

B.TECH SEM – IV (2007 COURSE) (ELECTRONICS) :

WINTER - 2017

SUBJECT: ANALOG COMMUNICATIONS

Day: **Tuesday**
Date: **21/11/2017**

Time: **02.30 PM TO 05.30 PM**
Max Marks. 80

W-2017-2416

N.B.

- 1) Q. No. 1 and 5 are **COMPULSORY**.
- 2) Out of remaining questions attempt any **TWO** questions from each section.
- 3) Figures to the right indicate **FULL** marks.
- 4) Answers of both the sections should be written in **SEPARATE** answer book.
- 5) Draw neat diagram **WHEREVER** necessary.
- 6) Use of non – programmable calculator is **ALLOWED**

SECTION - I

- Q.1**
- a) Define term Noise figure with equation. **(05)**
 - b) Describe types of AM and modulation Index. **(05)**
 - c) Differentiate between FM & PM. **(04)**
- Q.2**
- a) What is Microscope? Discuss the function of moving coil microphone in detail. **(07)**
 - b) Define the term Noise. Describe types of internal and external noise sources. **(06)**
- Q.3**
- a) Describe with block diagram low level AM transmitter. **(06)**
 - b) Discuss the filter method required for generation of SSB signal **(07)**
- Q.4**
- a) Describe Noise triangle for FM system. **(07)**
 - b) Differentiate between Narrowband FM and Wideband FM system. **(06)**

SECTION - II

- Q.5**
- a) Draw & describe TRF receiver. **(05)**
 - b) Describe Isotropic layers with diagram. **(05)**
 - c) Draw 3×3 cross bar switching network. **(04)**
- Q.6**
- a) Describe superheterodyne receiver with block diagram. **(07)**
 - b) Discuss selectivity, sensitivity and fidelity characteristics of radio receivers. **(06)**
- Q.7**
- a) Define following terms, **(06)**
 - i) Virtual Height
 - ii) Critical frequency
 - iii) Skip distance
 - b) Describe sky wave propagation in detail. **(07)**
- Q.8**
- a) Describe working of telephone exchange in detail. **(07)**
 - b) Draw & describe strowger exchange in detail. **(06)**