



GUG/S/15/5602

B.Sc. (With Credits)-Regular-Semester 2012 Sem IV

**B.Sc.24131 Electronics Paper - I**  
**(Power Amplifier, Oscillators and Power Supplies)**

P. Pages : 4

Time : Three Hours

Max. Marks : 50

- Notes :
1. All questions are compulsory.
  2. Each questions carry equal marks.
  3. Draw neat diagram wherever necessary.
  4. Use of log table / Calculator is allowed.

**1. Either**

- a) Draw the circuit diagram of class B push pull power amplifier and explain its working. Show that efficiency of class B push pull power Amplifier is 78.5%. **7+3**  
What is cross over distortion? How will you overcome?

**OR**

- b) Differentiate between power amplifier and voltage amplifier. **3+7**  
Explain the working of complimentary symmetry power amplifier, state its advantages and disadvantages.



## 2. Either

- a) What is feedback? State different types of **5+5** feedback. What is Barkhausen's condition for oscillation?

Draw the circuit diagram of Hartley oscillator and explain its working.

**OR**

- b) What are the differences between amplifier and oscillator? **3+7**

Draw the circuit diagram of Wien - bridge oscillator and explain its working what are the advantages of Wien - bridge oscillator.

## 3. Either

- a) Explain the concept of line regulation **4+6** and load regulation.

Draw the circuit diagram of Zener diode voltage regulator and Explain its working.

**OR**



- b) Explain the working of transistor series voltage regulator with circuit diagram. **5+5**

Explain the concept of short circuit protection in voltage regulator with circuit diagram.

#### 4. Either

- a) What is IC voltage regulator? State its advantages. **3+7**

Draw the blocks diagram of LM 317 voltage regulator. Explain working of each block. State the advantages and disadvantages.

**OR**

- b) Explain the functional block diagram of three terminal fixed voltage IC regulator state its operating principle and salient features. **7+3**

Draw the circuit diagram of dual power supply using IC 78xx and 79xx.

5. a) Give the classification of power amplifiers. **2½**

- b) Draw the CKt diagram of phase shift oscillator. State its advantage. State drawbacks of unregulated power supply. **2½**



c) Draw the blocks diagram of regulated power supply. **2½**

d) Explain the working of negative voltage regulator using IC 79xx. **2½**

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