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BTECH
(SEM VII) THEORY EXAMINATION 2024-25
ADVANCED MICRO PROCESSORS & MICRO CONTROLLERS

TIME: 3 HRS

M.MARKS: 100

Note: Attempt all Sections. In case of any missing data; choose suitably.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

Q no.	Question	CO	Level
a.	Define pipelining?	1	K2
b.	Explain the physical address formation of 8086?	1	K2
c.	If [AL]=35H and [BL]=39H, after the execution of the following instructions ADD AL, BL AAA What will be the contents of AL?	2	K2
d.	List all the addressing modes of 8086 microprocessor?	2	K2
e.	In 8255, which port can be used in all modes of operation and which port is used for handshake signals?	3	K3
f.	Explain the control word format for I/O mode of 8255 PPI.	3	K3
g.	List the features of ARM Processor.	4	K3
h.	List the features of ARM Processor.	4	K3
i.	Write short note on MSP 430 exceptions.	5	K2
j.	Write short note on MSP430 exceptions?	5	K2

SECTION B

2. Attempt any three of the following: 10 x 3 = 30

Q no.	Question	CO	Level
a.	Explain the pin diagram of 8086 microprocessor?	1	K2
b.	How many types of instruction sets are there in 8086 microprocessor? Explain Branch instructions with examples?	2	K2
c.	With diagram explain how can you interface 8255 with 8086?	3	K3
d.	Describe in details about the Real mode and protected mode memory addressing of higher order processors.	4	K3
e.	Explain all the instruction set of MSP430 μ C with an example each.	5	K2

SECTION C

3. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	What is register organization of 8086? Explain application of each register?	1	K2
b.	Draw and discuss the read and write cycle timing diagram of 8086 in minimum mode?	1	K2

4. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Explain different instruction set of 8086 microprocessor?	2	K2



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b.	Discuss the following instructions of 8086 microprocessor i. AAA ii. DAA iii. DAS	2	K2
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5. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Explain different modes of operation of 8253?	3	K3
b.	Explain the pin diagram of 8259 PIC?	3	K3

6. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Draw the Block Diagram of ARM Processor and also explain it?	4	K3
b.	Draw and explain the block diagram of 80286 microprocessor?	4	K3

7. Attempt any one part of the following: 10 x 1 = 10

Q no.	Question	CO	Level
a.	Explain MSP430 instruction set. A. Arithmetic instruction B. Flow control instruction	5	K2
b.	Sketch the functional block diagram of MSP430 microcontroller and briefly explain its architecture.	5	K2