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SARDAR PATEL UNIVERSITY

Vallabh Vidyanagar - 388120

B. Sc. - 5th Semester (Applied Physics) Examination 2019

US05CAPH06 (Introduction to 8085 Microprocessor and Control Systems - 1)

Friday, 22/11/2019, 10:00 am to 01:00 pm

Maximum Marks: 70

Que 1 Objective Type Questions. [10]

1 _____: a combination of letters to suggest the operation of an instruction.

a) Mnemonic b) Program

c) Machine language d) Assembly language

2 _____: a computer program that translates an assembly language program from mnemonics to the binary machine code of a computer.

a) Assembler b) Compiler

c) Interpreter d) Manual assembly

3 Nibble: a group of _____ bits.

a) 2 b) 4

c) 8 d) 16

4 The width of 8085 microprocessor address bus is of _____ bits.

a) 8 b) 16

c) 32 d) 64

5 Crystal frequency of 8085 microprocessor is _____ MHz.

a) 2 b) 3

c) 6 d) 8

6 _____ is non-maskable interrupt.

a) INTR b) RST 7.5

c) TRAP d) RST 5.5

7 Industrial process variable under control is known as _____.

a) Variable range b) Self-regulation

c) Controlling variable d) Controlled variable

8 The difference between set value and process value is known as _____.

a) Self-regulation b) Control parameter range

c) Transient d) Error

9 _____ is the difference between the high and low values of the range.

a) Span b) Zero

c) Range d) Set point

10 Minimum value of range is known as _____.

a) Zero b) Span

c) Manipulated variable d) Set point

(P.T.O)

Que 2 Short Questions (Attempt Any Ten) [20]

1. Why program counter (PC) and stack pointer (SP) are 16-bits registers?
2. Explain what flag register is.
3. Differentiate: Compiler and Interpreter.
4. Enlist 8085 microprocessor arithmetic instructions. Explain ADD.
5. Explain XRA with necessary example.
6. What do you mean by addressing mode?
7. Define: Transient and dead time.
8. What do you mean by process lag and control lag?
9. Differentiate: discontinuous control system and continuous control system.
10. Write on analog and digital control system.
11. Explain linear and non-linear control system.
12. Explain with example what range and zero is.

Que 3 [A] Write a note on 8085 microprocessor programming model. [05]

[B] Discuss 8085 microprocessor instruction classification. [05]

OR

[C] Write a note on 8085 microprocessor hardware model. [05]

[D] Explain tri-state device and decoder with respect to 8085 microprocessor. [05]

Que 4 [A] Write a detailed note on 8085 microprocessor (8085 MPU) with necessary diagram. [10]

OR

[C] Explain IN instruction with timing diagram. [05]

[D] Discuss demultiplexing the bus AD_7-AD_0 with necessary diagram. [05]

Que 5 [A] Explain ON-OFF control system. What is neutral zone? [05]

[B] Write a note on proportional control system. What is offset? [05]

OR

[C] Explain Multiposition control mode. [05]

[D] Give an account of integral control mode. [05]

Que 6 [A] Explain feedback control system. [05]

[B] Write a note on cascade control system. [05]

OR

[C] Explain feedforward control system. [05]

[D] Explain ratio control system. [05]

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