YMCA UNIVERSITY OF SCIENCE& TECHNOLOGY, FARIDABAD

MSc. (Physics) IV semester

Microprocessor (PH 514), MAY 2018

Time: 3 Hours   Max. Marks:60

Note: It is compulsory to answer the questions of Part -1. Limit your answers within 20-40 word in this part.

              Answer any four questions from Part -2 in detail.

              Different parts of the same question are to be attempted adjacent to each other.

PART -1

Q1 (a) Distinguish between KB, MB, GB, TB and PB.   (2)

(b) What is meant by the statement that 8085 is 8-bit microprocessor?   (2)

(c) Mention and explain the modes in which 8086 can operate.   (2)

(d) Explain the operations of instructions queue residing in BIU of 8086 microprocessor.   (2)

(e) Discuss A16/S3—A19/S6 Signals of 8086.   (2)

(f) Compare 8086 and 8088 microprocessors.   (2)

(g) Give one example each of (a) direct I/O (b) variable I/O instruction.   (2)

(h) Although 8086 is a 16-bit microprocessor, it deals with 8-bit memory. Why?   (2)

(i) Mention the different types of data transfer instructions.   (2)

(j) What is meant by a 'string' and what are the characteristics of a string instruction?   (2)

PART -2

Q2 (a) Draw the architecture of 8085 and mention its various functional blocks.   (5)

(b) Distinguish between the two hardware interrupts of 8086.   (5)

Q3 (a) Mention the total number of registers of 8086 and show the manner in which they are grouped.   (5)

(b) Discuss the three control flags of 8086.   (5)

Q4 (a) Why memory segmentation is done for 8086? Discuss in details.   (5)

(b) Write an ALP (assembly language programming) for addition of two 8-bit data BB H and 11 H.   (5)

Q5 (a) Write the advantages/disadvantages of having more number of general purpose (5)
registers in a microprocessor.

(b) What are the characteristics of 8087 coprocessor? Also draw the pin diagram of 8087. (5)

Q6 (a) Draw the timing diagram of a memory write bus cycle for 8086 microprocessor. (5)

(b) What is DMA? Which hardware pins are used for DMA control? Draw and explain the (5)
architecture of 8237 DMA controller.

Q7 (a) Describe the different types of keys? Draw a block diagram of interfacing an (7)
alphanumeric keyboard with 8086 microprocessor. Also write a flow chart for
interface.

(b) What is darlington configuration? How it is used to interface high power devices with
microprocessor? (3)