

Time: 3 hours

Max. Marks: 80

- Note: 1. Question 1 is compulsory. All questions in Q1 must be solved.  
 2. Solve any three from Q2 to Q6.  
 3. All questions carry equal marks.

- Q1. Solve all four questions (20)**
- A What are the advantages of Microcontroller? 5
- B Write a short note on Microcomputer 5
- C Explain arithmetic operators in assembly language used in 8051 Microcontroller. 5
- D Differentiate C and Embedded C Programming. 5
- Q2. Answer the following questions. (20)**
- A What is Microprocessor in Embedded System? Explain the features of Embedded System. 10
- B Explain architecture of 8051 microcontroller. 10
- Q3. Answer the following questions. (20)**
- A What is addressing mode? Explain Immediate, Register and Direct addressing Modes in 8051 microcontroller with example. 10
- B What is Embedded C? Explain data types and basic structure of embedded C program. 10
- Q4. Answer the following questions. (20)**
- A Explain the types of functions used in Embedded C programming. 10
- B How LED's interface with 8051 Microcontroller? Explain in details. 10
- Q5. Answer the following questions. (20)**
- A What are the design challenges in embedded system? Explain in detail. 10
- B Explain While statement and For Statement in Embedded C programming with example. 10
- Q6. Answer the following questions. (20)**
- A Explain the use of embedded system in designing home automation systems. 10
- B Explain different types of registers used in 8051 Microcontroller. 10