F 6316 (Pages : 2) **Reg. No**.....

Name.....

B.TECH. DEGREE EXAMINATION, OCTOBER / NOVEMBER 2004

Fifth Semester

Branches – Computer Science and Engineering; Information Technology

DATA COMMUNICATION (R, T)

(New Scheme – 2002 Admission)

Time : Three Hours Maximum : 100 Marks

Answer **all** *questions.*

Part A

1. Define A.M and F.M
2. Explain the terms sampling and quantization in connection with PCM.
3. Explain how multiplexing is done using Time Division Method.
4. State Shannon's channel capacity theorem.
5. Explain briefly asynchronous transmission of digital data.
6. Mention different types of noises in digital data transmission.
7. Describe any single bit error detecting code.
8. Briefly describe ASCII codes.
9. Explain the role of Front end Processor in data communication system.
10. Explain the advantages of fibre optic cable over coaxial cable in data transmission.

(10 × 4 = 40 marks)

Part B

11. (a) Derive the power relation in AM. Draw its frequency spectrum.

Or

(b) With neat block diagram, explain operation of PAM.

12. (a) Explain the three basic forms of signaling binary information with associated wave forms.

Or

(b) Compare and contrast FDM and TDM multiplexing techniques.

Turn over

13. (a) Explain simplex, Half duplex and Full duplex transmission modes.

Or

(b) Explain in detail the principles of circuit switching and packet switching. Give their merits and demerits.

14. (a) Explain VRC, LRC CRC and checksum error detection techniques.

Or

(b) Explain stop-and-wait and Go back-n ARQ methods of error control.

15. (a) Describe in detail how PPP makes a computer system connected through a telephone line.

Or

(b) Explain G.S.M system architecture. **(5 × 12 = 60 marks)**