(i) Printed Pages : 2 Roll No. .....

(ii) Questions : 9 Sub. Code : 1 3 4 4 1

Exam. Code : 5 0 4 3

Bachelor of Computer Application (FYUP) 3rd Semester

(2125)

COMPUTER ARCHITECTURE

Paper—NBCA301

Time Allowed : Three Hours] **[Maximum Marks : 90**

Note :— Attempt **five** questions in all, selecting **one** question each from Units-I, II, III, and IV. Unit-V is compulsory.

UNIT—I

1. Write short on the following:

   (a) Computer Organization

   (b) Basic Organization of Digital Computer

   (c) Computer Architecture 4+10+4

2. (i) What is a Register? Explain the register transfer concept using register transfer language.

   (ii) Discuss Shift Microoperations in detail by giving examples. 9+9

UNIT—II

3. Discuss the uses of different registers in the basic computer. How common bus is used to communicate between these registers? 18

4. Explain different types of instruction. Describe the instruction cycle by drawing the neat and clean flowchart in detail. 18

UNIT—III

5. What do you mean by memory hierarchy? Explain each memory in the hierarchy in detail with the help of neat and clean diagram. 18

6. What is virtual memory? How pages and associative tables are implemented in a virtual memory? 18

UNIT—IV

7. (i) Explain the working of I/O interface with data bus and memory bus. Also give the example of I/O interface with the help of diagram.

   (ii) Differentiate Isolated vs Memory Mapped I/O. 12+6

8. What do you mean by Asynchronous data transfer? Discuss different methods of Asynchronous data transfer with the help of diagrams. 18

UNIT—V

9. (a) Difference between Micro operations and Macro operations. 3

   (b) Explain three states of bus buffer. 3

   (c) Difference between direct and indirect address. 3

   (d) Difference between Assembly and Machine languages. 3

   (e) What is DMA? 3

   (f) Why start and stop bits are used in Asynchronous data transfer? 3