Total No. of Questions : 8]

SEAT No. :

PE-4266

[Total No. of Pages : 2

[6582]-38

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 diagrams must be drawn wherever necessary.***
3) ***Black 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) Interrupt Descriptor Table

b) Draw and explain segment selector format. **[6]**

c) With the necessary flowchart, explain the complete address translation process in 80386. **[6]**

OR

Q2) a) Explain the use of following instructions in detail. **[6]**

i) SGDT

ii) LLDT

iii) SIDT

b) Draw and explain the general descriptor format. **[6]**

c) With the necessary diagram, explain the logical to linear address translation process of 80386. **[6]**

Q3) a) Explain different levels of protection? State the rules of protection check. **[6]**

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

c) Explain conforming and non-conforming code segments. **[5]**

OR

P.T.O.

Q4) a) Explore the need for a protection mechanism in 80386. **[6]**

b) Define the functions of Type Checking and Limit Checking in protection. **[6]**

c) Explore the role of various fields in page level protection. **[5]**

Q5) a) Define task switching and explain the steps involved in task switching operation. **[6]**

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

c) Differentiate between real mode and virtual mode. **[6]**

OR

Q6) a) Draw and explain task gate desciptor of 80386. **[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]**

Q7) a) With the help of neat diagram explain the process of handling interrupts in protected mode. **[6]**

b) Differentiate and Explain the Interrupt gate and Trap gate descriptor. **[6]**

c) Explain various features of the 8051 microcontroller. **[5]**

OR

Q8) a) Explain the following exception conditions with an example. Faults, Traps, and Aborts. **[6]**

b) What is the error code? Explain with the necessary diagram. **[6]**

c) List and elaborate on different applications of microcontrollers. **[5]**