Total No. of Questions : 8]

SEAT No. :

P1534

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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

P.T.O.

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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