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[Total No. of pages: 02

B.TECH. (CSE)

MICROPORCESSORS AND ASSEMBLY LANGUAGE PROGRAMMING

SUBJECT CODE: BTCS-404

PAPER ID:[A1186]

Time allowed: 03 hours **Maximum Marks : 60**

Instruction to candidates:

1) Section-A is compulsory consisting of Ten questions carrying two marks each.
2) Section-B contains Five questions carrying five marks each and students has to attempt any four questions.
3) Section-C contains three questions carrying ten marks each and students have to attempt any two questions.

Section – A

Q: 1)

a) In a Opcode fetch cycle, What are the control and status signals asserted by the 8085 to enable the memory buffer?
b) How many memory locations can be addressed by a microprocessor with 14 address lines?
c) List the features of 8251?
d) What is the use of Latch signal on the AD_0 - AD_{15} bus in an 8086 microprocessor?
e) Give brief idea about Motorola 68000?
f) While executing a program, when the 8085 microprocessor completes the fetching of machine code located at memory address 2057H, what will be the contents of program counter?
g) What is cycle steaiing and block transfer in DMA?
h) What is the purpose of signal ALE in 8085?
i) Give the significance of SIM and RIM instructions available in 8085.
j) Write are advantages of the assembly language in comparison with high level language.

Section – B

Q:2) Write an assembly language program in 8085 to find the largest number in a data array?
Q:3) Draw and explain the block diagram showing how a DMA Controller operates in a Microcomputer system?
Q:4) Discuss various addressing modes for 8085 microprocessor with suitable Examples?
Q:5) Explain the different registers used in 8251 USART IC?
Q:6) Discuss the interfacing of matrix keyboard with 8085 microprocessor in detail?

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Section – C

Q:7) Discuss in detail the mode 0 operation of 8255.Explain interfacing between 8085 and 8255 with help of interfacing circuit diagram?

Q:8) (a) Write an assembly language program and also draw the flow chart to count from 0 to 9 with a one second delay between each count. At the count of 9, the counter should reset itself to zero and repeat the sequence continuously. The clock frequency of the microprocessor is 1MHz? (07)

(b) Differentiate between instruction cycle and machine cycle? (03)

Q:9) Discuss the application of microprocessor for controlling the speed of a stepper motor?

End

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