B.Sc.24132 - Electronics-II (Digital Electronics-II) Paper-II

P. Pages : 1

GUG/S/16/5603

Time : Three Hours

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0858

Max. Marks : 50

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Notes : 1. All questions are compulsory and carry equal marks.
2. Draw neat diagrams wherever necessary.
3. use of log table / calculator is allowed.

1. **Either:**

a) What is shift Register ? State its types. Draw block diagram of SIPO shift register and explain its construction and working. **10**

OR

b) Draw block diagram showing internal organisation of 16X4 memory and explain state the word capacity and word size for the following memory. **10**
i) 256X4 memory ii) 4 K Byte memory

2. **Either:**

a) What is CCD ? Explain construction and working of CCD. Explain the operation of basic bipolar RAM storage cell. **10**

OR

b) Draw necessary diagram of 8X4 diode matrix ROM and explain its working. Explain the need and function of an On-chip decoding in a memory. **10**

3. **Either:**

a) What is D/A converter ? Draw a circuit for 4-bit weighted resistor ladder type D/A converter and obtain equation for output voltage. State its drawbacks. **10**

OR

b) Draw a circuit for 4-bit R-2R ladder type D/A converter and obtain the equation for its output voltage. What will be output for such ladder for digital inputs: **10**
i) 0100 ii) 1011
iii) 1111 ?
Given logic '0' = 0V and logic '1' = + 8V.

4. **Either:**

a) Draw a block diagram of counter type A/D converter and explain its construction and working Give its timing diagrams. **10**

OR

b) State any four parameters of A/D Converter. **10**
Draw a block diagram of successive approximation type A/D converter and explain its construction and working. State the advantages of such converter.

5. a) Obtain 16X8 bit memory using 16X4 bit memory chip. **2½**
b) Explain the concept of flash memory. **2½**
c) Define Resolution, Linearity and range in D/A converter. **2½**
d) Draw a block diagram of digital clock. **2½**

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