Goa Vidyaprasarak Mandal's
Gopal Govind Poy Raiturcar College of Commerce and Economics
Farmagudi, Ponda-Goa.

B.C.A. (Semester - I) Examination – October 2012

COMPUTER ORGANIZATION AND ARCHITECTURE

Duration : 2 hours **Marks : 50**

Instructions **:** ***A.) All the questions are compulsory.***
B.) Draw neat diagrams with pencil wherever required.

I. 1. Select the correct option and rewrite the statement. (1mk x 5 = 5 mks)

i. _____ Memory is intended to give fastest memory speed.
(a) Cache (b) Random Access (c) Read Only

ii. _____ is an example of external I/O interface.
(a) Programmed I/O (b) FireWire (c) Chip

iii. LSB means _____.
(a) Least Sign Bit (b) Least Sign Byte (c) Least Significant Bit

iv. Operand references specify a register or memory location of _____
(a) Byte address (b) Lower address (c) Operand data

v. Data are presented to the ALU in _____.
(a) Registers (b) Operations (c) Devices

2. Answer the following. (1mk x 5 = 5 mks)

i. What is Indirect Cycle ?
ii. What is Micro-Program Word Length ?
iii. What are basic elements of Processor ?
iv. What is Assembly Language ?
v. What is the meaning of the following instruction ?
MOV AH, 09

II. 1. Explain the Nested Procedure Calls. (2 mks)

2. Perform the following conversions. (1.5 mk x 2 = 3 mks)

   i. $(10011001)_2 = (X)_{10}$

   ii. $(124)_{10} = (X)_2$

3. Explain the CPU with Internal Bus with a diagram. (5 mks)

III. 1. Explain Direct Addressing. (2 mks)

2. Explain the 8086 Instruction Set with examples. (3 mks)

3. Explain the Traditional Bus Architecture with a diagram. (5 mks)

IV. 1. Perform the following operations. (1mk x 2 = 2 mks)

   i. (- 6) + (+ 5)

   ii. (- 4) + (- 2)

2. Explain the comparison between Selector and Multiplexor. (3 mks)

3. Explain the I/O Module with a block diagram. (5 mks)

V. 1. Explain the Fetch Cycle and Execute Cycle. (2 mks)

2. Explain the Read and Write Mechanisms of Magnetic Disk. (3 mks)

3. Explain the Dynamic Random Access Memory with a diagram. (5 mks)

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