

Code No: **R15A0424****MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY****(Autonomous Institution – UGC, Govt. of India)****IV B.Tech I Semester Supplementary Examinations, April 2023****Embedded Systems Design****(ECE)**

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Time: 3 hours**Max. Marks:****75****Note:** This question paper contains two parts A and B

Part A is compulsory which carries 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART-A (25 Marks)

- 1). a What is an embedded system [2M]
- b Classify the processors in embedded system. [3M]
- c What is the difference between SRAM and DRAM [2M]
- d Explain About PLDs [3M]
- e Define Bluetooth [2M]
- f Explain the electrical specifications of RS232 [3M]
- g What is firmware [2M]
- h What is super loop approach [3M]
- i What are the factors for scheduling [2M]
- j What is task synchronization [3M]

PART-B (50 MARKS)**SECTION-I**

- 2 Explain about operational quality attributes of embedded system [10M]
- OR

- 3 Explain the difference between Embedded Systems and General Computing Systems [10M]

SECTION-II

- 4 Explain different types of memory used in embedded system applications [10M]
- OR

- 5 Write the types of timers and explain any two types of timers [10M]

SECTION-III

- 6 Explain the various features in USB communication protocol [10M]
- OR

- 7 Describe the CAN protocol bringing out the architecture, message formats and error detection on detail [10M]

SECTION-IV

- 8 Explain about mixing assembly language with high level language [10M]
- OR

- 9 Explain the advantages and disadvantages of using the assembly language for [10M]

firmware design

SECTION-V

10 Explain how shared data problems can be overcome with task synchronization Techniques [10M]

OR

11 Explain about multitasking and multiprocessing [10M]
