1T01034 - S.E.(Electronics and Telecommunication)(SEM-IV)(Choice Base Credit Grading System) (R-20-21) (C Scheme) / 40825 - Principles of Communication Engineering   QP CODE: 10012705   DATE: 19/12/2022

Duration: 3hrs   **[Max Marks:80]**

N.B. : (1) Question No 1 is Compulsory.
  (2) Attempt any three questions out of the remaining five.
  (3) All questions carry equal marks.
  (4) Assume suitable data, if required and state it clearly.

1		Attempt any **FOUR**	[20]
	a	Explain the necessity of de-emphasis and pre-emphasis	
	b	Compare AM and FM.	
	c	What is aliasing? How it can be avoided?	
	d	A transmitter radiates 9kW of power with carrier unmodulated and 10.125 kW when modulated. Calculate the depth of modulation.	
	e	List the advantages of pulse modulation over continuous modulation schemes.	
2	a	Explain indirect FM transmitter.	[10]
	b	Draw a neat block diagram of a superheterodyne radio receiver and explain each block in detail.	[10]
3	a	What are the different methods for SSB generation? Explain any one in detail.	[10]
	b	Explain the balanced slope detector with the help of a schematic diagram.	[10]
4	a	State and prove sampling theorem for low pass bandlimited signal.	[10]
	b	With the help of suitable waveforms explain the generation and detection of PPM	[10]
5	a	Draw and explain the FDM transmitter & receiver block diagram along with its applications.	[10]
	b	With the help of a block diagram explain the concept of PCM.	[10]
6	a	Explain in detail the balanced modulator with suitable expressions and waveforms.	[10]
	b	i) Write a note on Delta and adaptive delta modulation ii) Explain VSB in broadcast television.	[10]

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