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

PAPER ID : 23208 Roll No.

B. Tech Examination 2018-2019

(Fifth Semester)

MICROPROCESSOR AND INTERFACING

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

Note :– (i) Attempt all the questions.

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

(iii) Consider standard values where not specified like Tstates instruction size etc.

SECTION–A

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

(a) Compare real vs. virtual memory.

(b) Discuss the term pipelining and its significnace.

(c) Enlist major differences betwee 8085 and 8086.

(d) Explain the execution of 8085 instruction DAA.

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(e) Enlist the conditions when maskable inter upts of 8085 are disabled.

(f) Draw the memory map of a chip of size 32 K byte consider the starting address as $AODOO_H$.

(g) Obtain the physical address of next instruction byte for a 8086 based system. Consider currently content of IP is $1FFF_H$ and content of CSR is $20FF_H$.

(h) Elaborate the use of A_0 & A_1 lines in 8255

SECTION – B

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

(a) Write on 8085 assembly language program to copy a memory block of ten 8bit numbers. The source list starts from 2500_H and the destination address starts from 2600_H.

(b) Draw the timing diagram of execution of 8085 instruction MVI B, BD_H; consider starting memory address is $20FF_H$.

(c) Draw and briefly explain the internal architecture of 8253/54. Briefly elaborate its various modes of operations.

(d) Elaborate interrupt mechanism and ISR. Briefly discuss hardware and software interrupts of 8085.

SECTION – C

Note :– Attempt all questions in this section. Attempt any two parts from each section. 10×4=40

3. (a) Identify the addressing modes in the following 8085 instructions :

   (i) CMA

   (ii) ADI 56_H

   (iii) DCR M

   (iv) INX B

   (b) Elaborate RS232C standard and its applications.

   (c) Elaborate 8085 instruction SIM, and its significnace.

4. (a) What is memory? Classify various memories in a system with brief explanation.

(b) Highlight the architectural/Functional features of pentium series processors.

(c) Obtain the content of each register and value of each flag after the execution of following 8085 code :

```
LXI   H,   25FF_H   ;
LXI   B,   FFOO_H   ;
PUSH  B             ;
DCX   B             ;
POP   D             ;
MOV   A,L           ;
ADD   B             ;
HLT                 ;
```

5. (a) Elaborate the execution of following 8086 instructions :

(i) MOV BX, $FFDA_H$;

(ii) MOV AH, [$25AF_H$] ;

(iii) NOT AH ;

(iv) DIV BL;

(b) Compare modular programming Vs structured programming.

(c) Compare and contrast between 'procedure' and 'macro'.

6. (a) Elaborate the following 8086 signals :

(i) $\overline{BHE}$

(ii) $\overline{DEN}$

(iii) $\overline{TEST}$

(iv) $MN/\overline{MX}$

(b) What do you understand by assembler directives? State why they are regarded as 'Psedudo Code? Also elaborate the following directives :

(i) DB

(ii) ORG

(c) Elaborate the need and technique of damultiplxing the data bus - address bus (AD_0 - AD_7) for 8085 based system.

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