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Total No. of Pages : 02

Total No. of Questions : 08

M.Tech. (Emb Sys) (Sem.-1)

PROGRAMMING LANGUAGES FOR EMBEDDED SOFTWARE

Subject Code : MTES-101-18

Paper ID : [75808]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.

2. Each question carries TWELVE marks.

- Q1 a) What are the challenges and various issues in embedded software development? How the testing and debugging is done for the software of embedded system? (8)
- b) Using bitwise operator AND, write a program in C to test whether a given number is odd or even. Explain your answer. (4)
- Q2 a) What are the basic concepts of object-oriented programming? Define encapsulation in respect to object oriented programming. (4)
- b) What is SDLC? What are the different methods used in SDLC? Explain various phases of the waterfall model. (8)
- Q3 a) Write at least four features which are available in C++ but not in C. (4)
- b) Explain operator overloading by writing an example code in C++. Your code should be adequately commented. (4)
- c) Explain how multiple inheritance is useful and write a code fragment in C++ to explain its use. (4)
- Q4 a) Explain friend function and polymorphism in C++ with example for each. (6)
- b) Explain the role of keyword this in C++ by using an appropriate example. (6)
- Q5 a) Describe the role of keywords try, catch and throw in exception handling. (6)
- b) Explain how exception handling mechanism can be used for debugging a program? (6)

- Q6 a) What is difference between programming and scripting languages? (4)
- b) How many types of primary data structures in PERL? Explain each with example. (4)
- c) What is Java Script? Enumerate the differences between Java and Java script. (4)
- Q7 a) What is inter process communication and how does it work? (4)
- b) Explain the difference between thread communication and process communication with suitable example. (4)
- c) What is difference between malloc and calloc? How can you determine the size of an allocated portion of memory? (4)
- Q8 Write short notes on any **TWO** of the following : (6 × 2)
- a) Code optimization issues in embedded software
- b) Interrupt handling in C
- c) Data abstraction and information hiding