S.No. : 151 BCS 2502

No. of Printed Pages : 06

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 23208 Roll No.

B. Tech. Examination 2019-2020

(Odd Semester)

MICROPROCESSOR AND INTERFACING

Time : 3 Hours] *[Maximum Marks : 60*

Note : (i) Attempt all questions.

(ii) Consider suitable data values / address etc if not provided.

SECTION – A

1. Attempt all parts of the following : $8 \times 1 = 8$

(a) Differentiate between primary and secondary memory.

(b) What is cache memory?

[P. T. O.

(c) What is difference between pentium II and pentium III?

(d) What is DMA controller?

(e) What is MACRO programming?

(f) What is the meaning of interrupts?

(g) Differentiate between real and virtual memory.

(h) What is pipelining?

SECTION – B

2. Attempt any two parts of the following : $2 \times 6 = 12$

(a) Write note on the following :

(i) RAM

(ii) SRAM

(iii) EPROM

(b) Explain the internal architecture of the 8 bit microprocessor.

(c) Explain the technical features of the following :

(i) Pentium pro microprocessor

(ii) Pentium III microprocessor

(d) Explain the register organization in 8086 microprocessor. Also discuss Bus Interface unit in brief.

SECTION – C

Note : Attempt all the questions. Attempt any two parts from each question : $10 \times 4 = 40$

3. (a) Explain the following addressing modes in the 8086 microprocessor.

(i) Immediate addressing mode

(ii) Direct addressing mode

(iii) Register addressing mode

(iv) Indexed addressing modes.

(b) Interpret the meaning of following instructions in 8086 microprocessor.

(i) MOV

(ii) PPUSH

(iii) POP

(iv) XCHG

(v) XLAT.

Also list all types of instructions in 8086 microprocessor.

(c) Explain 8085 PIN configuration in detail. Also discuss the address bus and date bus details.

4. (a) Write an assembly language program to add two 8 bit numbers stored at address 2050 and 2051 in 8085 microprocessor. The starting address of the program is taken as 2000.

(b) Explain the methods of generating delays in 8085 microprocessor.

(c) Discuss the following branching instructions in 8085 microprocessor.

(i) Jump

(ii) Call

(iii) Return.

5. (a) What is the advantage of using direct memory access techniques? Also explain different modes of DMA controller.

(b) Write an assembly language program in 8085 microprocessor to access flag register and exchange the content of flag register F with register B.

(c) What are the different levels of memory? Explain the concept of cache mapping.

6. (a) Write a detailed note on the programmable peripheral interface 8255.

(b) Explain 8259 programmable interrupt controller.

(c) Discuss the following :

(a) 8251 USART

(b) RS 232C.

⌘⌘⌘