

Reg. No. _____

Karunya University

(Karunya Institute of Technology and Sciences)

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – November/December 2011

Subject Title: **ELECTRONICS AND MICROPROCESSORS**
Subject Code: **EC213**

Time: **3 hours**
Maximum Marks: **100**

Answer ALL questions

PART – A (10 x 1 = 10 MARKS)

1. Why is the transistor called a current controlled device?
2. What is Oscillator circuit?
3. What is photodiode?
4. What are the demerits of potentiometer?
5. List the different number systems.
6. Define Flip-flop.
7. How many general purpose registers are available in 8085 microprocessor?
8. List the instructions that affect the carry flag.
9. How many channels are available in 8237 DMA controller?
10. What is EPROM?

PART – B (5 x 3 = 15 MARKS)

11. What are the requirements for biasing circuits?
12. Write short notes on thermistor.
13. What is the operation of JK flip-flop?
14. Explain the functions of ALE and IO/M signals of the 8085 microprocessor.
15. How many address lines are necessary to address 1MB of memory?

PART – C (5 x 15 = 75 MARKS)

16. Explain the working of an Half wave Rectifier with a neat diagram. Derive the expression for the efficiency and ripple factor for a half wave rectifier.
(OR)
17. Explain class A power amplifier with circuit diagram and derive its efficiency.
18. Briefly explain the working of a CRO.
(OR)
19. Discuss the working principles of potentiometer and phototransistors.
20. Design and implement a Full adder circuit.
(OR)
21. a. Draw the logic diagram of RS flip flop and explain its operation through its characteristics table and equation. (8)
b. Design and implement a 8 to 3 encoder circuit. (7)
22. Draw and discuss the internal block diagram of 8085 microprocessor.
(OR)
23. Explain the different addressing modes of 8085 with suitable example.
24. a. Differentiate between RAM and ROM. (8)
b. Write short notes on CRT terminal. (7)
(OR)
25. How are the data transmitted using DMA? Describe it.