B.Sc. (With Credits)-Regular-Semester 2012 Sem IV

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

P. Pages : 3

Time : Three Hours   Max. Marks : 50

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.   **3+7**
Draw block diagram of PIPO shift register.
Explain its construction and working.

OR

B) What is memory? Draw a block diagram   **5+5**
of MxN memory and explain.
Draw necessary diagram to obtain 4Kx8
memory using 1Kx8 memory chip.
Explain.

2. Either

A) What is Read Only memory? Draw   **6+4**
necessary diagram of 8x4 diode matrix
ROM and explain.
Draw and explain static Bipolar RAM cell.

OR

B) Explain construction and working of   **5+5**
charged couple device (CCD).
Explain the need and function of an on-
chip decoding in a memory.

3. Either

A) What is D/A converter? Define following   **3+7**
parameters related to D/A converter.
i) Resolution   ii) Linearity.
Draw circuit for 4-bit weighted type D/A
converter and obtain formula for output
voltage.

OR

B) Explain working of 4-bit R-2R ladder type   **7+3**
D/A converter with suitable diagram.
What will be the output voltage for such
ladder for digital inputs:
i) 1010   ii) 1100   iii) full scale?
Given logic '0'=0V and logic '1'=10V.

4. Either

A) Draw block diagram and explain function **10**
of each block of single slope A/D
converter.
Draw necessary timming diagrams. State
its draw backs.

OR

B) Explain construction and working of **5+5**
successive approximation type A/D
converter.
Explain the working of digital clock with
suitable block diagram.

5. a) Give the classification of memory. **2½**

b) Explain the concept of flash memory. **2½**

c) State limitations of weighted register **2½**
ladder type D/A converter.

d) Draw block diagram of digital frequency **2½**
meter.

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