**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: ELECTRONIC CIRCUITS Time: 3 hours**

**Subject Code: 09EI221 Maximum Marks: 100**

#### **Answer ALL questions**

**PART – A (10 x 1 = 10 MARKS)**

1. Define Ripple factor.

2. State any two advantages of SMPS.

3. List few applications of wave shaping circuits.

4. Clamping circuits are used in \_\_\_\_\_\_\_\_.

5. Common mode rejection ratio (CMRR) is given by \_\_\_\_\_\_\_\_.

6. In a common emitter amplifier, the phase difference between voltage across collector load Rc and signal voltage is \_\_\_\_\_\_\_\_.

7. The voltage gain of amplifier without feedback is 3000. Calculate the voltage gain of the amplifier if negative voltage feedback is introduced in the circuit. Given that mv = 0.01.

8. If the feedback signal is in phase with the input signal then it is known as \_\_\_\_\_\_\_\_.

9. State Barkhausen criterion for sustained oscillations.

10. List some of the applications of multivibrator.

**PART – B (5 x 3 = 15 MARKS)**

11. Draw the block diagram of series voltage regulator.

12. What is the condition to be satisfied for the circuit to act as an integrator?

13. Define differential and common mode gain.

14. Compare class A/B/C amplifiers.

15. In the wein bridge oscillator R1 =R2 = 220kΩ and C1 =C2 =250pF. Determine the frequency of oscillations.

**PART – C (5 x 15 = 75 MARKS)**

16. Explain the operation of a bridge rectifier with suitable diagram and compare the performance of a bridge rectifier with full wave and half wave rectifier.

(OR)

17. Explain the operation of an SMPS in detail with a neat block diagram.

18. Discuss about the following circuits with neat diagrams:

a. Positive and negative clipper circuits. (8)

b. Positive and negative clamper circuits. (7)

(OR)

19. Explain the response of high pass and low pass RC circuits for step and sinusoidal input waveform.

20. Analyze the operation of a simple common emitter amplifier and also find the expression for voltage gain, current gain, input impedance and output impedance. Use h parameter model.

(OR)

21. Draw the circuit diagram of RC coupled amplifier. Explain its frequency response.

[P.T.O]

22. With relevant sketches, explain the operation of class B push pull amplifier and derive its efficiency.

(OR)

23. Explain the effect of negative feedback on input, output resistance, gain stability, bandwidth and distortion.

24. Describe the wein bridge oscillator and derive the expression for frequency of oscillation.

(OR)

25. Explain the operation and waveform of Schmitt trigger.