Register No: ……..

B.E., DEGREE EXAMINATIONS: NOV/DEC 2012

Fifth Semester

AERONAUTICAL ENGINEERING

AER112: Digital Electronics and Microprocessors

Time: Three Hours **Maximum Marks: 100**

Answer All the Questions:-

PART A (10 x 1 = 10 Marks)

1. The universal gates are

   A. AND&OR B. OR&NOR C. NAND&NOR D. AND&NOR

2. Multiplexers Normally

   A. 2^n input line& n selection line

   B. 2 input line& n selection line

   C. 2 Input line& 2n selection line

   D. 3^n input line& n selection line

3. In 8085 Accumulator has _____ register

   A. 8 B. 4 C. 7 D. 5

4. Nibble means a group of

   A. 8 bits B. 4 bits C. 4 bytes D. 2 bites

5. A Stack is

   A. An 8 bit register in the microprocessor

   B. a 16 bit register in the microprocessor

   C. a set of memory locations in R/W M reserved for storing information temporarily during the execution of a program

   D. 1024 bites

6. When a subroutine is called, the address of the instruction following the CALL instruction is stored in the

   A. Stack pointer B. Accumulator C. Program Counter D. Stack

7. Serial data communication suitable for

   A. 19 Kbits/second B. 18 Kbits/second

   C. More than 20 Kbits/second D. 18 Kbits/second

8. The 8279 programmable keyboard / display interface is

   A. 40 Pin Device B. 20 Pin Device C. 30 Pin Device D. 45 Pin Device

9. The 8255 has _____ control words.

   A. Two B. Three C. Four D. Five

10. EPROM

    A. Erasable programmable read only memory

    B. Electronic programmable read only memory

    C. Electric programmable read only memory

    D. Essential programmable read only memory

PART B (10X2=20 Marks)

11. What is the difference between encoder and decoder?
12. What is meant by De-Multiplexer?
13. List out the addressing modes in 8085 microprocessor?
14. What is meant by data transfer operations?
15. What are the steps needed to interface memory with the microprocessor?
16. What is the difference between Memory Mapped I/O and Peripheral I/O?
17. Explain the term simplex, duplex, half duplex and full duplex?
18. What is the difference between ROM and RAM?
19. What is meant by parallel data transfer scheme?
20. What are BSR Mode and I/O Mode in 8255?

PART C (5X14=70 Marks)

21. a) (i) Explain successive approximation type A/D Converter in detail (10)

    (ii) Compare the types of DAC. (4)

(OR)

(b) Explain in detail the Synchronous and Asynchronous counters?

22. a) Explain in detail the various functional blocks present in 8085 microprocessor?

(OR)

b) Explain in detail the timing diagram of memory read and memory write?

23. a) Write an assembly language program to find the largest number in an array

(OR)

b) Explain in detail a schematic of interfacing I/O devices using memory-mapped I/O technique.

24. a) Explain briefly block diagram of 8253 programmable interval timer.

(OR)

b) Explain briefly programmable interrupt controller 8259 with the help of block diagram.

25.a) Explain the need and the functionality of a DMA controller with a help of a neat block Diagram.

(OR)

b) Explain briefly applications of 8085 microprocessor: Traffic light controller.

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