Register Number………………………

M.E., DEGREE EXAMINATIONS: NOV/DEC 2012

Third Semester

APPLIED ELECTRONICS

ANE522: Real Time and Embedded Systems

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

Answer All Questions:-

PART A (10 x 2 = 20 Marks)

1. What is the function of a stack pointer?

2. Define Interrupt Latency

3. What is meant by interrupt vector address?

4. State the advantage of DMA.

5. What is meant by deadlock condition?

6. What are the disadvantages of Round Robin scheduling?

7. What is a Petrinet?

8. Distinguish between Moore and Mealy FSA

9. State the purpose of an In-Circuit Emulator

10. What are systolic processors?

PART B (5 x 16 = 80 Marks)

11. a) Discuss the methods of memory allocation in embedded system.
    (OR)
    b) (i) Differentiate between device serving with and without ISR.
       (ii) What are the considerations for device drivers for internal programmable timing
           devices?

12. a) (i) What are the basic functions expected from kernel of an RTOS? Explain.
       (ii) Discuss the various memory allocation function in μC / OS II.
    (OR)
    b) Discuss the basic features of VxWorks OS.

13. a) (i) Discuss the mechanism of interrupt handling with an interrupt controller

    (ii) What is meant by the terms Abstraction, Inheritance and Polymorphism in programming?

<div align="center">

(OR)

</div>

b) Explain the various phases of software development life cycle with neat diagrams

14. a) What is finite state automata? How is it employed in the design procedure? Explain.

<div align="center">

(OR)

</div>

b) Explain the techniques available to design an interrupt driven system.

15. a) (i) How is the reliability of a distributed system calculated?
    (ii) Explain the methods to increase the reliability of a distributed system.

<div align="center">

(OR)

</div>

b) Write short notes on the following
    (i) Real time image processing
    (ii) Virtual reality

<div align="center">

****

</div>