University of Mumbai

Examination Summer 2022

Time: 2 hour 30 minutes Max. Marks: 80

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Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	8086 supports _____ software Interrupts
Option A:	2
Option B:	64K
Option C:	256
Option D:	8
2.	In 8086 size of pre fetch queue is
Option A:	6 Byte
Option B:	4 Byte
Option C:	4 Bit
Option D:	2 Byte
3.	The instruction that unconditionally transfers the control of execution to the specified address is
Option A:	JMP
Option B:	IRET
Option C:	RET
Option D:	CALL
4.	In PUSH instruction, after each execution of the instruction, the stack pointer is
Option A:	incremented by 1
Option B:	decremented by 1
Option C:	incremented by 2
Option D:	decremented by 2
5.	_____ stores the bits required to mask the IR lines of 8259
Option A:	ISR
Option B:	IMR
Option C:	IRR
Option D:	PR
6.	The bus is available when the DMA controller receives the signal
Option A:	HRQ
Option B:	HLDA
Option C:	DACK
Option D:	INTA
7.	Which control registers of 80386 are associated with paging mechanism?
Option A:	CR0, CR2, CR3
Option B:	CR1, CR2, CR3
Option C:	CR0, CR1 CR2

Option D:	CR0, CR1 CR2,CR3
8.	How many flags are active in flag register of 80386?
Option A:	9
Option B:	12
Option C:	13
Option D:	10
9.	What lead to the development of MESI and MEI protocol ?
Option A:	Cache size
Option B:	Cache Coherency
Option C:	Bus snooping
Option D:	Number of caches
10.	Hyperthreading uses the concept of
Option A:	Simultaneous multithreading
Option B:	Distributed decoding
Option C:	Multiple switching
Option D:	Pipelining

Q2	**Solve any Two Questions out of Three** **10 marks each**
A	Explain and draw IVT? Differentiate between hardware and software interrupts?
B	Explain descriptors and paging mechanism in protected mode of 80386 ?
C	Explain the Initialization command words (ICWs) and Operational command words(OCWs) of the 8259 PIC.

Q3	**Solve any Two Questions out of Three** **10 marks each**
A	Write an 8086 assembly language program to print the flag registers
B	Design 8086 microprocessor based system working in minimum mode with the following specifications. I) 8086 microprocessor working at 8 MHz. II) 16 KB EPROM using 8K devices. Clearly show memory map with address range. Draw a neat schematic.
C	Explain protection mechanism of 80386 with diagram.

Q4	Solve any Two Questions out of Three 10 marks each
A	Draw and explain timing diagram of memory read and memory write operation in minimum mode.
B	Explain Pentium 4 Net burst micro architecture and write a note on hyperthreading
C	Explain Integer and Floating-Point Pipeline of Pentium.