

### BSNL JTO Exam Pattern

#### For JTOs (Telecom)

Section	Stream	Total questions
Section-I	Engineering Stream	50
Section-II	Engineering Stream	50
Section-III	General Ability test	20

#### For JTOs (Electrical)

Section	Stream	Total questions
Section-I	Electrical Engineering Stream	50
Section-II	Electrical Engineering Stream	50
Section-III	General Awareness	20

### BSNL JTO Syllabus (Junior Telecom Officers)

BSNL Junior Telecom Officers Syllabus Section I	
Materials and Components	Electronic Engineering materials Capacitors Ceramic materials Ceramic resonators Conductors Electromechanical components Ferroelectric material Inductors Insulators Magnetic material Optical materials Passive components Piezoelectric materials Resistors Semiconductors Superconducting materials
Physical Electronics, Electron Devices and	Integrated Circuits Bipolar Junction Transistor Carrier Statistics Electrons and Holes concept Hall Effect Junction theory Power switching devices Semiconductors Types of diodes Types of IC's like bipolar, MOS and CMOS
Electromagnetic Theory	Basics of antenna theory Transmission lines Waveguides and resonators
Electronic Measurements and Instrumentation	Electronic measurements of non-electrical quantities Electronic measuring instruments



	Error analysis Measurement standards Measurements of basic electrical quantities Transducers Working principles of measuring instruments
Network Theory	Elements of network synthesis Network analysis techniques Network theorem Transient and steady state sinusoidal response Transmission criteria
Power Electronics	AC regulators AC to DC convertors Inverters Power Semiconductor devices Pulse width modulation Single-phase and 3-phase Invertors Sinusoidal modulation Switched capacitor networks Transistor
<u>BSNL Syllabus for JTO Section II</u>	
Digital Electronic Circuits	Boolean algebra Boolean functions Combinational logic circuits De-multiplexer Digital Comparator Flip-flops Full adder Half adder IC logic families IC Logic gates Karnaugh Map Multiplexer Semiconductor memories Transistor Types of counters and registers Waveform generators
Analog Electronic Circuits	Feedback amplifiers Frequency response Operational Amplifier Oscillators Power amplifiers Pulse shaping circuits Rectifiers Small Signal analysis Transistor biasing Tuned amplifiers
Control Systems	Compensators Design of Control Systems Frequency response analysis



	Gain and phase margins Industrial controllers Root locus techniques Transient and steady state response
Communication Systems	Frequency division multiplexing Optical Communication Propagation of signals Quantization & Coding Sampling Data reconstruction Satellite communication Time division Multiplexing
Microwave Engineering	Microwave antennas Microwave Communication Microwave generation and amplifiers Microwave Measurements Microwave Propagation Microwave Tubes Solid state devices Waveguides
Computer Engineering	Control unit design Data representation Computer architecture processor design Data structures I/O System Organization Memory organization Number Systems Personal computers Programming
Microprocessors	Applications of Microprocessors in Telecommunications Assembly language programming Instruction set Interfacing for memory and I/O Microprocessor architecture
<u>BSNL JTO Exam Syllabus for Section III</u>	
English Language Current affairs Current events and developments in Telecommunication Sector	