

EXPLORE INNOVATE EXCEL
Punjab Engineering College
(Deemed to be University), CHANDIGARH
Mid-Term Examination

Programme: **B.Tech(ECE)**
Course Name: **Microprocessor and applications**
Maximum Marks: **50**

Year/Semester: **2nd/3rd sem**
Course Code: **ECN-203**
Time Allowed: **1.5 Hours**

Sr. No.	Questions	Marks
1	a) In what other way HL pair can be used? b) Draw flag register of 8085 and state its characteristics. c) Explain various features of 8085. d) Differentiate Von Neumann and Harvard Architecture. e) Indicate the length of the Program Counter (PC) to access 1 KB and 1 MB Memory. f) Give one example each of 1-byte, 2-byte and 3-byte instructions of 8085. g) What an instruction essentially consists of?	1 2 2 2 2 2 1
2	Copy the contents of a block of memory (16 bytes) starting at location 20100h to another block of memory starting at 20120h.	3
3	a) Distinguish between the lower sixteen address lines from the upper four. b) Tabulate the common signals, Minimum mode signals and Maximum mode signals. Also mention their functions and types. c) Elaborate the functions of the pins S2', S1' and S0'.	1 2 2
4	Discuss the instruction format of 8086	2
5	How memory is organized for 8086 μ P?	2
6	a) If code segment register contains 1FAB and IP register contains 10A1. What is physical address of memory? b) Which instructions uses contents of CX register as a counter?	1 1
7	Explain AAA, AAS, AAM and AAD with examples	4



EXPLORE INNOVATE EXCEL

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End-Term Examination

Programme: **B.Tech(ECE)**Year/Semester: **2nd/3rd sem**Course Name: **Microprocessor and Applications**Course Code: **ECN-203**Maximum Marks: **55**Time Allowed: **3 Hours**

- All questions are compulsory.
- Unless stated otherwise, the symbols have their usual meanings in context with subject. Assume suitably and state, additional data required, if any.
- The candidates, before starting to write the solutions, should please check the question paper for any discrepancy, and also ensure that they have been delivered the question paper of right course code.

Q.No.		Marks
1	Draw an architectural diagram of 8085 microprocessor and discuss the function of each block.	4
2.(a)	Explain the following instructions (i)AAA (ii) AAS (iii)AAM (iv)AAD	4
2.(b)	Draw and explain the modes in which 8086 can operate.	3
3.(a)	What are the conditions for which EU enters into WAIT mode?	3
3.(b)	How direct memory to memory data transfer possible in 8086?	2
3.(c)	Draw the Read and Write bus cycles for 8086 μ P in Minimum mode.	3
4.(a)	Explain XLAT instruction with example.	2
4.(b)	Write an ALP to find 2's complement of a string of 100 bytes.	4
5	Write an ALP to evaluate $X (Y + Z)$, where $X = 10 \text{ H}$, $Y = 20 \text{ H}$ and $Z = 30 \text{ H}$.	4
6.(a)	Explain how a procedure and data from another module can be accessed.	2
6.(b)	List and describe the functions associated with INT00 - INT04	2
7	What are the steps, sequentially carried out by the systems when an interrupt occurs?	2
8.(a)	WAP to generate a delay of minutes.	2
8.(b)	How many address lines are required for accessing the data if memory capacity is (i) 4M bytes RAM (ii) 8Gbyte EPROM.	2
9	Interface two 16K x 8 EPROMS and two 32K x 8 RAM Chips with 8086. Select the suitable address map. RAM Memory	4

	address start from 00000H and explain the memory chip selection process.	
10.(a)	Draw architecture of 8251.	2
10.(b)	What process is required get digital data from ADC. Which ADC is most commonly used?	2
10.(c)	What are the types of outputs obtained under different modes in 8253?	2
10.(d)	Write a program to set bits Port C lower and to reset them after 1 second delay.	2
11(a)	What are the characteristics of 8087 NDP	2
11(b)	How 8086 communicates with NDP 8087?	2