

- Q.33 Discuss the difference between direct and indirect address with example.
- Q.34 What is the function of SFRs in 8051?
- Q.35 What is embedded system? Explain with example.

SECTION-D

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

- Q.36 What do you mean AVR? Explain architecture of AVR.
- Q.37 With the help of block diagram, explain the working of different block of 8051.
- Q.38 What are the different addressing modes available in 8051? Explain them with example.

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**4th Sem / Branch : Instrumentation & Control
Subject:- Microcontroller based
Embedded Systems**

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Embedded systems are
- a) General purpose b) Special purpose
 - c) Both a and b d) None
- Q.2 MOVA,@R1 will
- a) Copy R1 to the accumulator
 - b) Copy the accumulator to R1
 - c) Copy the contents of memory whose address is in R1 to the accumulator
 - d) Copy of the accumulator to the contents of memory whose address in R1
- Q.3 The 8051 has _____ 16 bit counter/Timers
- a) 1 b) 2
 - c) 3 d) 4
- Q.4 What is order decided by a processor or the CPU of a controller to execute an instruction?
- a) Decode, fetch, execute
 - b) Fetch, execute, decoded
 - c) Fetch, decode, execute
 - d) Execute, fetch, decode

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- Q.5 How many memory cells are present in 1 kb RAM?
a) 1024 b) 8192
c) 512 d) 2048
- Q.6 A nibble has _____ bit.
a) 2 b) 4
c) 8 d) 12
- Q.7 The 8051 micro controller is an _____ bit machine.
a) 4 b) 12
c) 12 d) 16
- Q.8 Accumulator is a _____ bit register.
a) 8 b) 16
c) 4 d) 12
- Q.9 RTO's stands for
a) Retentive time operator systems
b) Retentive timer operating system
c) Real time operating system
d) Refrigerant timer operating system
- Q.10 MOV B,A is example of which addressing mode?
a) Indirect b) Direct
c) Register d) Implied

SECTION-B

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

- Q.11 Expand RAM.
Q.12 Give one use of embedded system.

- Q.13 What is opcode?
Q.14 What is microcontroller?
Q.15 Define program.
Q.16 What is interrupt?
Q.17 Which interrupt has the highest priority?
Q.18 Tcon stands for _____.
Q.19 What is the full form of ALU?
Q.20 8051 has _____ total number of instruction.

SECTION-C

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

- Q.21 What is microcontroller for embedded system?
Q.22 Write a short note on A & B register of 8051.
Q.23 Explain embedded operating system with example.
Q.24 Write a short note on advanced microcontroller.
Q.25 Write the various application of microcontroller.
Q.26 What is the function program counter and data pointer in 8051?
Q.27 Explain PIC Microcontroller in brief.
Q.28 What is RTO's? Explain.
Q.29 Write a short note on I/O ports of 8051.
Q.30 Name different types of instruction used in 8051.
Q.31 Differentiate between microprocessor and microcontroller.
Q.32 Describe logical group of instruction with suitable example.