

R09**Code: 9A12301****B.Tech II Year I Semester (R09) Supplementary Examinations December 2015****DIGITAL LOGIC DESIGN & COMPUTER ORGANIZATION**

(Common to CSS & IT)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions

All questions carry equal marks

- 1 (a) Express the Excess-3 code as a Gray code
(b) Express the Decimal Digits 0 - 9 in BCD, 2421, 84-2-1 and Excess-3.
- 2 (a) Design a 4-bit binary synchronous counter with D Flip-flops.
(b) With the help of block-diagrams, explain the difference between synchronous sequential circuit and Asynchronous sequential circuit and compare them.
- 3 Explain about 4-bit Universal Shift Registers.
- 4 (a) Draw the circuit for BCD addition and subtraction and explain its operation.
(b) Draw the flowchart for adding or subtracting two floating point binary numbers and explain.
- 5 (a) Explain about Index mode in Addressing modes with an example.
(b) What is importance of Relative Addressing in execution point of a program?
- 6 (a) Explain about three-bus organization of the data path.
(b) Explain the control sequence of the given instruction.
- 7 (a) Explain the concept of memory used in the computer
(b) Explain with the help of neat sketch the connection between memory and processor.
- 8 (a) What is DMA? Explain the transfer of data from memory to I/O device with the help of a flow chart.
(b) Explain the limitations in programmed I/O and interrupt driven I/O.
