

B.TECH. DEGREE EXAMINATION, MAY 2014**Fourth Semester**

Branch : Applied Electronics and Instrumentation Engineering

AI 010 405—SIGNAL COMMUNICATION (AI)

(New Scheme—2010 Admission onwards)

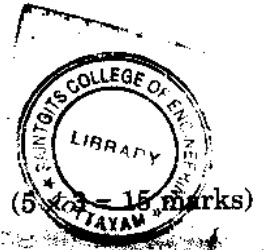
[Regular/Improvement/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Part A*Answer all questions.**Each question carries 3 marks.*

1. What is the need for multiplexing ? Explain.
2. Define and explain Noise figure and noise temperature.
3. State and explain Sampling theorem.
4. Explain the advantages and applications of Optical isolators.
5. Mention the types of satellite orbits and their significances.

**Part B***Answer all questions.**Each question carries 5 marks.*

6. Explain the need for wireless telemetry in detail.
7. Derive the relation between noise figure and noise temperature.
8. Differentiate ADC from DAC. Explain the difference.
9. List and explain the losses associated with fiberoptic cables.
10. What is TT and C ? Explain its principle.

(5 × 5 = 25 marks)

Part C*Answer all questions.**Each question carries 12 marks.*

11. Draw a neat block diagram of a communication system and explain its working in detail.

Or

12. Discuss in detail the issues related to long distance signal transmission.

Turn over

13. (i) Explain the basic concept of noise in detail.
(ii) Explain the characteristics of Twisted shielded pair cable in detail.

Or

14. Explain the components of digital transmission system and its advantages and applications.

15. (i) Differentiate PPM from PDM.
(ii) Explain in detail a method to generate PPM from PDM with a neat diagram.

Or

16. Define and explain the following :—

- | | |
|----------------------|----------------------|
| 1 Channel capacity ; | 2 Delta Modulation ; |
| 3 Aliasing ; | 4 Ground loop. |

17. Compare and contrast the parameters of different glass fibers. Explain the comparison.

Or

18. Discuss the concepts of TDM and FDM in detail, with neat sketches.

19. Draw a neat block diagram of satellite communication system and explain its principle of working.

Or

20. (i) Derive satellite system link equation.
(ii) Write short notes on "Frequency bands for satellite communication".

(5 × 12 = 60 marks)

