(i) Printed Pages: 4] Roll No. .....

(ii) Questions : 9] Sub. Code : 0 9 3 2

Exam. Code : 0 0 3 2

Bachelor of Computer Applications 6th Semester Examination

1047

COMPUTER ORGANIZATION

Paper : BCA-602

Time : 3 Hours] **[Max. Marks : 90**

Note :– Attempt *five* questions in all, selecting *one* from each Section A, B, C and D. Question No. **9** is compulsory.

Section–A

1. (a) Discuss evolution of computers in terms of capacity, memory, speed and other important factors.

   (b) What are multiplexers ? Discuss the design of a 4 × 1 multiplexer. 9,9

2. (a) Explain stored program concept and discuss Von Neumann architecture based upon that.

(b) What is Booth's algorithm ? Explain its functioning with the help of an example. 9,9

Section–B

3. (a) What are addressing modes ? Explain any *five* addressing modes.

(b) Differentiate between the following :

(i) Strobe based and handshake based communication

(ii) Vector and priority interrupts 10,8

4. (a) Explain instruction formats for 16 bit instructions with reference to :

(i) Memory reference instructions

(ii) Register reference instructions

(iii) Input-output instructions

(b) What is a bus ? Draw a diagram of bus showing movement of data between registers and memory and explain data movement.

(c) What is the use of stacks in CPU organization ? 6,8,4

Section–C

5. (a) What is RAM ? What are different types of RAM ? Explain the difference between them.

   (b) What are micro-operations ? Explain different types of micro-operations in a computer system. 9,9

6. (a) Write a program in assembly language to subtract a number from another. Also explain its working.

   (b) Differentiate between machine, assembly language and high level langauges. 9,9

Section–D

7. (a) What are different types of cards in a PC ? Give their functional description.

   (b) Write short notes on the following :

   (i) Diagnostics on a PC

   (ii) PC Doctor 9,9

8. (a) What is a Computer Virus ? What steps will you take to detect, protect and cure a PC infected with virus ?

   (b) Write short description of physical components of a computer. 11,7

(Compulsory Question) 2 each

9. (i) What are flip-flops ? Where are they used ?

(ii) Explain floating point representation of real numbers.

(iii) What are Counters ?

(iv) What are interrupts ?

(v) What is an instruction set ? Give example.

(vi) What is Cache Memory ?

(vii) What are pseudo-operations ?

(viii) Explain the concept of virtual memory.

(ix) Explain the use of Norton utility.