

Total No. of Questions : 8]

PD4083

SEAT No. :

[Total No. of Pages : 2

[6402]-43

S.E. (Computer Engineering)

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 diagram must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Explain following in detail. [6]

- i) Global Descriptor Table
- ii) Local Descriptor Table

- b) Draw and explain the general descriptor format. [6]
- c) Explain the process of Segment translation in detail. [6]

OR

Q2) a) Explain following in detail [6]

- i) GDTR
- ii) LDTR &
- iii) IDTR

- b) Draw and explain segment selector format. [6]
- c) Explain the process of page translation in detail. [6]

Q3) a) Explore the need for a protection mechanism in 80386. [6]

- b) List and explain various Privilege Instructions. [6]
- c) Explore five aspects of protection applied in segmentation. [5]

OR

P.T.O.

Q4) a) Explain different levels of protection? State the rules of protection check. [6]

b) Write a short note on CPL, DPL, and RPL. [6]

c) What is call gate? Explain how it is used in calling functions with higher privilege levels. [5]

Q5) a) Draw and Explain the Task State Segment of 80386. [6]

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

c) List and explain various features of virtual 8086 Mode. [6]

OR

Q6) a) Explain the TSS descriptor of 80386 with a neat diagram. [6]

b) Define task switching and explain the step involved in task switching operation. [6]

c) Explore memory management in the virtual 8086 Mode. [6]

Q7) a) Explain the process of Enabling and Disabling Interrupts in 80386. [6]

b) Explain different types of exceptions in 80386 with suitable examples. [6]

c) Differentiate between Microprocessor and Microcontroller. [5]

OR

Q8) a) How are interrupts identified in 80386? [6]

b) Explain the following exceptions in brief [6]

i) Overflow,

ii) Divide error

iii) invalid opcode

c) With the help of neat diagram explain the architecture of typical microcontroller. [5]

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