Program: **Computer Engineering**
Curriculum Scheme: Rev2019
Examination: SE Semester IV
Course Code: CSC405 and Course Name: Microprocessor

Time: 2 hour   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.	In protected mode of 80386, the VM flag is set by using
Option A:	IRET instruction or task switch operation
Option B:	IRET instruction
Option C:	Task switch operation
Option D:	NOP
2.	The instructions that are used for reading an input port and writing an output port respectively are
Option A:	MOV, XCHG
Option B:	MOV, IN
Option C:	IN, MOV
Option D:	IN, OUT
3.	While CPU is executing a program, an interrupt exists then it
Option A:	follows the next instruction in the program
Option B:	jumps to instruction in other registers
Option C:	breaks the normal sequence of execution of instructions
Option D:	stops executing the program
4.	8086 can access up to _____ memory.
Option A:	512KB

Option B:	1MB
Option C:	2MB
Option D:	256KB
5.	Because of Pentium's superscalar architecture, the number of instructions that are executed per clock cycle is
Option A:	1
Option B:	2
Option C:	3
Option D:	4
6.	The paging unit is enabled only in
Option A:	virtual mode
Option B:	addressing mode
Option C:	protected mode
Option D:	Real Mode
7.	In 8257 register format, the selected channel is disabled after the terminal count condition is reached when
Option A:	Auto load is set
Option B:	Auto load is reset
Option C:	TC STOP bit is reset
Option D:	TC STOP bit is set
8.	All the functions of the ports of 8255 are achieved by programming the bits of an internal register called
Option A:	data bus control
Option B:	read logic control
Option C:	control word register
Option D:	Status Register

9.	When non-specific EOI command is issued to 8259A it will automatically
Option A:	set the ISR
Option B:	reset the ISR
Option C:	set the INTR
Option D:	reset the INTR
10.	For a single task in protected mode, the 80386 can address the virtual memory of
Option A:	32 GB
Option B:	64 MB
Option C:	32 TB
Option D:	64 TB
11.	The recurrence of the numerical values or constants in a program code is reduced by
Option A:	EQU
Option B:	ASSUME
Option C:	LOCAL
Option D:	LABEL
12.	The hyperthreading technology automatically involves the
Option A:	decrease of die area
Option B:	increase of die area
Option C:	decrease of die area to half
Option D:	increase of die area to half
13.	The 80386 enables itself to organize the available physical memory into pages, which is known as
Option A:	segmentation
Option B:	Paging
Option C:	memory division
Option D:	Virtual memory

14.	The number of debug registers that are available in 80386, for hardware debugging and control is
Option A:	2
Option B:	4
Option C:	8
Option D:	16
15.	The instruction, JMP 5000H:2000H; is an example of
Option A:	intrasegment direct mode
Option B:	intrasegment indirect mode
Option C:	intersegment direct mode
Option D:	intersegment indirect mode
16.	The salient feature of Pentium is
Option A:	superscalar architecture
Option B:	superpipelined architecture
Option C:	superscalar and superpipelined architecture
Option D:	multiple instruction issue
17.	The speed of integer arithmetic of Pentium is increased to a large extent by
Option A:	on-chip floating point unit
Option B:	superscalar architecture
Option C:	4-stage pipelines
Option D:	instruction cache
18.	For 8086 microprocessor, the stack segment may have a memory block of a maximum of
Option A:	32K bytes
Option B:	64K bytes

Option C:	16K bytes
Option D:	128K bytes
19.	Which of the following is not a module of Pentium 4 architecture?
Option A:	front end module
Option B:	execution module
Option C:	control module
Option D:	Memory subsystem module
20.	The type of the interrupt may be passed to the interrupt structure of CPU from
Option A:	interrupt service routine
Option B:	Stack
Option C:	interrupt controller
Option D:	Segments

Q2	Solve any Four out of Six 5 marks each
A	Explain different types of Interrupts? Explain Interrupt Vector table for 8086
B	Draw and explain the internal block diagram of 8257? How DMA operations are performed?
C	Explain what is Branch Prediction Logic in Pentium? Explain working of Branch Prediction with suitable diagram?
D	Compare the 8086, 80386, Pentium Processor.
E	Draw and explain the internal architecture of 80386 microprocessor?
F	Explain the operating modes of 80386?

Q3.	Solve any Two Questions out of Three	10 marks each
A	Explain the internal architecture of 8086 microprocessor? Differentiate the functioning of Minimum mode and Maximum mode?	
B	Write an assembly language program to find the largest number from an unordered array of 8-bit numbers?	
C	Interface 32K word of memory to 8086 microprocessor system. Available memory chips are 16K*8 RAM. Use suitable decoder for generating chip logic.	