

Roll No .....

**MCA - 505(D)****MCA V Semester**

Examination, December 2014

**Embedded System**

(Elective - III)

Time : Three Hours

Maximum Marks : 70

- Note:** i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.  
 ii) All parts of each questions are to be attempted at one place.  
 iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.  
 iv) Except numericals, Derivation, Design and Drawing etc.

**Unit - I**

1. a) Define Embedded system with one example.  
 b) Explain classification of Embedded systems.  
 c) What skills are required to design Embedded systems?  
 d) Explain all challenges to design Embedded system.

OR

Explain few Embedded system development design methodology.

**Unit - II**

2. a) Explain the needs of real time clock and timer.  
 b) Explain the importance of clock oscillator circuit.  
 c) What are the types of memories used in Embedded system?

- d) Explain the following terms in the context of Embedded system.

- i) DAC and ADC      ii) LCD and LED

OR

Explain the following terms in the context of Embedded system.

- i) Key pad/ key board    ii) Modem and transceiver

**Unit - II**

3. a) Differentiate Assembler Compiler.  
 b) Differentiate Simulator and Emulator.  
 c) How Embedded systems can be debugged?  
 d) Explain coding strategies for obtaining optimized time and space.

OR

Explain the following terms

- i) Software for device driver  
 ii) Software for device management

**Unit - IV**

4. a) What do you mean by real time operating system?  
 b) Differentiate RTOS with OS.  
 c) What do you mean by semaphores and its task?  
 d) What do you mean by interrupt? What methods are there to handle interrupt?

OR

Explain all features of UCOS-II.

**UNIT - V**

5. a) How communication is possible in Embedded system?  
 b) How communication can be achieved by Bluetooth?  
 c) Explain the role Ethernet in Embedded communication system.  
 d) Explain the following term  
 i) USART      ii) CAN

OR

Explain the following term

- i) IP core      ii) SOC