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Question Paper Code: 31562

B.E. / B.Tech. DEGREE EXAMINATION, NOVEMBER 2015

Fifth Semester

Instrumentation and Control Engineering

01UIC502 – MICROPROCESSORS AND CONTROLLER

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. Discuss the function of program counter.
2. List the different flags available in 8085 with diagram of flag register
3. Describe instruction format in 8085.
4. How does a microprocessor differentiate between data and instruction code?
5. Differentiate the features of 8051 with 8085.
6. Name the port used for external memory access control signal in 8051.
7. Draw the generalized block diagram of 8085 based temperature control system.
8. List the functional blocks of 8259.
9. Is real time system an embedded system? Justify.
10. Define system integration.

PART - B (5 x 16 = 80 Marks)

11. (a) With a neat diagram discuss in detail about pin diagram of 8085. (16)

Or

(b) With a neat diagram discuss in detail about architecture of 8086. (16)

12. (a) (i) List different addressing modes of 8085 and discuss them. (12)

(ii) Explain how *MVI A, 32 H* is a two byte Instruction. (4)

Or

(b) (i) List the different control instructions in 8085 and explain any two with example. (6)

(ii) Define lookup table. Explain with an example. (4)

(iii) List the similarities and difference between CALL, RET and PUSH, POP. (6)

13. (a) Discuss in detail about architecture of 8051. (16)

Or

(b) Explain the serial communication with various modes of operation. (16)

14. (a) With a neat diagram explain in detail about 8085 based traffic light controller. (16)

Or

(b) With a neat diagram explain in detail about control of stepper motor using 8051. (16)

15. (a) List out the stages of embedded system design process and explain them in detail. (16)

Or

(b) Describe the CAN bus and PCI. (16)