Question: Explain briefly how the various characteristics of an embedded system can be fulfilled. Which methods and techniques are used?
Answer:
Requires real time performance.
It should have high availability and reliability.
Developed around a real-time operating system.
Usually, have easy and a diskless operation, ROM boot.
Designed for one specific task.

Question:Give an overview of the attributes of dependability and show how they influence each other
Answer: Security is a quality that describes a system's ability to defend itself against assault. And if a system isn't secure, then its dependability, availability, and safety features are all thrown out the window whereas reliability specifies the chance that the system will operate without failure for a specified period of time and in order to be dependable and safe, a system must be available.

Question:Give a schematic overview on the main elements of microcontroller
Answer: Core microcontroller components include:
CPU
RAM
ROM
Internal Oscillator
I/O (Input/Output) Ports.
Peripheral Controller Chips

Question:Which processors are typically used for microcontrollers?

Answer: ARM core processors (many vendors) ...
Microchip Technology Atmel AVR (8-bit), AVR32 (32-bit), and AT91SAM (32-bit)
Cypress Semiconductor's M8C core used in their PSoC (Programmable System-on-Chip)
Freescale ColdFire (32-bit) and S08 (8-bit)
Freescale 68HC11 (8-bit), and others based on the Motorola 6800 family.