Total No. of Questions : 8]

SEAT No. : ____

PA-1205

[Total No. of Pages : 2

[5925]-227

S.E. (Elecrical)

ANALOG AND DIGITAL CIRCUITS ELECTRONICS

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

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
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 is necessary.***

Q1) a) Write a short note on FPGA. **[6]**

b) What is DRAM? What are its advantages and disadvantages? **[6]**

c) Describe in detial Read Only Memory (ROM). **[6]**

OR

Q2) a) What is semiconductor memory? Enlist advantages of it. **[6]**

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

c) Write a short note on CPLD. **[6]**

Q3) a) Explain with neat diagram and output waveforms, Op-Amp as a zero crossing detector? **[5]**

b) Draw circuit of Op-Amp as V-I converter. Also explain its working. **[5]**

c) Explain generation of saw tooth waveform using OP-AMP. Draw input & output waveforms. **[8]**

OR

Q4) a) Draw neat diagram of Op Amp as a Schmitt trigger and explain its working. **[5]**

b) With neat pin diagram explain function of each pin of IC 741 **[5]**

c) Explain generation of sine waveform using OPAMP. Draw input & output wave froms **[8]**

P.T.O.

Q5) a) Explain the function of LM 317 as adjustable voltage regulator. **[5]**

b) With neat diagram explain working of IC 555 as a Astable Multivibrator. **[5]**

c) Explain High pass filter using op-amp with its frequency response. **[7]**

OR

Q6) a) What is voltage regulator? Write any two applications of voltage regulator. **[5]**

b) Explain Low pass filter using op-amp with its frequency response. **[7]**

c) With neat diagram explain working of IC 555 as a Monostable Multivibrator. **[5]**

Q7) a) Explain working of single phase half wave rectifier with RL load. **[5]**

b) Explain the working o single-phase full wave centre tapped rectifier with pure resistive laod. **[7]**

c) Define following terms **[5]**

i) form factor

ii) Ripple factor

iii) TUF

OR

Q8) a) With the help of circuit diagram and relevant waveforms, explain the operation of a 3-phase bridge rectifier with resistive load. **[7]**

b) Compare single phase HWR and single phase FWR. **[5]**

c) Draw neat diagram and explin single phase half wave rectifier with pure resistive laod. **[5]**

❖ ❖ ❖