



Sanjay Ghodawat University, Kolhapur

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2018-19

EXM/P/09/01

Year and Program: 2018-19

School of Technology

Department F. Y B.Tech

Course Code: FYT108

Course Title: Elements of
Electronics Engg.

Semester – I

Day and Date

Mondy 03 Dec 18

End Semester Examination
(ESE)

Time:

Max Marks: 100

10:30 am to 1:00 pm

Instructions:

- 1) All questions are compulsory.
- 2) Assume suitable data wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Use of Calculator **not allowed**

Q.1	Solve any two	Marks	CO
a)	Compare Bridge & Center tapped Configuration	09	CO1
b)	With the help of neat diagram & IV characteristics, explain the working of forward & reverse biased pn junction diode.	09	CO1
c)	With the help of neat diagram, explain IV characteristics of Zener diode? Explain its application as Voltage Regulator?	09	CO1
Q.2			
a)	With the help of neat diagram & input-output characteristics, explain the working of BJT(npn) in common emitter configuration.	08	CO2
b)	With the help of symbol, neat diagram, explain the working of n-channel depletion MOSFET. Also, explain different regions of IV characteristics.	08	CO2
	OR		
b)	With the help of symbol, neat diagram, explain the working of n-channel enhancement MOSFET. Also, explain different regions of IV characteristics.	08	CO2
Q.3			
a)	With the help of symbol, logic expression & truth table explain XOR & X-NOR gate.	08	CO3
b)	Why NAND gate & NOR gates are called as universal gates? Realize basic gates using NAND gate only	08	CO3
	OR		
b)	Convert the following numbers	08	CO3
a)	$(234.5)_8 = (?)_2$		c) $(101.0101)_2 = (?)_D$
b)	$(98)_H = (?)_D$		d) $(1100111)_2 = (?)_H$

Q.4

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|----|---|----|-----|
| a) | Draw the block diagram op-amp. Explain each block in detail. | 09 | CO4 |
| b) | With the help of neat diagram & output waveforms explain the working of op-amp as differentiator. Derive the expression for output voltage. | 09 | CO4 |

OR

- | | | | |
|----|---|----|-----|
| b) | With the help of neat diagram & output waveforms explain the working of op-amp as integrator. Derive the expression for output voltage. | 09 | CO4 |
|----|---|----|-----|

Q.5

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|----|---|----|-----|
| a) | Write short note on satellite communication | 06 | CO5 |
| b) | With the help of block diagram explain the construction & working of FM transmitter & receiver. | 10 | CO5 |

OR

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|----|---|----|-----|
| b) | With the help of block diagram explain the construction & working of AM transmitter & receiver. | 10 | CO5 |
|----|---|----|-----|

Q.6

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|----|--|----|-----|
| a) | Compare CRO & DSO (any six points) | 06 | CO6 |
| b) | With the help of block diagram explain the working of CRO. State its applications. | 10 | CO6 |
