

BTS(C)-IV-09-016-E

## B. Tech Degree IV Semester Examination, April 2009

EC/EE 405 ANALOG COMMUNICATION  
(2006 Scheme)

Time : 3 Hours

Maximum Marks : 100

### PART A (Answer all questions)

(8 x 5 = 40)

- I. (a) What is vestigial side band transmission?  
(b) With the help of a diagram explain envelop detection.  
(c) Define and explain frequency deviation in FM.  
(d) Explain the principle of ratio detector.  
(e) Define the terms :  
(i) Sensitivity (ii) Selectivity (iii) Double spotting.  
(f) Compare AM and Angle Modulation Schemes.  
(g) Explain the term call routing.  
(h) Write short notes on DTMF dialing.

### PART B

(4 x 15 = 60)

- II. (a) Define AM. Derive the power relations in AM. Plot its Spectrum. (10)  
(b) What are the advantages of SSB generation? (5)  
OR  
III. (a) Explain the working of super heterodyne receiver. (10)  
(b) What are the advantages of SHD receivers over TRF receivers. (5)  
OR  
IV. (a) Give the block diagram of FM stereo transmitter and explain. (10)  
(b) Compare narrowband and wideband FM. (5)  
OR  
V. (a) What is meant by pre-emphasis and de-emphasis? Explain with circuit schematic. (8)  
(b) What are the different methods used for detection of FM signal and explain any one of them. (7)  
OR  
VI. What is meant by noise? Explain the different types. (15)  
OR  
VII. (a) What is the importance of AGC circuit in the receiver? (7)  
(b) Define and explain signal to noise ratio and noise figure of a receiver. (8)  
OR  
VIII. (a) Explain different types of signalling. (10)  
(b) With block diagrams, compare Inband (VF) and Outband signalling schemes. (5)  
OR  
IX. (a) Explain traffic load and grade of service in telephone systems. (10)  
(b) Write short notes on : routing calls. (5)

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