Total No. of Questions : 8]

SEAT No. : [ ]

PC2814

[Total No. of Pages : 2

[6352]-38
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) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Differentiate and explain GDTR, LDTR, and IDTR. **[6]**

b) Explain the Segment Translation Process with a neat diagram of 80386. **[6]**

c) Explain the role of TLB in the Address Translation process. **[6]**

OR

Q2) a) Demonstrate General Descriptor Format available in various descriptor tables. **[6]**

b) With the necessary diagram, explain the page translation process in 80386. **[6]**

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

i) LGDT

ii) SIDT

iii) LLDT

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

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

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

OR

P.T.O.

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

b) Explain different levels of protection. Describe the rules of protection check? **[6]**

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

Q5) a) Explore memory management in the Virtual 8086 Mode. **[6]**

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

c) Explore the role of Task Register in multitasking and the instructions used to modify and read Task Register. **[6]**

OR

Q6) a) Draw and explain the Task State Segment of 80386. **[6]**

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

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

Q7) a) Explain Faults, Traps, and Aborts conditions with an example. **[6]**

b) Explore various descriptors present in IDT of 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 neat diagram. **[6]**

c) List and elaborate features of Microprocessor and Microcontroller. **[5]**

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