BACHELOR OF COMPUTER APPLICATIONS (BCA) (Pre-Revised)

Term-End Examination

December, 2015

CS-64 : INTRODUCTION TO COMPUTER ORGANISATION

Time : 3 hours *Maximum Marks : 75*

Note : *Question number **1** is **compulsory**. Attempt any **three** questions from the rest.*

1. (a) What is RAM ? Draw and explain the logic diagram of a RAM cell. *8*

(b) Write a program in 8086 Assembly language for comparing two numbers. Make suitable assumptions. *6*

(c) Compare the following : *10*

(i) Magnetic tape and Magnetic disk

(ii) Associative cache mapping and Set Associative cache mapping

(iii) Direct Addressing mode and Immediate Addressing mode

(iv) SHL and ROL instructions of 8086 microprocessor

(d) Explain COM and EXE programs with the help of an example for each. *6*

2. (a) What are Microinstructions ? Describe the Horizontal and Vertical Microinstruction formats with the help of an example for each. *8*

(b) What are Decoders ? Draw the logic diagram of a 3 × 8 Decoder and explain its working. *7*

3. (a) What are Interrupts and why are they required ? Explain the uses of INT 21h in 8086 microprocessor, with the help of an example. *9*

(b) Perform the following operations using 2's complement notation : *6*

(i) 45 – 30

(ii) – 25 – 16

(iii) 60 – 40

(iv) – 8 – 20

4. (a) What are Logic Gates ? Show how NOT, AND, OR operations can be implemented using NAND Gates. *10*

(b) What is an Arithmetic Processor ? Compare the co-processor with peripheral processor. *5*

5. (a) Explain Displacement Addressing Scheme. *5*

(b) How is an instruction represented ? What are the various types of instructions ? *5*

(c) Compare the 2D and $2\frac{1}{2}$D Chip Organization. *5*
