Registration No : | | | | | | | | | | |

Total Number of Pages : 02 **B.Tech.**
PEI4I101

4th Semester Regular / Back Examination 2017-18
COMMUNICATION SYSTEM ENGINEERING
BRANCH : AEIE, EIE, IEE
Time : 3 Hours
Max Marks : 100
Q.CODE : C678

Answer Part-A which is compulsory and any four from Part-B.
The figures in the right hand margin indicate marks.
Answer all parts of a question at a place.

Part – A (Answer all the questions)

Q1 **Answer the following questions: *multiple type or dash fill up type*** **(2 x 10)**

a) Which mathematical notation specifies the condition of periodicity for a continuous time signal?
b) A LTI system is said to be initially relaxed system only if ____ input produces zero output.
c) _____theorem states that the total average power of a periodic signal is equal to the sum of average powers of the individual Fourier coefficients.
d) Overmodulation results in _____
e) In a transmitter _____oscillator is used.
f) In radio transmission, the medium of transmission is _____
g) In TV transmission, video signal is _____modulated.
h) The range of frequency modulation is _____
i) The minimum sampling rate is called _____rate.
j) PWM signal can be generated using _____ multivibrator.

Q2 **Answer the following questions: *Short answer type*** **(2 x 10)**

a) What are the elements of a communication system?
b) What are the limitations of a communication system?
c) What is modulation?
d) What are the limitations of amplitude modulation?
e) Define modulation index.
f) State sampling theorem.
g) Classify analog pulse modulation techniques.
h) Write the applications of Pulse Amplitude Modulation.
i) Compare PAM and PWM.
j) What are the limitations of PWM?

Part – B (Answer any four questions)

Q3 **a)** Explain the properties of Fourier Transform. **(10)**
b) Classify the signals. **(5)**

Q4	**a)**	Explain the correlation of power signals.	**(10)**
	b)	What is energy spectral density?	**(5)**
Q5	**a)**	Classify analog modulation techniques. Explain the advantages of modulation.	**(10)**
	b)	A communication transmitter radiates a 1.180kW amplitude modulated signal. If the carrier power is 1kW, find the modulation index.	**(5)**
Q6	**a)**	With a neat diagram explain the generation of amplitude modulation.	**(10)**
	b)	What is over modulation and what are its consequences.	**(5)**
Q7	**a)**	With a neat diagram explain the generation of frequency modulation.	**(10)**
	b)	Compare amplitude modulation and frequency modulation.	**(5)**
Q8	**a)**	Explain how PWM can be generated using mono stable multi.	**(10)**
	b)	What are the applications of PWM?	**(5)**
Q9	**a)**	With a neat block diagram explain the demodulation of PAM.	**(10)**
	b)	What are the applications of PPM?	**(5)**