366

Total No. of Questions : 8]

SEAT No. :

P2018

[Total No. of Pages : 2

F.E.

BASIC ELECTRONICS ENGINEERING

(2012 Pattern)

Time : 2 Hours] *[Max. Marks :50*

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***Figures to the right indicate full marks.***

Q1) a) Explain Voltage tripler and quadrupler circuit. **[6]**

b) Explain input output characteristics of CE amplifier. **[6]**

OR

Q2) a) Explain working principle of photo diode with characteristics. Why photodiode is operated in reverse biased mode when used as a optical detector. **[6]**

b) Explain Drain Characteristics of an n-channel enhancement type MOSFET. **[6]**

Q3) a) Draw the circuit diagram and write the output equation for **[6]**

i) Inverting summer with three inputs

ii) Ideal differentiator

b) Explain the operation of Multiplexer and Demultiplexer **[6]**

OR

Q4) a) Draw three pin IC voltage regulator. Define load and Line regulation. **[6]**

b) Implement the following with minimum number of NAND gates. **[6]**

i) $y = AD + CB$

ii) $z = A(\overline{B} + CD)$

P.T.O.

Q5) a) Explain with block diagram Digital Thermometer. **[7]**

b) Explain construction of SCR. **[6]**

OR

Q6) a) Explain various criteria used to select a transducer. **[7]**

b) Explain Characteristics of DIAC. **[6]**

Q7) a) Give advantages, disadvantages and applications of Co-axial cable. **[6]**

b) Explain the block diagram of GSM system. **[7]**

OR

Q8) a) Define Modulation index with reference to AM and FM. Draw AM waveform for overmodulation case. **[6]**

b) Write a note on Optical Fiber and explain how light travels through a fiber. **[7]**

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