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324552(24)

B. E. (Fifth Semester) Examination, April-May 2016

(New Scheme)

(Elect. Engg.)

MICROPROCESSOR & INTERFACING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

***Note** : Part (a) is complsory, attempt any two parts from (b),(c),(d).*

1. (a) In a microprocessor data lines are 8, and address lines are 12. How many OPCODE's are possible and how much memory can be interfaced? 2

(b) Draw the PIN-Diagram of 8085 and explain each PIN in brief. 7

(c) Explain demultiplexing operation by drawing block diagram and Timing diagram with Latch. 7

(d) Explain flag and temporary registers. 7

2. (a) Explain the instruction XCHG. 2

(b) Write a program to generate a delay of 0.5 sec. if the crystal frequency is 5 MHz. 2

(c) Draw flow chart and write a program to convert binary number located at EA01-H, in to its BCD equivalent and store $100^{'s}$, $10^{'s}$ and $1^{'s}$ in register B, C & D. 7

(d) Write a program to fetch BCD number from EA12-H find its LED equivalent code [located from EB00 to EB09] and store the code for BCD(Higher) and BCD(lower) and EC01 and EC02. 7

3. (a) Can be input port and output port have the same port address. 2

(b) Explain linear and absolute decoding Technique with suitable diagram. 2

(c) Interface 26k memory with 8085. IC available are
8k × 8 EPROM-3 No's
2k × 8 RAM - 1 No's,
Draw complete interface diagram. 7

(d) Interface 8k bytes of memory with 8085. IC available are :
4k×4 RAMs (reg. No's)
With address range for all chips and draw complete interfacing diagram. 7

4. (a) EI
MVI A, 08H
SIM
What is the outcome of above program? 2

(b) Explain the interrupt structure of 8085. 7

(c) Draw and explain timing diagram of interrupt acknowledge machine cycle. 7

(d) Write a program to transfer 1k data from memory

location 1000H onwards to memory location B000H onwards. During this process if RST 7·5 is received transfer FF-H to port 01-H. 7

5. (a) Which peripheral support the operation "Counts on the fly." 2

(b) Write a program to generate a square wave of 1 m-sec width by using 8155, the clock frequency is 3 MHz. 2

(c) Write a program to generate 1 kHz square wave from counter 1 of 8253. 7

(d) Explain 8251. 7