Register Number: ……

B.E. DEGREE EXAMINATIONS: NOV/DEC 2010

Seventh Semester

ELECTRONICS AND COMMUNICATION ENGINEERING

U07ECE14: Embedded Systems

Time: Three Hours **Maximum Marks: 100**

Answer All Questions:-

PART A (10 x 1 = 10 Marks)

1. General – purpose processor refer to as

(a) Hardware (b) software (c) both hardware and software (d) middleware

2. Full- custom IC design often referred to as

(a) SOC (b) VHDL (c) VLSI (d) Both SOC and VLSI

3. CAN stands for

(a) Computer area network (b) Computer architecture network

(c) controller architecture network (d) controller area network

4. Which determines the rate at which the bits of data can send and received?

(a) HDLC (b) UART (c) USART (d) USB

5. ---------- helps to create a network between different types of machines.

(a) Pointers (b) Macros (c) Cross compiler (d) both Macros and Cross compiler

6. The type of memory allocation used by Embedded system design is

(a) Static (b) dynamic (c) both static and dynamic (d) no allocation

7. Two essential services of RTOS are

(a) only scheduling (b) only inter process communication

(c) both scheduling and inter process communication (d) interrupt

8. The memory manager has

(a) Static allocation of memory (b) dynamic allocation of memory

(c) both static and dynamic allocation of memory (d) no allocation of memory

9. Micro C/Os-II popularly known as

(a) MCOS-2 (b) MUOS (c) MUCOS (d) MUCOS-II

10. When RTKpot……/RTKget…. pairs of function calls are used mailbox behave as a

(a) LILO (b) FIFO (c) both LILO and FIFO (d) FILO

PART B (10 x 2 = 20 Marks)

11. Define Embedded system.

12. What are the main components of an embedded system?
13. Expand and Explain HDLC.
14. What are the characteristics of PCI bus?
15. What is a need of cross compiler?
16. What is the need of interrupt routine?
17. Explain the objectives of a Kernel.
18. Compare round robin and real time scheduling.
19. What are the uses of semaphores?
20. Name any two RTOS that are commercially available.

PART C (5 x 14 = 70 Marks)

21. (a) Explain the various microprocessor used for embedded system.

(OR)

(b) Explain the various hardware units used in a embedded system.

22. (a) Explain briefly I^2C bus.

(OR)

(b) Briefly explain the sophisticated interfacing features in device ports.

23. (a) (i) Describe the Use of pointers and NULL pointers (7)

(ii) Explain the function calls. (7)

(OR)

(b) Discuss about the multiple function calls in a Cyclic order in the main function pointer.

24. (a) (i) With neat diagram explain the three states of task in RTOS? (9)

(ii) Discuss on memory management in RTOS? (5)

(OR)

(b) Discuss about priority conversion problems & deadlock situation in RTOS.

25. (a) Explain VX works functions in detail.

(OR)

(b) Discuss with a diagram Task synchronization model for a specific application.

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