

**N 1156**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2004.

Fourth Semester

Electrical and Electronics Engineering

EC 256 — COMMUNICATION ENGINEERING

[Common to : Electronics and Instrumentation Engineering and Instrumentation  
and Control Engineering]

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the basic components of a satellite earth station subsystem?
2. What is the function of AGC and AFC?
3. List out any two advantages and limitations of DPCM.
4. Define the term slope overload noise.
5. Mention any two characteristics of matched filter.
6. State Nyquist criterion for zero ISI.
7. Define single mode fiber.
8. Distinguish TDM and FDM.
9. How blanking is achieved in TV systems?
10. Mention the vision and sound IF frequencies in CCIR system.

PART B — (5 × 16 = 80 marks)

11. (i) A commercial AM station is broadcasting with an average transmitted power of 10 kw. The modulation index is set at 0.707 for a sinusoidal message signal. Find the transmission power, efficiency and the average power in the carrier component of the transmitted signal.
- (ii) What is geosynchronous satellite? Explain the advantages and limitation of geosynchronous satellites.

12. (a) (i) Discuss the generation of PDM system.  
(ii) Explain the term Aliasing in signal transmission? What are the corrective measures used?

Or

- (b) Explain the generation and noise performance of Delta modulation.
13. (a) Derive the expression for transfer function of the matched filter in the presence of white noise.

Or

- (b) Briefly explain the model of a base band data transmission system.
14. (a) Explain the characteristics of different types of optical fiber.

Or

- (b) Discuss about TDM scheme with circuit schematic. What are the advantages and limitations of TDM?
15. (a) With appropriate circuit diagram explain colour TV receiver.

Or

- (b) Write short notes on :
- (i) Vidion
- (ii) Synchronization of TV signal.
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