

Total No. of Questions : 8]

SEAT No. :

PA-1240

[Total No. of Pages : 2

[5925]-263

S.E. (Computer)

MICROPROCESSOR

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

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams should be drawn wherever necessary.
- 3) Use of Non-programmable Calculator is allowed.
- 4) Assume suitable data if necessary.

- Q1)** a) Explain the Segment Translation Process with a neat diagram of 80386. [6]
b) Differentiate and explain GDTR, LDTR, and IDTR. [6]
c) Demonstrate General Selector Format in brief. [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) What is call gate? Explain how it is used in calling functions with higher privilege levels. [6]
b) Explore five aspects of protection applied in segmentation. [6]
c) Explore the need for a protection mechanism in 80386. [5]

OR

P.T.O.

- Q4)** a) Explain the following terminologies. [6]
i) CPL
ii) DPL
iii) RPL
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 of 80386 with a neat diagram. [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) Difference between Real Mode and Virtual 8086 Mode. [6]

- Q7)** a) Explain the following exception conditions with an example: Faults, Traps, and Aborts. [6]
b) With the help of the necessary diagram, explain the structure of IDT in 80386. [6]
c) List and elaborate on different applications of microcontrollers. [5]

OR

- Q8)** a) Differentiate and explain the Interrupt gate and Trap gate descriptor. [6]
b) How interrupts are handled in protection mode. Explain with the help of a neat diagram. [6]
c) Differentiate between Microprocessor and Microcontroller. [5]

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