

M.Sc. S.Y. (Electronics) (New CBCS Pattern) Semester - IV
PSELT402 - Core-12 : Digital Communication

P. Pages : 1

Time : Three Hours



GUG/S/23/11368

Max. Marks : 80

- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw neat and label diagrams wherever necessary.

Either :-

1. a) Explain the following signals. 8
i) Analog and digital signals. ii) Periodic and aperiodic signals.
b) Explain energy and power spectral density. 8

OR

- c) State the Parseval's theorem. What are its significance? 8
d) State and explain any four properties of Fourier Transform. 8

Either :-

2. a) State and prove sampling theorem. 8
b) Explain the generation and detection of PAM signal. 8

OR

- c) Explain the generation and detection of PWM with suitable diagram. 8
d) What is companding? Explain the necessity of companding. 8

Either :-

3. a) Explain the QPSK generator with suitable diagram. 8
b) Explain slope overload and granular noise. 8

OR

- c) Differentiate between PSK and FSK. 8
d) Explain delta modulation with diagram. State its advantages. 8

Either :-

4. a) What is entropy? Explain entropy of source. 8
b) Write short notes on. 8
i) PN sequence ii) Direct sequence.

OR

- c) What is information? Explain how it can be measured with suitable diagram. 8
d) Explain block code and convolution code. 8

5. a) Explain the time convolution property. 4
b) Write short note on aliasing error. 4
c) Explain the M-ary signaling. 4
d) What is syndrome decoding? 4
