

JK LAKSHMIPAT UNIVERSITY, JAIPUR

INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Regular/ Backlog), April-May 2018

B. Tech Electrical Engineering, Semester VI

Roll No.....

COURSE CODE: EE 605

Time: 3 hours

Max. Marks: 100

COURSE TITLE: Microprocessor and Interfacing

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1A Objective type multiple choice questions (10 questions @ 1 mark) 10

- i. What does microprocessor speed depends on? (A) Clock (B) Data bus width (C) Address bus width (D) all of above
- ii. The device that generates the basic timing clock signal for the operation of the circuit using crystal oscillator is
A) timing unit
B) timing and control unit
C) oscillator
D) clock generator
- iii. In 8085, level triggered interrupts are (A)INTR & TRAP (B) RST6.5 & RST 5.5 (C) RST 7.5 (D) None of above
- iv. Which stack is used in 8085? a) FIFO b) LIFO c) FILO (D) LILO
- v. Which processor structure is pipelined? (A) x80 processors (B) x85 processors (C) all x86 processors (d) all the above
- vi The address bus in 8086 is (A)8 bit (B) 16 bit (C) 32 bit (D) 64 bit
- vii The work of EU in 8086 is (A) encoding (B) processing (C) interfacing (d) fetching
- viii The DF is known as _____ (A). Distinction flag (B). Difference flag (C). Direction flag(D) Definition flag
- ix Following is not an advantage of DMA (A) High speed (B) precise synchronization (C) lesser CPU cycles (D)less power consumption c)
- x The four categories of registers are (A) general purpose (B) Segment (C) Data (d) All of above

Q.2 Short answer type questions (4 questions @ 2.5 marks) 10

- (a) What is Baud rate? How is it related to bit rate?
- (b) What is Direct Memory Access?
- (c) What is a machine cycle?
- (d) Differentiate between full duplex and half duplex transmission.

Q.3A Draw the Programming model of 8085. 05

Q.3B	Explain the sequence of operations for assembly level instruction MOV A,M.	05
Q.4A	List the 8085 assembly instructions which can perform arithmetic operations directly with data from memory.	05
Q.4B	Explain with diagram subroutine CALL and RET Instructions.	05
Q.5A	Draw the flowchart for finding factorial of a number.	05
Q.5B	Write the assembly level program for finding square of a number.	05
Q.6A	Draw a schematic diagram of 8255 showing four switches connected to Port C Upper four pins and LEDs connected to lower four pins of port C. Write the control word to use 8255 in Mode 0 (BSR mode).	05
Q.6B	Write an assembly program to read the switches from Port C _{upper} and glow the LEDs connected to port C _{lower} .	05
Q.6B	Draw the flow chart for transmit and receive, separately for Asynchronous Serial communication. Show the data format indicating the bit duration when 1200 baud rate is used.	05
Q.7A	Write an assembly level program to enable the three interrupts RST 7.5, RST 6.5 and RST 5.5.	05
Q.7B	In the above program, assume that microprocessor is completing RST 7.5, write the program to check if RST6.5 is pending.	05
	OR	
Q.7B	Explain the handshake signal for input configuration of 8255 mode 1.	05
Q.8A	Compare the features of 8085 and 8086 microprocessor. What is segmentation of memory and why is it done?	10
Q.9A	Explain the architecture for Bus interface unit of 8086 microprocessor.	10
Q.9B	Draw the timing diagram for two stage pipeline.	10
	OR	
Q.9B	Explain the flags of 8086 , clearly mentioning their classification.	10