2M [6] M Knowledge	4 a	a)	What is comparator:2M	[6]	M	Knowledge	CO3

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pyed	00	Circuit diagram of inverting comparator:2M Explanation with input and output waveforms:2M		in one	Comprehension	ad OM.(
	b)	Explanation of CMRR: 2M Explanation of Input offset voltage: 2M.	[4]	L	Knowledge	CO3
	c)	Gain=101:1M Vout=101Vpp:1M Comment: 2M	[4]	L	Comprehension	CO3

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