

FACULTY OF INFORMATICS**M.C.A. I - Year II – Semester (Supplementary) Examination, January 2015****Subject: Computer Organization****Time: 3 hours****Max. Marks: 80****Note: Answer ONE question from each unit. All questions carry equal marks.****UNIT – I**

- 1 a) What are sequential circuits? Explain with an example.
 b) Explain the implementation of binary counter.
 c) Simplify the Boolean function using
 3 – variable map $F(x,y,z) = \Sigma (0, 2, 3, 4, 6)$.

OR

- 2 a) With a neat diagram explain about error detection code.
 b) Discuss about Fixed point and floating point representation.

UNIT – II

- 3 a) Draw the logic circuit of a 4-bit arithmetic circuit and explain its function using a function table.
 b) Specify the micro operations needed for the execution of the following memory reference instructions.
 i) ADD ii) BUN iii) BSA

OR

- 4 a) Explain about instruction cycle with the help of flow chart
 b) Explain how accumulator logic is designed.
 c) What is meant by interrupt?

UNIT – III

- 5 a) With the help of flow chart explain about second pass of assembler.
 b) Write an assembly language program to find the sum of 100 numbers.

OR

- 6 a) Differentiate between hard-wired and microprogrammed control unit.
 b) Explain the functioning of a micro program sequences for a control memory with the help of a block diagram.

UNIT – IV

- 7 a) What is a stack? Explain the procedures of stack operations.
 b) What are addressing modes? Explain their with examples.

OR

- 8 a) Write and explain about Booth's multiplication algorithm with the help of flowchart.
 b) What is pipeline? Explain about RISC pipe line.

UNIT - V

- 9 a) Define priority interrupt. Discuss about daisy-chain priority interrupt.
 b) With a neat diagram, explain about DMA controller.

OR

- 10 a) What is associate memory? Explain its functioning with the help of a block diagram.
 b) Define the following :
 i) Hit ratio ii) Locality reference iii) Mapping process
