SEAT No._____

No. of Printed Pages : 2

[42/A15]

SARDAR PATEL UNIVERSITY

B.Sc. (6th Semester) Examination

Wednesday, 28 March 2018

10:00 am to 01:00 pm

Electronics

US06CELE02- Digital Systems

Total Marks : 70

Q.1 Multiple choice questions. [10]

1. Fusible links are used in _____ type of memory.
   (a) ROMs   (b) PROMs   (c) EPROMs

2. The full form of PROM is _____.
   (a) Pre Right Organization Memory   (b) Programmable Read Only Memory
   (c) Programmable Rearrange Memory

3. The Static RAM can store data as long as _____ is applied to the chip.
   (a) Power   (b) Bits   (c) Bytes

4. CCD is type of _____ memory.
   (a) Static   (b) Dynamic   (c) Both (a) & (b)

5. Retrieving data from memory is called_____ memory.
   (a) Writing   (b) Executing   (c) Reading

6. Tri state switch has low, high and _____ state.
   (a) Floating   (b) Short   (c) Low impedance

7. Different values of resistor are used in _____ type of D/A converter.
   (a) 2R-R   (b) Weighted resistor   (c) R-2R

8. Another type of counter type ADC is_____.
   (a) Voltage ramp   (b) Analog ramp   (c) Digital ramp

9. Successive approximation convertor is_____ A/D converter.
   (a) Fastest   (b) Medium   (c) Slowest

10. D/A converter is a part of_____ converter.
    (a) A/A   (b) A/D   (c) D/A

Q.2 Answer any TEN questions in brief. [20]

1. Define Main and Peripheral memory.
2. Give the difference between program and data memory.
3. Draw the figure of dynamic memory cell and explain it in brief.
4. State the differences between static RAM and Dynamic RAM.

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5. List the parameters of DAC.
6. Draw the circuit of weighted resistor type DAC.
7. Draw the block diagram of 3-bit flash memory.
8. Draw the pin diagram of ADC 0801.
9. Draw the block diagram of successive approximation A/D converter.
10. What do you mean by A/D conversion.
11. List the disadvantages of weighted resistor type D/A converter.
12. Calculate the number of resistors and comparators required in 3-bit flash type A/D converter.

Q.3   (a) Discuss in detail RAMs, ROMs, and PROMs.   [07]
      (b) Explain the role of memory in a computer system.   [03]

OR

Q.3   (a) Explain ROM timing.   [07]
      (b) Explain ROM organization.   [03]

Q.4   Explain semiconductor RAMs.   [10]

OR

Q.4   Explain the different types of ROMs.   [10]

Q.5   (a) Explain R-2R ladder type DAC in detail.   [06]
      (b) Give an account of tri state switch.   [04]

OR

Q.5   (a) Explain Counter type A/D converter.   [06]
      (b) Explain tracking type A/D converter.   [04]

Q.6   Explain Voltage to Time A/D converter.   [10]

OR

Q.6   Explain voltage to frequency type A/D converter. [10]

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