

**SUBJECT CODE :- 493**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**S.E.(EC/ECT/IEC/E&C) Examination Nov/Dec 2015**  
**Communication Engineering**  
**(Revised)**

[Time: Three Hours]

[Max. Marks: 80]

“Please check whether you have got the right question paper.”

- N.B
- i) Q.No.1 and Q.No.6 are compulsory.
  - ii) Attempt any two questions from the remaining from each section.
  - iii) Figures to the right indicate full marks.
  - iv) Assume suitable data, if necessary.

**Section A**

- Q.1 Solve any five 10
- 1) What are the different methods of suppressing unwanted sideband?
  - 2) What is the function of mixer in radio receiver?
  - 3) Define fidelity & sensitivity of radio receiver.
  - 4) What is the function of balanced modulator?
  - 5) Define phase modulation.
  - 6) What is the bandwidth requirement of FM Wave?
  - 7) What is VSB?
- Q.2 a) An AM transmitter radiates 8KW of carrier power and delivers at its output 10.135KW of power. What the depth is of modulation? If the same carrier is modulated with a sinewave of 30% modulation then find the total transmitted power. Now if both signals simultaneously modulate this carrier then what is the resultant transmitted power? 08
- b) What is mean by noise? What are their types? Explain in detail. 07
- Q.3 a) What are generation of methods of FM. Explain any one method in detail. 08
- b) Explain “The method “of SSB generation. 07
- Q.4 a) What type of mixers used in AM receiver? Explain any one in detail. 08
- b) Explain RF amplifier of radio receiver with neat block diagram. 07
- Q.5 Write short note (any 3) 15
- 1) Comparison of AM ,FM & PM.
  - 2) VSB.
  - 3) Modulation by several sine waves
  - 4) tracking
  - 5) AGC.

**Section B**

- Q.6 Solve any five: 10
- 1) How microphones work as transducer?
  - 2) What is principle of PCM?
  - 3) What are the advantages of RF amplifier?
  - 4) What is the function of Amplitude limiter in FM receiver?
  - 5) What is mean by multiplexing? What are their different types?
  - 6) State sampling theorem.
  - 7) What are different types of loudspeaker?

Q.7	a) Explain Horn type loudspeaker.	07
	b) Draw and Explain differential PCM system.	08
Q.8	a) Explain are different analog pulse modulation type? Explain any one in detail.	08
	b) Draw and explain PA system with its applications.	07
Q.9	a) Explain principles of optical & magnetic recording.	08
	b) Explain “phase disseminator” method of FM demodulator.	07
Q.10	Write short note on (any 3)	15
	1) Multiplexing Techniques	
	2) PCM	
	3) Tone control system	
	4) DSB receiver	
	5) Amplitude limiter.	