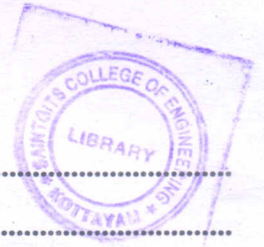


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Reg. No.....

Name.....



**B.TECH. DEGREE EXAMINATION, MAY 2015**

**Fourth Semester**

Branch : Computer Science and Engineering

CS 010 404—SIGNALS AND COMMUNICATION SYSTEMS (CS)

(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 Sampling ?
2. Define external noise.
3. What are the needs of modulation ?
4. In what situation multiplexing is used ?
5. Why line coding is used ?

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.*

*Each question carries 5 marks.*

6. Define and explain continuous time Fourier series.
7. Explain cross talk.
8. Define slope overload and granular noise.
9. What is the difference between frequency division multiplexing and wavelength division multiplexing ?
10. What is EBCDIC ?

(5 × 5 = 25 marks)

**Part C**

*Answer all questions.*

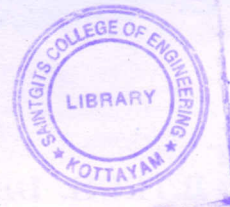
*Each question carries 12 marks.*

11. Find the Fourier transform of the signal  $x(t) = A \sin \omega t$ .

Or

12. List and explain the properties of continuous time Fourier series.

**Turn over**



13. (a) State Shannon's theorem.  
(b) Explain what is signal propagation delay.

Or

14. Describe the Architecture of a Typical communication system.  
15. Explain the generation of PPM and PWM signals.

Or

16. With the help of neat diagrams, explain the transmitter and receiver of a pulse code modulation.  
17. Compare packet switching and circuit switching.

Or

18. Explain with neat sketches any *one* type of analog to digital converter.  
19. Write the following error correction and detection code with example :—  
(a) Block coding.  
(b) Hamming code.

Or

20. Write short notes on : Bar coding and parity coding.

(5 × 12 = 60 marks)