Total No. of Questions : 8]

SEAT No. :

PB3631

[Total No. of Pages :2

[6261]-38

S.E. (Computer)

MICROPROCESSOR

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

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Attempt 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) ***Figures to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) Draw & Explain the general descriptor format available in various descriptor tables. **[6]**

b) Explain the use of following Instructions in detail: **[6]**

i) LGDT

ii) SGDT

iii) SIDT

c) Explain the segment Translation process of 80386. **[6]**

OR

Q2) a) With the necessary Diagram, Explain the complete Address Translation process in 80386. **[6]**

b) Enlist various types of system & non-system descriptors in 80386. Explain their use in brief. **[6]**

c) Draw & Explain the General Selector Format. **[6]**

Q3) a) Explain various Aspects of Protection Mechanism of Paging unit. **[6]**

b) What is CPL, EPL, IOPL? Explain in Brief. **[6]**

c) Explain the need of Protection Mechanism in 80386. **[5]**

OR

Q4) a) Explain how control transfer Instructions are executed using the call gate in the system. **[6]**

b) List & Explain various Privilege Instructions. **[6]**

c) Elaborate the concept of combining segment Protection & Page level protection in 80386. **[5]**

P.T.O.

Q5) a) Explain the structure of a V86 Task in detail. How is protection provided within the V86 task? **[6]**

b) Draw & Explain the Task state segment of 80386. **[6]**

c) With the necessary diagram, Explain entering & leaving the virtual mode of 80386. **[6]**

OR

Q6) a) Explain the TSS descriptor & its role in multitasking. **[6]**

b) List & Explain various features of virtual 8086 Mode. **[6]**

c) Define Task switching & Explain the steps involved in task switching operation. **[6]**

Q7) a) With the help of neat diagram Explain the Process of handling Interrupts in Protected mode. **[6]**

b) Explain the different types of exceptions in 80386 with suitable example. **[6]**

c) With the help of neat diagram, explain the architecture of typical Microcontroller. **[5]**

OR

Q8) a) Explain various Descriptors present in IDT of 80386. **[6]**

b) Explain the following exceptions in brief. **[6]**

i) Divide Error

ii) Invalid op code

iii) Overflow

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