

GANPAT UNIVERSITY
B. Tech. Sem. V (EC)
Regular Examination Nov/Dec 2012
2 EC 504: Computer Organization

MAX. Time: 3 Hrs.]

[MAX. Marks: 70

Instructions:

1. Attempt all questions.
2. Answers to the two sections must be written in separate answer books.
3. Figures to the right indicate full marks.
4. Assume suitable data, if necessary.

Section: I

- Q:1(a)** Draw and explain wilkes microprogram control unit. (5)
(b) What is Infiband? Give its advantages and explain its architecture. (5)
(c) Write the micro operations which are performed in given cycle. (2)
(i) Indirect Cycle (ii) Interrupt Cycle

OR

- Q:1 (a)** Explain the function of micro-programmed control unit with diagram. (5)
(b) Explain firewire serial bus and give its advantages. (5)
(c) Write the micro operations which are performed in given cycle. (2)
(i) Fetch Cycle (ii) Execute Cycle : ADD R1, X

- Q:2 (a)** Draw and explain the program execution for the following with all required steps and show the content of IR, PC and AC at every step. Initially PC is at 400H. (5)

Memory contains :

1860H at address 400 H, 4861H at address 401 H, 2860H at address 402 H

Data:

0005H at address 860 H, 0003H at address 861 H

Reference opcode:

0001H: Load AC from memory, 0010H: Store AC from memory, 0100H: Add AC & memory

- (b)** Explain structure and function of computer with all possible figures. (5)
(c) Give the difference between memory mapped I/O and Isolated I/O. (2)

OR

- Q:2 (a)** Write a short note on interrupts. (5)
(b) Write a short note on SPARC. (5)
(c) Draw basic block diagram of external device. (2)

- Q:3 (a)** Explain pipelining and prove that 3-stage pipelining is better than 2-stage and 4-stage pipelining. (5)
(b) Explain branch prediction logic to avoid hazards due to pipelining with an example. (4)
(c) Give the difference between hardware poll and software poll. (2)

