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Total No. of Questions : 08]

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**M.Tech.**

**EMBEDDED SYSTEMS**

**SUBJECT CODE : CS - 516**

**Paper ID : [E0707]**

[Note : Please fill subject code and paper ID on OMR]

**Time : 03 Hours**

**Maximum Marks : 100**

**Instruction to Candidates:**

- 1) Attempt any Five questions.
- 2) All questions carry equal marks.

- Q1)** (a) What are the different challenges associated with the design of embedded systems?  
(b) Explain the basic architecture of embedded system.
- Q2)** (a) Explain the AVR 8515 microcontroller.  
(b) Explain buffers and latches.
- Q3)** Define and explain the following:  
(a) LCD controller  
(b) ADCs  
(c) Blue tooth
- Q4)** (a) Define and explain Universal asynchronous receiver transmitter (UART).  
(b) Explain real time operating systems.
- Q5)** (a) What are the different types of embedded operating systems?  
(b) What do you mean by direct memory access?
- Q6)** (a) Explain the design tradeoffs due to thermal considerations.  
(b) Explain memory mapped I/O.

**Q7)** Explain the following:

- (a) Task scheduling in embedded systems.
- (b) Wireless protocol IrDA.
- (c) Code optimization.

**Q8)** (a) Explain Pulse width modulators.

- (b) What do you mean by Context switch?

