PVP 12

Code: CS3T4, IT3T2

II B.Tech - I Semester – Regular Examinations - January 2014

COMPUTER ORGANIZATION

(Common for CSE, IT)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain any four arithmetic micro operations. 7 M

   b) Design a digital circuit that performs the four logic operations exclusive OR, exclusive NOR, NOR and NAND. Use two selection variables and show the logic diagram of one typical stage. 7 M

2. What is an interrupt? Draw the flow chart for interrupt cycle of the basic computer and explain the various operations by listing the micro operations that are to be carried out during each step. 14 M

3. What is an addressing mode. Explain the various addressing modes with examples. 14 M

4. Show the hardware to be used for the addition and subtraction of two decimal numbers in Signed magnitude representation. Draw the flow chart for the above operation indicating how the overflow is detected. 14 M

5. a) Explain the need for memory hierarchy. 4 M

b) What is cache memory? Explain any two mapping methods used in cache memory organisation. 10 M

6. What is asynchronous data transfer? Explain the operation of handshaking with neat diagrams. 14 M

7. a) Write briefly about the speed up of a pipeline with necessary diagrams. 6 M

b) What is instruction pipeline. Explain the operation of four segment pipeline. 8 M

8. a) What is a multi stage switching network. 4 M

b) Explain the operation of a 8 * 8 Omega switching network with neat diagram. 10 M