Q.29 Distinguish between machine language and assembly language. (CO5)

Q.30 Explain block diagram of 8253 in detail. (CO6)

Q.31 Distinguish between serial data transfer and parallel data transfer. (CO4)

Q.32 Explain logical instruction set of 8051 microcontrollers. (CO2)

Q.33 Explain PUSH and POP instruction of 8085 microprocessor. (CO3)

Q.34 Differentiate the function of Assembler, Compiler and Interpreter. (CO1)

Q.35 Explain different interrupts available in 8051. (CO4)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Write a short note on any two of the following:(CO3)

a) DAA Instruction
b) Compare the CALL and JMP instructions
c) Counters in microcontroller

Q.37 Draw and explain the pin configuration if 8051 Microcontroller. Explain the function of each pin. (CO4)

Q.38 Define microprocessor. Draw neat block diagram of internal architecture of 8085 microprocessor and explain to blocks. (CO2)

(**Note:** Course outcome/CO is for office use only)

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4th Sem / Mechatronics
Subject:- Embedded Systems

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 Accumulators is used to (CO2)

a) Stores a number
b) Add two numbers
c) Adds and stores two numbers
d) None of the above

Q.2 What is the bit size of 8051 microcontroller? (CO4)

a) 4 bit b) 8 bit
c) 16 bit d) 32 bit

Q.3 What is the number of I/O ports in the 8051 microcontrollers? (CO4)

a) 2 ports b) 3 ports
c) 4 ports d) 6 ports

Q.4 What are the functions of the TMOD register?(CO4)

a) To set various operation modes of time/counter
b) To load the count of the timer
c) Is used to interrupt the timer
d) None of the above

Q.5 The internal RAM memory of the 8051 is (CO4)

a) 32 bytes b) 64 bytes
c) 128 bytes d) 256 bytes

Q.6 The full form of MIPS is _____ (CO1)
a) Millions of instructions per second
b) Millions of instructions per set
c) Millions of instructions per section
d) None of the above

Q.7 Which pin provides a reset option(RST) in 8051? (CO1)
a) Pin 1 b) Pin 8
c) Pin 12 d) Pin 9

Q.8 The Mnemonics used in writing a program is called (CO5)
a) Assembly language b) Machine language
c) High level language d) Object program

Q.9 The instruction HTL belongs to which group: (CO3)
a) Data transfer b) Arithmetic group
c) Branch control d) Machine control

Q.10 Which of the following interrupts has the highest priority? (CO2)
a) RST 5.5 b) TRAP
c) RST 7.5 d) INTR

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 What is stack pointer? (CO2)

Q.12 What is the use of SCON instruction? (CO3)

Q.13 What is micro controller? (CO4)

Q.14 What is 8279 used for? (CO6)

Q.15 Name various flags of 8085 flag register. (CO2)

Q.16 What is the full form of SIM? (CO1)

Q.17 Define the term instruction cycle. (CO3)

Q.18 Name different types of interrupts used in 8051. (CO4)

Q.19 Define the term address bus. (CO2)

Q.20 What is the use of program counter? (CO2)

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Differentiate between I/O mapped I/O and memory mapped I/O (CO4)

Q.22 Explain the different instruction format of 8085 with example. (CO3)

Q.23 Explain the interfacing of keyboard with microcontroller 8051? (CO6)

Q.24 Explain the sequence of execution of a program by microprocessor. (CO5)

Q.25 What are the various register of 8085? Discuss their functions in detail. (CO2)

Q.26 Discuss briefly the evolution of microprocessor. (CO2)

Q.27 Define PSW. List the number of flags in 8051 microcontroller and name them. (CO2)

Q.28 Write assembly language program to add two 8-bit numbers. (CO5)