**Reg. No. \_\_\_\_\_\_\_\_**

**Karunya University**

**(Karunya Institute of Technology and Sciences)**

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

**Supplementary Examination - June 2011**

**Subject Title: ELECTRONICS AND MICROPROCESSOR Time: 3 hours**

**Subject Code: 09EC235 Maximum Marks: 100**

#### **Answer ALL questions**

**PART – A (10 x 1 = 10 MARKS)**

1. What do you understand by fixed bias in transistors?

2. Name two advantages of Class A push pull amplifiers.

3. What is the function of transducer?

4. What is use of photo diode?

5. Construct Delay Flip flop using SR Flip flop.

6. Obtain a full adder from half adders.

7. What is instruction decoder?

8. What is the operation performed by DAA instruction?

9. When can you use synchronous data transfer between two systems?

10. What are the needs for DMA data transfer?

**PART – B (5 x 3 = 15 MARKS)**

11. Draw and explain the operation of Zener Shunt regulator.

12. Describe the working principle of photo transistor.

13. With a neat logic diagram, explain the operation of JK flip flop.

14. Desktop PC is also a microcomputer – True or False. Justify your answer.

15. Describe asynchronous data transfer scheme.

**PART – C (5 x 15 = 75 MARKS)**

16. a. Explain the operation of full wave bridge rectifier with necessary diagrams. (10)

b. Write a short note on IC voltage regulators. (5)

(OR)

17. a. Explain the operation of Class B push pull amplifier with necessary diagrams. (10)

b. Draw and explain an op-amp based comparator circuit. (5)

18. a. With a neat block diagram, explain the working principle of CRO. (10)

b. Write a short note on strain gauges and its role in measurements. (5)

(OR)

19. Explain the construction and working principles of digital voltmeter.

20. a. With a neat logic diagram, explain the operation a 4-bit synchronous up counter. (10)

b. Explain the operation of 4 to 2 encoder. (5)

(OR)

21. With neat logic diagrams, explain the following:

a. 8 to 1 Multiplexer b. Full Adder (7+8)

22. a. Explain the Register organization of 8085 in detail. (5)

b. Explain different types of 8085 instructions with examples. (10)

(OR)

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23. a. Explain different addressing modes of 8085 with examples. (10)

b. Write an Assembly Language Program to find the largest number in a given set of 10 numbers. (5)

24. Explain microprocessor based Stepper Motor Controller with a neat block diagram.

(OR)

25. Explain in detail about:

a. Interrupt driven data transfer scheme b. DMA data transfer scheme.