

**Hemchandracharya North Gujarat University, Patan**  
**B.E. SEMESTER – IV (IT)**

**IT404: COMMUNICATION ENGINEERING**

**Teaching Scheme**

Theory 4 hrs/week  
Tutorial -  
Practical  
Total 04 hrs/week

**Examination Scheme**

Theory 100 Marks  
Practical  
Term Work  
Total 100 Marks

1. Introduction to Communication Systems
2. Noise: External noise, internal noise, noise calculations, noise figure, noise temperature
3. Amplitude modulation : AM Theory, generation of AM
4. SSB techniques: Suppression of carrier, suppression of unwanted sideband
5. Frequency modulation: FM Theory, noise and FM, generation of FM
6. Radio receivers: types, AM receivers, Communication receivers, FM receivers, SSB receivers
7. Pulse and digital communications: Information theory, PCM, Telegraphy, Telemetry, fundamentals of data communications systems, data sets and interconnection requirements
8. Broadband communication systems: multiplexing, short and medium haul systems, long haul systems, elements of long distance telephony
9. Television fundamentals: introduction, standards, color transmission and reception
10. Introduction to Fiber optic technology: history, introduction to light, optical fiber cables, components and systems

**Reference Books:**

Communication Systems by Kennedy and Davis –Tata McGraw Hill Edition