CBCS SCHEME

USN | | | | | | | | | | 18EE644

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025
Embedded System

Time: 3 hrs. Max. Marks : 100

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-1

1 a. Explain with a neat diagram, the basic structure of embedded system. **(08 Marks)**
b. Differentiate between micro controller and micro processor. **(04 Marks)**
c. Explain the architecture of MC6800/6808, briefly. **(08 Marks)**

OR

2 a. What are the ten skill sets needed in embedded engineer. **(10 Marks)**
b. List and explain debugging tools used in embedded systems. **(10 Marks)**

Module-2

3 a. Explain the working of bar code scanner. **(12 Marks)**
b. What are the diverse application of embedded systems. **(08 Marks)**

OR

4 a. Explain the following :
i) Analog switch and holding capacitor
ii) Anti-aliasing filters. **(10 Marks)**
b. What is a need of signal conditioning and how do they work. **(10 Marks)**

Module-3

5 a. Explain the embedded system life cycle. **(10 Marks)**
b. Enumerate on different thermal consideration of cooling system. **(10 Marks)**

OR

6 a. What are the different issues in embedded system design? **(10 Marks)**
b. Explain design trade off due to :
i) Inertia
ii) Accounting the cost of engineering design. **(10 Marks)**

Module-4

7 a. Explain the following embedded C data types :
   i) Signed int
   ii) Float
   iii) Double
   iv) Sfr16
   v) Bit **(10 Marks)**

b. What are the important characteristics of embedded operating systems? **(10 Marks)**

OR

8 a. Explain :
   i) Rate Monotonic operating system
   ii) Preemptive operating system. **(10 Marks)**

b. What are the factors to be considered while selecting embedded programming language? **(10 Marks)**

Module-5

9 a. With typical microprocessor memory configuration, explain how SRAM and DRAM are interfaced. **(10 Marks)**

b. Explain classification of SRAM by feature. **(10 Marks)**

OR

10 a. Develop a interface circuit for interfacing 8051 to 128K × 8 SRAM. **(10 Marks)**

b. How to interface typical keypad to microcontroller. **(10 Marks)**

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