

Program: BE Information Technology Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V

Course Code: TEITC501 **Course Name:** Microcontroller and Embedded Programming

Time: 2 hour

Max. Marks: 80

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Note to the students:- All the Questions are compulsory and carry equal marks .

Q. I	Each question carries 2 marks (Q1 to 20)
Q1.	1. When an interrupt is enabled, then where does the pointer moves immediately after this interrupt has occurred?
Option A:	to the next instruction which is to be executed
Option B:	to the first instruction of ISR
Option C:	to a fixed location in memory called interrupt vector table
Option D:	to the end of the program
Q2.	After RETI instruction is executed then the pointer will move to which location in the program?
Option A:	next interrupt of the interrupt vector table
Option B:	immediate next instruction where interrupt is occurred
Option C:	next instruction after the RETI in the memory
Option D:	none of the mentioned
Q3.	Which pin of the external hardware is said to exhibit INTO interrupt?
Option A:	pin no 10
Option B:	pin no 11
Option C:	pin no 12
Option D:	pin no 13
Q4.	Which bit of the IE register is used to enable TxD/RxD interrupt?
Option A:	IE.D5
Option B:	IE.D2
Option C:	IE.D3
Option D:	IE.D4
Q5.	In 8 bit signed number operations, OV flag is set to 1 if:
Option A:	a carry is generated from D7 bit
Option B:	a carry is generated from D3 bit

Option C:	a carry is generated from D7 or D3 bit
Option D:	a carry is generated from D7 or D6 bit
Q6.	A valid division instruction always makes:
Option A:	CY=0,AC=1
Option B:	CY=1,AC=1
Option C:	CY=0,AC=0
Option D:	no relation with AC and CY
Q7.	DAA command adds 6 to the nibble if:
Option A:	CY is 1
Option B:	either CY or AC is 1
Option C:	CY and AC are necessarily 1
Option D:	no relation with CY or AC
Q8.	If SUBB A,R4 is executed, then actually what operation is being applied?
Option A:	R4+A
Option B:	R4-A
Option C:	A-R4
Option D:	R4+A
Q9.	What is the advantage of register indirect addressing mode?
Option A:	it makes use of registers R0 and R1
Option B:	it uses the data dynamically
Option C:	it makes use of operator @
Option D:	it is easy
Q10.	Which of the following comes under the indexed addressing mode?
Option A:	MOVC @A+DPTR,A
Option B:	MOVX A, @DPTR
Option C:	MOV A,R0
Option D:	MOV @R0,A
Q11.	Which addressing mode is used in pushing or popping any element on or from the stack?
Option A:	indirect
Option B:	immediate
Option C:	register

Option D:	direct
Q12.	Which of the ports act as the 16 bit address lines for transferring data through it?
Option A:	PORT 0 and PORT 1
Option B:	PORT 1 and PORT 2
Option C:	PORT 0 and PORT 2
Option D:	PORT 1 and PORT 3
Q13.	What is the meaning of the instruction MOV A,05H?
Option A:	data 05H is stored in the accumulator
Option B:	address 05H is stored in the accumulator
Option C:	fifth bit of accumulator is set to one
Option D:	none of the mentioned
Q14.	When 8051 wakes up then 0x00 is loaded to which register?
Option A:	PSW
Option B:	SP
Option C:	PC
Option D:	None of the mentioned
Q15.	When the microcontroller executes some arithmetic operations, then the flag bits of which register are affected?
Option A:	PSW
Option B:	SP
Option C:	PC
Option D:	None of the mentioned
Q16.	If we push data onto the stack then the stack pointer
Option A:	increases with every push
Option B:	decreases with every push
Option C:	increases & decreases with every push
Option D:	none of the mentioned
Q17.	“DJNZ R0, label” is _____ byte instruction.
Option A:	2
Option B:	3
Option C:	1
Option D:	Can't be determined
Q18.	When the call instruction is executed the topmost element of stack comes out to be
Option A:	the address where stack pointer starts

Option B:	the address next to the call instruction
Option C:	address of the call instruction
Option D:	next address of the stack pointer
Q19.	What is the time taken by one machine cycle if crystal frequency is 20MHz?
Option A:	1.085 micro seconds
Option B:	0.60 micro seconds
Option C:	0.75 micro seconds
Option D:	1 micro seconds
Q20.	Which out of the four ports of 8051 needs a pull-up resistor for using it as an input or an output port?
Option A:	PORT 0
Option B:	PORT 1
Option C:	PORT 2
Option D:	PORT 3
Q. II	Each question carries 10 marks (Q1 to Q4)
Q1	Draw the functional pin diagram of ADC 0808.
Q2	Explain the working of stepper motor
Q.3	Discuss the operating mode of ARM 7 processor
Q.4	Compare features of Arduino and Raspberry Pi embedded target boards