

- N. B.: 1. All questions are compulsory.  
2. All questions carry equal marks  
3. Draw neat labeled diagrams wherever necessary.

**Q.1. Attempt any three of the following:****[15M]**

- What is Embedded System? Explain any 5 major applications areas of Embedded Systems.
- What are the different purposes of Embedded systems?
- Write a short note on PLD.
- Write a short note on Little Endian and Big Endian.
- Explain Infrared and RS232
- Explain Operational quality attributes of Embedded Systems.

**Q.2. Attempt any three of the following:****[15M]**

- Write a short note on the Washing Machine.
- Write a short note on Memory.
- Explain common Memory problems.
- Explain Device Driver.
- Write a short note on the Watchdog timer.
- Explain Types Of Electronic Control unit

**Q.3. Attempt any three of the following:****[15M]**

- Draw pin diagram of 8051 microcontroller.
- Draw block diagram of 8051 microcontroller.
- Write a short note on different data types used in 8051 microcontrollers.
- Explain the concept of Time delay in 8051 microcontroller.
- Write a short note on different components of an Embedded System.
- Write a short note on Logic operations.

**Q.4. Attempt any three of the following:****[15M]**

- Explain the factors to be considered in selecting a microcontroller.
- Draw and explain the concept of the build process.
- Explain Emulator and Simulator.
- Explain the structure of embedded programs.
- Explain Remote Debugger.
- Explain the Embedded software Development Process.

**Q.5. Attempt any three of the following:****[15M]**

- Write a short note on Process management
- Explain the real time characteristics of RTOS.
- Write a short note on IDE.
- List and explain the different types of files generated on cross compilation.
- Explain Disassembler/ Decompiler.
- Explain the product development life cycle