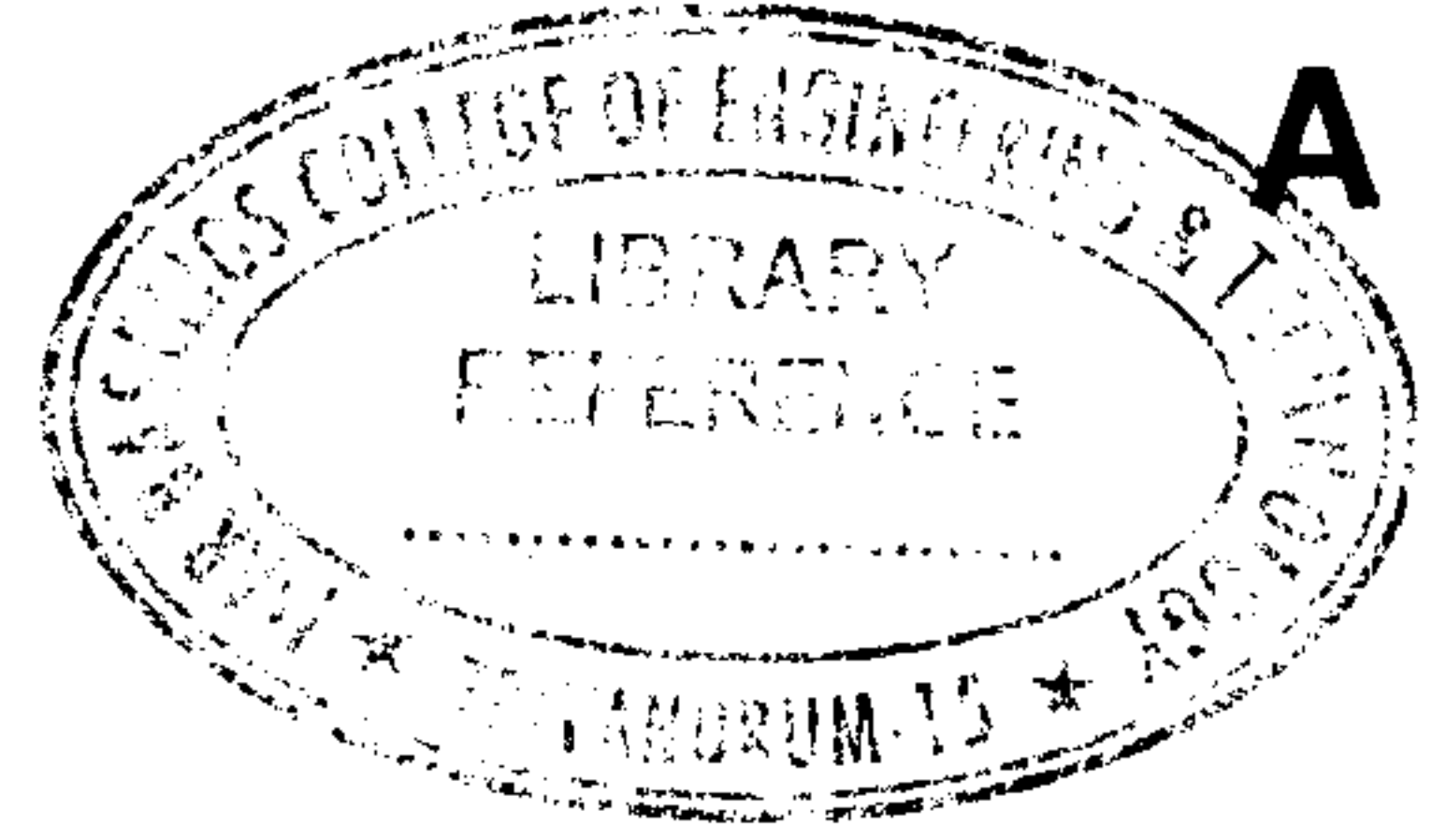




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**A – 6587**

Reg. No. : .....

Name : .....

**Third Semester B.Tech. Degree Examination, October 2016  
(2013 Scheme)  
13.304 : ANALOG COMMUNICATION (T)**

Time : 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions. **Each** question carries **2** marks.

1. Define the bandwidth of an amplitude modulated wave.
2. Write down the power relations of AM signal.
3. What is pilot carrier SSB ?
4. What is a ring modulator ?
5. What is meant by tracking ?
6. Define Noise Figure.
7. What is angle modulation ?
8. Define NBFM and WBFM.
9. What is meant by the term switching route ?
10. What is the purpose of dial tone ?

**(10×2=20 Marks)**

**PART – B**

Answer **any one** question from **each** Module. **Each full** question carries **20** marks.

**Module – I**

11. a) Explain the need for modulation. **6**
- b) With a neat diagram explain the coherent and non-coherent demodulation of DSB-FC signal. **14**
12. a) Draw the block diagram of a pilot carrier SSB system and explain each block. **10**
- b) With a neat diagram explain the phase shift and filter method for single side band (SSB) generation. **10**

P.T.O.



### Module – II

13. a) Explain different types of noise. 10  
 b) Write down the advantages of having an RF amplifier in an Super heterodyne (SH) receiver. 5  
 c) How the shift in frequency and phase of the locally generated carrier signal effects the demodulation of DSBSC and SSBSC signals ? 5
14. a) Draw the block diagram of a TRF receiver and explain its working. What are the disadvantages of TRF receiver. 8  
 b) Explain the effects of noise on DSB-SC AM. 6  
 c) Define the terms sensitivity, selectivity and gain of a radio receiver. 6

### Module – III

15. a) With a neat circuit diagram explain the working of a Foster Seeley Discriminator circuit. 9  
 b) What is FM and PM ? Explain the equivalence of FM and PM. 6  
 c) Define the modulation index of FM. 5
16. a) Explain the indirect method of FM generation. 7  
 b) With a neat diagram explain the working of balanced slope detector circuit. 7  
 c) Derive the expression of PM wave. 6

### Module – IV

17. a) Explain the relation between dynamic range, resolution and the number of bits in a PCM code. 8  
 b) Describe different types of cross talk. 7  
 c) Explain about PWM. 5
18. a) Explain the generation of PCM. 9  
 b) Explain the working of a Cordless telephone. 6  
 c) What is DTMF ? 5

