C **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 99473

B.E. / B.Tech. DEGREE EXAMINATION, JUNE 2022

Open elective

Civil Engineering

19UEC973– Embedded System and programming

(Common to CSE, EEE, Mechanical, IT, Chemical, Agriculture and Biomedical Engineering)

(Regulation 2019)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (5x 1 = 5 Marks)

1. A program written in machine's assembly language is translated into machine code by a software tool called ------ CO1- U

   (a) Opcode (b) Instruction Set (c) Assembler (d) Register

2. The collection of things we do as we move from requirement to application is often called the ---------- CO1- U

   (a) Product life cycle. (b) Product Development

   (c) Stability (d) Embedded development cycle

3. When complete information about the internals of a module is known as ---------- CO1- U

   (a) white box testing strategy (b) black box testing strategy

   (c) gray box testing strategy (d) red box testing strategy

4. When there is an embedded component in a real time system, it is known as _____ CO4- U

   (a) firm time embedded system (b) simple time embedded system

   (c) real time embedded system (d) complex time embedded system

5. Which design can be used to reduce the energy consumption of the embedded system? CO6- U

(a) simulator (b) Compiler (c) emulator (d) debugger

PART – B (5 x 3= 15 Marks)

6. Explain the terms one-, two-, or three-address instruction CO1-U

7. Define spiral model? CO2- U

8. What is a smoke test? CO1-U

9. What is a real-time operating system? CO4- U

10. Compare a difference between a C language logical operator and the bitwise operator? CO5- App

PART – C (5 x 16= 80Marks)

11. (a) Describe briefly about Register View of a Microprocessor? CO1- U (16)

Or

(b) Describe the necessary steps for Execution flow of an embedded program? CO2- U (16)

12. (a) Illustrate with diagrams the system design methods using water life cycle model and v- life cycle model? CO2- App (16)

Or

(b) Illustrate with diagrams the system design methods using Spiral life-cycle model and Rapid prototyping life-cycle model? CO2- App (16)

13. (a) Discuss in detail about the strategy for applying module debug and test CO1- U (16)

Or

(b) Describe briefly about Path Sensitizing CO1- U (16)

14. (a) Describe in detail about the Task Scheduling CO1- U (16)

Or

(b) Explain In detail about Scheduling Algorithms CO1- U (16)

15. (a) Discuss the advantages and disadvantages of using pass by reference versus pass by value in an embedded C program? CO1- U (16)

Or

(b) What is a symbol table? Identify the information that is stored in the symbol table. What is the purpose of the symbol table? CO1- U (16)