Sanjay Ghodawat University, Kolhapur

2017-18

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

FY B. Tech | **School of Technology** | **Semester II**

FYT 108 | **Elements of Electronics Engineering** | **Max Marks: 100**

~~**May 2018**~~ 6th June 2018 | **End Semester Examination (ESE)** | **Time: 3 Hrs**

Instructions for Students: 1) Use of calculator is **not** allowed
2) All questions are compulsory

			Marks	COs
Q1		Solve any **Two**		
	a)	With the help of neat diagram and input-output waveforms explain the working of Full Wave Rectifier with bridge configuration.	09	CO1
	b)	Compare center tap and bridge configuration.	09	CO1
	c)	With the help of neat circuit diagram explain I-V characteristics of Zener diode? Explain its application as voltage regulator.	09	CO1
Q2	a)	Explain Transistor as a switch?	04	CO2
	b)	With the help of neat circuit diagram and input-output characteristics, explain the working of BJT (NPN) common emitter configuration?	12	CO2
		OR		
	b)	With the help of neat circuit diagram, symbol & I-V characteristics, explain the working of Depletion type P-MOS.	12	CO2
Q3	a)	With the help of logical equation, diagram & truth table, explain derived gates.	08	CO3
	b)	Simplify the Boolean expression using K-map $\bar{A}B\bar{C}\bar{D} + A\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}C\bar{D} + A\bar{B}C\bar{D} + ABCD$	08	CO3
		OR		
	b)	Convert the following numbers a) $(234.5)_B \rightarrow (?)_D$ d) $(49)_{10} \rightarrow (?)_2$ b) $(2F1)_{16} \rightarrow (?)_{10}$ e) $(11010110)_2 \rightarrow (?)_{16}$	08	CO3

			Marks	COs
Q4				
	a)	With the help of block diagram, explain the working of op-amp in details.	09	CO4
	b)	With the help of neat circuit diagram, derivation and waveform, explain the working of op-amp as a differentiator.	09	CO4
		OR		
	b)	With the help of neat circuit diagram, derivation and waveform, explain the working of op-amp as a summing amplifier.	09	CO4
Q5				
	a)	With the help of block diagram explain the construction of RADAR with its applications	06	CO5
	b)	With the help of neat block diagram, explain the construction and the working of FM Transmitter and super heterodyne AM receiver	10	CO5
		OR		
	b)	With the help of neat block diagram, explain the construction and the working of AM Transmitter and FM Receiver	10	CO5
Q6	a)	Differentiate between Analog & Digital multimeter	06	CO6
	b)	With the help of neat block diagram, explain the working of Cathode Ray Oscilloscope, state its applications.	10	CO6

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