

Code No: **R18A0421****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous Institution – UGC, Govt. of India)

**IV B.Tech I Semester Supplementary Examinations, April 2023****Embedded System Design**

(ECE)

<b>Roll No</b>									
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**Time: 3 hours****Max. Marks: 70**

**Note:** This question paper Consists of 5 Sections. Answer **FIVE** Questions, Choosing ONE Question from each SECTION and each Question carries 14 marks.

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**SECTION-I**

1    *A*    What is an embedded system? Explain the different applications of embedded systems? [7M]

*B*    Discuss about the product life cycle of an embedded product development? [7M]

OR

2    *A*    Explain quality attribute in the embedded system development context? [7M]

*B*    Discuss the performance in embedded computing in an embedded system? [7M]

**SECTION-II**

3    *A*    Discuss the components of an embedded systems? Explain the merits and drawbacks? [7M]

*B*    What is the difference between microprocessor and microcontroller? Explain the role of microprocessors and Microcontrollers in embedded systems? [7M]

OR

4    *A*    What is programmable logic device? What are different types of PLDs? Explain the role of PLDs in embedded system design? [7M]

*B*    What is function of watch dog timer? Explain the different types of watch dog timers? [7M]

**SECTION-III**

5    *A*    List out the drawbacks of the assembly language based development? [7M]

*B*    Write the advantages and limitations of high language based development? [7M]

6    *A*    What is super loop based approach of embedded firmware design? Explain [7M]

*B*    Explain the High level language to machine language conversion process? [7M]

**SECTION-IV**

7    *A*    Explain the difference between memory management of general purpose kernel and real time kernel? [7M]

*B*    Explain how time management is done in RTOs ? [7M]

OR

8    *A*    Discuss in detail about the TASK and Process in the operating system? [7M]

*B*    Compare General Purpose Operating System (GPOS) and RTOs? [7M]

**SECTION-V**

9    *A*    Explain 1-wire interface (protocol) used in embedded systems? [7M]

*B*    Explain INFRARED used in embedded systems? [7M]

OR

10    *A*    Explain USB used in embedded systems? [7M]

*B*    Explain I2C interface in embedded systems? [7M]

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