

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BMLT
BRANCH: BMLT**

**SEMESTER : IV
SESSION : SP/2025**

SUBJECT: BMT413 INTRODUCTION TO MICROPROCESSOR

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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Q.1(a)	Compare the architecture of 8085 and 8086 microprocessors in terms of their data bus width, memory addressing capability, and instruction set.	[5] 1	4
Q.1(b)	Explain different addressing modes of the 8085 microprocessor with suitable examples.	[5] 1	2
Q.2(a)	Write a program using 8085 assembly language to count numbers from 0 to 9 and display each number at a memory location.	[5] 2	3
Q.2(b)	Explain the working of stack and the use of CALL and RET instructions in 8086 with an example subroutine.	[5] 2	3
Q.3(a)	Explain the concept of vectored interrupts in 8085. How are they prioritized?	[5] 3	2
Q.3(b)	Describe the process of serial data communication using 8085. Mention the role of the SID and SOD lines.	[5] 3	2
Q.4(a)	Draw the functional block diagram of 8255 Programmable Peripheral Interface and explain its modes of operation.	[5] 4	2
Q.4(b)	Explain how a seven-segment display can be interfaced using 8255 to display a digit. Include a schematic diagram and brief code logic.	[5] 4	3
Q.5(a)	Discuss how microprocessors are used in ECG machines for data acquisition and signal processing.	[5] 5	4
Q.5(b)	Describe the role of microprocessors in patient monitoring systems, especially for measuring vital parameters.	[5] 5	2

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