Total No. of Questions : 8]

SEAT No. : [ ]

PD4083

[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 is 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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