[6002]-163

S.E. (Computer)

MICROPROCESSOR

(2019 Pattern) (Semester - IV) (210254)

Time : 2½ Hours]　　　　　　　　　　　　　　　　*[Max. Marks : 70*

Instructions to the candidates:

　1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*

　2) ***Figures to the right indicate full marks.***

Q1) a)　Enlist various types of system and non - system descriptors in the 80386. Explain their use in brief.　**[6]**

　b)　Explain the use of following instructions in detail:　**[6]**

　　　i)　LGDT

　　　ii)　LIDT

　　　iii)　SIDT

　c)　With the necessary flowchart, explain the complete address translation process in 80386.　**[6]**

OR

Q2) a)　Explain the page translation process in 80386.　**[6]**

　b)　Draw and explain the general descriptor format available in various descriptor tables.　**[6]**

　c)　Differentiate and explain GDTR, LDTR, and IDTR.　**[6]**

Q3) a)　Explore five aspects of protection applied in segmentation.　**[6]**

　b)　What is DPL, EPL and IOPL? Explain in brief.　**[6]**

　c)　Explore the need for a protection mechanism in 80386.　**[5]**

OR

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Q4) a) Explain how control transfer instructions are executed using the call gate in the system? **[6]**

b) List and explain various Privilege Instructions. **[6]**

c) Elaborate on the concept of combining segment protection and page level protection in 80386. **[5]**

Q5) a) Explain the structure of a V86 Task in detail. How is protection provided within the V86 task? **[6]**

b) Draw and explain the Task State Segment of 80386. **[6]**

c) With the necessary diagram, explain entering and leaving the virtual mode of 80386. **[6]**

OR

Q6) a) Explain the TSS descriptor and its role in multitasking. **[6]**

b) List and explain various features of virtual 8086 mode. **[6]**

c) Define Task Switching and explain the steps involved in task switching operation? **[6]**

Q7) a) How interrupts are handled in protected mode? Explain with the help of a neat diagram. **[6]**

b) Elaborate about enabling and disabling interrupts in 80386. **[6]**

c) List and elaborate on different applications of microcontrollers. **[5]**

OR

Q8) a) Explain the following exceptions in brief. **[6]**

    i) Divide error

    ii) Invalid Opcode

    iii) Overflow

b) How interrupts are handled in protection mode. Explain with the help of a neat diagram. **[6]**

c) Explain various features of the 8051 Microcontroller. **[5]**

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