

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**  
**NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA SURATHKAL**  
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**Syllabus and other details for M. Tech. (Self-Financed) Written Test- July 2022**

The Test paper: **2 Parts**

**Part-1: Compulsory**

**Part-2: Stream specific modules**

**Part-2 Modules:** Module-A (CEN), Module-B (SPML), Module C-(VLSI)

Question paper format: **Multiple Choice type**

Evaluation Scheme: **Each correct answer carries 1 mark and wrong answer carries – 0.25 marks**

**Part-1: 18 Questions, Max. Marks: 18, Duration: 30 minutes**

**Each module of Part-2: 12 Questions, Max. Marks:12, Duration: 20 minutes**

**Total duration to attempt any single stream: 50 Minutes**

**For all three streams: 90 Minutes**

**Syllabus:**

**Part-1:**

Linear Algebra and Matrix Theory, Calculus, Differential and Difference equations. Numerical methods, Probability Theory and Random Variables, Basic Electronic Circuits, Linear circuits and networks, Digital Electronics, Signals and Systems, Fundamentals of C-programming.

**Part-2:**

**Module-A (CEN Stream)**

Electromagnetic Waves, Communication Theory, Communication Circuits, Transmission Lines, Wave Guides, Antennas, Microwave devices and Circuits, Data Communications, Communication Networks, Satellite Communication, Optical Communication, Fundamentals of Signal Processing.

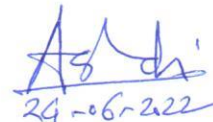
**Module-B (SPML stream)**

**SP Fundamentals:** Time domain analysis of discrete-time systems - Basic discrete time signals, discrete-time Fourier Series, Z Transform – definition and properties, Discrete-time Fourier Series and its properties, Properties and applications of DTFT. Relationship between time, Z and frequency domains, DFT fundamentals and Properties of DFT. FIR and IIR filters. Fundamentals of Image Processing.

**Fundamentals of Algorithms and Data Structure**

**Module-C (VLSI Design)**

Linear and Digital ICs, Digital System Design, Analog IC Design, CMOS VLSI, Computer Architecture and organization, Microprocessors, Microcontrollers and Embedded Systems.

  
24-06-2022

प्राध्यापक एवं विभागाध्यक्ष / PROF & HEAD  
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