Total No. of Questions : 8]

SEAT No. :

P9093

[Total No. of Pages : 2

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S.E. Electrical

ANALOG & DIGITAL ELECTRONICS

(2019 Pattern) (Semester-III) (203143)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.***
2) ***Neat diagrams must be drawn wherever necessary***
3) ***Figures to the right indicate full marks.***
4) ***Use of calculator is allowed.***
5) ***Assume suitable data if necessary.***

Q1) a) Write a short note on sequential memories (Definition, Characteristics, Examples). **[6]**

b) Explain Programmable Array Logic in detail. **[6]**

c) What is semiconductor memory? Enlist advantages of it. **[5]**

OR

Q2) a) Describe in detail Read only memory (ROM). **[6]**

b) Write a short note on FPGA. **[6]**

c) What is DRAM? What are its advantages and disadvantages? **[5]**

Q3) a) Explain how sine wave is generated by using Op-amp. **[6]**

b) Draw neat diagram of Op Amp as a Schmitt trigger and explain its working. **[6]**

c) Define the characteristics of practical OPAMP. **[6]**

OR

Q4) a) With neat pin diagram explain function of each pin of IC 741. **[6]**

b) Explain working of OPAMP as instrumentation amplifier. **[6]**

c) Draw input and output waveforms of Op Amp as a Zero crossing Detector. Explain its working. **[6]**

P.T.O.

Q5) a) Explain functioning of LM 317 as a voltage regulator. **[6]**

b) With neat diagram explain working of IC 555 as a Monostable Multivibrator. **[6]**

c) Draw and explain frequency response of high pass filter. **[5]**

OR

Q6) a) With neat diagram explain working of IC 555 as a Astable Multivibrator. **[6]**

b) Draw and explain frequency response characteristic of ideal and practical Low Pass Filter. **[6]**

c) What is voltage regulator? Write any two applications of voltage regulator. **[5]**

Q7) a) Compare single phase Half Wave Rectifier and single phase Full Wave Rectifier. **[6]**

b) With the help of circuit diagram and relevant waveforms, explain the operation of a 3-phase bridge rectifier with resistive load. **[6]**

c) Define following terms **[6]**

i) Form factor

ii) Ripple factor

iii) TUF

OR

Q8) a) Explain working of single phase half wave rectifier with RL load. Draw output waveforms. **[6]**

b) State values of output Performance parameters of single phase full wave bridge rectifier. **[6]**

i) DC output voltage

ii) DC output current

iii) Output DC power.

iv) Rectification Efficiency

v) Form Factor

vi) PIV

c) Explain in detail the working of center tapped rectifier connected to the R load. **[6]**

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