

Duration: 2 1/2 Hrs

Note:-

- 1) All Questions are compulsory
- 2) Figures to the right indicate maximum marks.

Q1) Attempt any 3

(15M)

- a) Write a short note on flag register of 8085 up
- b) Compare high level language and low level language
- c) Explain the function of general purpose register and instruction register
- d) Explain stack structure and operation
- e) Define the term
  - 1) OpCode
  - 2) Operand
  - 3) Instruction
  - 4) Instruction set
  - 5) BUS
- f) Explain the instruction PUSH Rp, POP Rp

Co1 (R)

Co1 (R)

Co1 (U)

Co1 (U)

Co1 (R)

Co1 (R)

Q2) Attempt any 3

(15M)

- a) Explain the interfacing of 8155 with 8085
- b) WAP to perform addition of two 8 bit number using 8085
- c) List different type of addressing modes used 8085 up, explain any 3
- d) Write short notes on Rotate instructions
- e) Add two 4 digit BCD number in HL and DE register pair and store result in memory location, 2300H and 2301 H ignore carry after 16 bit
- f) List the feature of 8155

Co2 (U)

Co3 (A)

Co2 (R)

Co2 (U)

Co3 (U)

Co2 (U)

Q3) Attempt any 3

(15M)

- a) Compare General purpose computer system and embedded system
- b) Explain various embedded microcontroller core in details
- c) Discuss power down mode of 8051 microcontroller
- d) Write an embedded C program for 8051 to count OOH to FFH on port P2
- e) Explain SFR of TMDD
- f) Explain Memory organization structure of 8051

Co3 (R)

Co3 (U)

Co3 (U)

Co3 (R)

Co3 (U)

Co3 (R)

Q4) Attempt any 3

(15M)

- a) Design 8051 based microcontroller with following specification
  - i) 8051 CPU Working at 12 MHz
  - ii) 16KB data memory
  - iii) 32KB program memory
  - iv) 8255 PP1
- b) What is IDE; Explain different tool of IDE
- c) Compare, black box and white box testing
- d) Explain classic embedded system development life cycle model
- e) Describe PSW for 8051 microcontroller
- f) Explain flag register of 8085.

Co4 (R)

Co4 (R)

Co4 (R)

Co4 (R)

Co4 (R)

Co2 (R)

Q5) Attempt any 3

(15M)

- a) Explain the following instructions 1) ADD R 2) DCX Rp 3) XCHG 4) MOV M, R
- b) Raw architecture of 8085 $\mu$ p
- c) Explain logical instructions of 8085 $\mu$ p
- d) Write a program to shift 8 bit data 4 bit right. Assume data in register C
- e) Explain conditional jump instruction
- f) Interface 4kb of EPROM with starting address from 0000H and 2kb of RAM with starting address followed by EPROM

Co2 (U)

Co2 (R)

Co2 (U)

Co2 (U)

Co2 (U)

Co3 (R)