Program: BE Biomedical Engineering

Curriculum Scheme: Revised 2012

Examination: Third Year Semester VI

Course Code: BMC604 and Course Name: MICROCONTROLLERS AND EMBEDDED SYSTEMS

Time: 1 hour   Max. Marks: 50

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

Q1.	Which of the following is an example for an important microprocessor used in embedded systems?
Option A:	SPARC
Option B:	ARM7
Option C:	PIC18
Option D:	68HC11xx
Q2.	Which one of the following offers CPUs as integrated memory or peripheral interfaces?
Option A:	Microcontroller
Option B:	Microprocessor
Option C:	Electrical system
Option D:	Memory system
Q3.	A total of how many pins of 8051 are set aside for the four ports P0, P1, P2, and P3?
Option A:	40
Option B:	32
Option C:	16
Option D:	24
Q4.	Which of the following is the 8051 Flag register bit PSW.0?
Option A:	Carry flag
Option B:	Auxiliary carry
Option C:	User-defined flag
Option D:	Parity flag
Q5.	Which of the following 8051 family members has 8 Kbyte of on chip ROM?
Option A:	8031
Option B:	8051
Option C:	8052

Option D:	8751
Q6.	Which SFR is used to cause the 8051 microcontroller to enter power down mode?
Option A:	PCON
Option B:	SCON
Option C:	TCON
Option D:	PSW
Q7.	Which of the following is the interrupt vector address for the Serial COM interrupt of 8051?
Option A:	0000H
Option B:	0003H
Option C:	0013H
Option D:	0023H
Q8.	What is the size of PC register of 8051?
Option A:	8-bit
Option B:	16-bit
Option C:	12-bit
Option D:	4-bit
Q9.	Which of the following RS232 handshaking signals is the output from the DCE (modem) and an input to DTE (PC) that indicates the telephone is ringing?
Option A:	CTS
Option B:	DCD
Option C:	RI
Option D:	RTS
Q10.	Which of the following 8051 instruction is used to temporarily store an 8-bit operand in the stack area of 8051 RAM?
Option A:	POP
Option B:	MOV
Option C:	NOP
Option D:	PUSH
Q11.	Which is the addressing mode used for the 8051 instruction "MOVC A, @A+DPTR"?
Option A:	Immediate addressing mode
Option B:	Direct addressing mode
Option C:	Register indirect addressing mode
Option D:	Indexed addressing mode
Q12.	From the following options, which is not a valid 'assembler directive'?
Option A:	END
Option B:	DB

Option C:	EQU
Option D:	NOP
Q13.	What is the size of the "C" data type "sfr" for the 8051?
Option A:	8-bit
Option B:	4-bit
Option C:	16-bit
Option D:	1-bit
Q14.	Which bit of 8051 TCON register must be set in order to start the Timer 1?
Option A:	TCON.4
Option B:	TCON.6
Option C:	TCON.7
Option D:	TCON.5
Q15.	What is in the content of register A after execution of the following instructions? MOV A, #85H ANL A, #0F0H
Option A:	00H
Option B:	FFH
Option C:	80H
Option D:	25H
Q16.	What will be the contents of register A after following instructions are executed: MOV A, #63H SWAP A CPL A
Option A:	11H
Option B:	78H
Option C:	C9H
Option D:	FFH
Q17.	How many address lines are required for accessing the data in a 32,768 bytes ROM memory chip, while data is organized as bytes?
Option A:	20
Option B:	10
Option C:	15
Option D:	30
Q18.	How many rows are there in 16×2 LCD?
Option A:	1
Option B:	2
Option C:	16
Option D:	32
Q19.	The rows and columns of a 4×4 matrix keyboard are connected respectively to

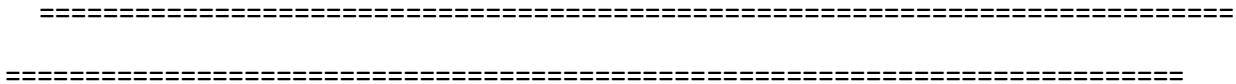|	the lower half of P1(output port) and the lower half of P2(input port) of 8051 microcontroller. If no key has been pressed, reading P2 will yield which of the following binary values in its lower half?
Option A:	1111
Option B:	1001
Option C:	1100
Option D:	1010
Q20.	How many analog ground pin(s) are available in ADC0804?
Option A:	1
Option B:	2
Option C:	3
Option D:	4
Q21.	Which of the following is true for 8255?
Option A:	It has four 4-bit ports
Option B:	It has three 8-bit ports
Option C:	It has one 8-bit port
Option D:	It has two 4-bit ports
Q22.	What does "CAN" stand for in CAN bus?
Option A:	Controlled Arial Network
Option B:	Controller Area Network
Option C:	Controller Assisted Network
Option D:	Complex Area Network
Q23.	How many maximum devices can be connected to a USB host?
Option A:	255
Option B:	127
Option C:	63
Option D:	511
Q24.	The interval between the occurrence of an interrupt and start of execution of the interrupt service routine is called
Option A:	Interrupt latency
Option B:	Interrupt service deadline
Option C:	Jitter
Option D:	Transit time
Q25.	In which of the following scheduling strategies tasks are assigned priorities in accordance with their rate of occurrences of need of their services?
Option A:	Fixed real-time scheduling
Option B:	Cooperative scheduling
Option C:	Pre-empting scheduling
Option D:	Rate monotonic scheduling

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Question	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	A
Q3.	B
Q4	D
Q5	C
Q6	A
Q7	D
Q8.	B
Q9.	C
Q10.	D
Q11.	D
Q12.	D
Q13.	A
Q14.	B
Q15.	C
Q16.	C

Q17.	C
Q18.	B
Q19.	A
Q20.	A
Q21.	B
Q22.	B
Q23.	B
Q24.	A
Q25.	D