Exam No: _____

GANPAT UNIVERSITY

B. TECH SEM-V (BM&I) REGULAR EXAMINATION– NOV-DEC 2016

2BM503 Microprocessor architecture & Interfacing

TIME: 3 HRS

TOTAL MARKS: 60

Instructions: (1) This question paper has two sections. Attempt each section in separate answer book.
(2) Figures on right indicate marks.
(3) Be precise and to the point in answering the descriptive questions.

SECTION-I

Q.-1 **(10)**

(a) Draw and explain functional block diagram of 8085 Microprocessor. **(5)**

(b) Describe various addressing modes giving example. **(5)**

OR

Q.-1 **(10)**

(a) Explain the need of demultiplex the bus AD7-AD0. Discuss demultiplexing the bus AD7-AD0 giving schematic diagram. **(5)**

(b) Classify different memories with brief description of each. **(5)**

Q.-2 **(10)**

(a) Answer the following Questions. **(5)**

(i) How many address lines are necessary on the chip of 2K (2048) byte memory?
(ii) Give an example of one address microprocessor?
(iii) What is clock frequency for 8085?
(iv) Why SP and PC are 16 bit registers?
(v) Compare compiler & Interpreter.

(b) Draw and explain timing diagram for IN Instruction. **(5)**

OR

Q.-2 **(10)**

(a) Explain Following: **(5)**

(i) MVI B,05H
(ii) RAL
(iii) CALL 3050H
(iv) CMA
(v) NOP

(b) Draw and explain timing diagram for MVI A,45H Instruction. **(5)**

Q.-3 **Answer Any Two.** (10)

(a) Write an ALP to find HCF of a given data and draw the algorithmic flow chart for the same. (5)

(b) Draw the flow chart & write an ALP to divide 56H by 08H. (5)

(c) Write ALP to perform following. (5)
(5^2) + (3-2)

SECTION-II

Q.-4 (10)

(a) What is stack & subroutine? Explain giving example. (5)

(b) Discuss static & dynamic debugging techniques. (5)

OR

Q.-4 (10)

(a) Compare similarities and differences between PUSH/POP and CALL/RET instructions. (5)

(b) List the eight steps to initiate and implement the 8085 interrupts. (5)

Q.-5 (10)

(a) Describe various techniques to design delay. (5)

(b) Explain the block diagram of the 8155 I/O section and timer. (5)

OR

Q.-5 (10)

(a) Discuss interpretation of the accumulator bit pattern for the SIM instruction. (5)

(b) Describe control word format for I/O mode of 8255. (5)

Q.-6 **Answer Any Two.** (10)

(a) Discuss the debugging for Counter & Time delay programs. (5)

(b) Write an ALP to find largest number from a given array. Also draw the algorithmic flow chart for the same (5)

(c) Answer the following Questions. (5)
(i) Which Stack is used in 8085?
(ii) Which interrupt has the highest priority?
(iii) What is the RST for the TRAP?
(iv) Why crystal is a preferred clock source?
(v) How long INTR pulse stay high?

End of Paper