Program: Master of Computer Applications

Curriculum Scheme: MCA 2 YEARS COURSE

Examination: MCA First Year SEMESTER II

Course Code: MCAE245 and Course Name: Embedded System

Time: 3 hour   Max. Marks: 80

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Q.1 . Choose the correct option for following questions. All the Questions are compulsory and carry equal marks [20 Marks]

Q1.	Which of the following designed system factors are minimized for an embedded application?
Option A:	Cost
Option B:	Size
Option C:	Performance
Option D:	Both cost and size
Q2.	In…………operating system, the response time is very critical.
Option A:	Multitasking
Option B:	Real time
Option C:	Online
Option D:	Batch
Q3.	What is the bit size of 8051 microcontroller?
Option A:	4-bit
Option B:	8-bit
Option C:	16-bit
Option D:	32-bit
Q4.	In 8051 microcontroller, program counter stores what?
Option A:	Address of the next instruction
Option B:	Address of before instruction
Option C:	Data of the before execution to be executed
Option D:	Data of the execution instruction
Q5.	-----------converts the programs written in assembly language into machine instruction.
Option A:	Machine compiler
Option B:	Interpreter
Option C:	Assembler
Option D:	Converter
Q6.	In 8051, which of these addressing modes, a constant is specified in the instruction, after the opcode byte?
Option A:	Register instructions

Option B:	Register specific instructions
Option C:	Direct addressing
Option D:	Immediate mode
Q7.	Embedded C programming support -------------instructions of normal C language.
Option A:	All
Option B:	Some
Option C:	Specific
Option D:	Cannot tell
Q8.	In embedded C, The signed char is an --------- data type.
Option A:	4-bit
Option B:	8-bit
Option C:	16-bit
Option D:	32-bit
Q9.	What does the function output_C(255) perform?
Option A:	It outputs data 1 to port 'C'
Option B:	It outputs data 255 to port 'C'
Option C:	It outputs some data 255 times to port 'C'
Option D:	It outputs data 'C' to port number 255.
Q10.	Which of the following statement will add the accumulator and register 4
Option A:	ADD A,R4
Option B:	ADD R4,A
Option C:	ADD@A,R4
Option D:	ADD@R4,@A

Q2	Solve any Two Questions out of Three (10 marks each) [20 Marks]
A	What is Embedded System? Explain features and applications of embedded system.
B	Explain the design tradeoffs and performance of embedded system.
C	Draw the block diagram of 8051 Microcontroller and explain basic concept in serial I/O.

Q3	Solve any Two Questions out of Three (10 marks each) [20 Marks]
A	What is addressing mode? Explain different types of addressing modes to execute instructions in 8051.
B	What is Assembly language? Explain data types and logical operators in assembly language.
C	Write the difference between C & Embedded C. Explain basic structures of Embedded C program.

Q4	Solve any Two Questions out of Three (10 marks each) [20 Marks]
A	Explain the switch statement and GOTO statement in embedded C with example.
B	Explain Bitwise operator & types of function in embedded C with example.
C	Explain the use of embedded system in designing washing machine.