BSNL Syllabus 2016 Download JE/JTO/TTA Exam Pattern, Study Material PDF

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BSNL Syllabus

Aspirants, this page is made to provide you updated information about **BSNL Syllabus** 2016. Bharat Sanchar Nigam Limited conducts BSNL Recruitment Exam time to time to hire dedicated and skilled contenders to fill up JE/JTO/TTA and various vacant posts in different disciplines or departments. Applicants, who are going to appear in employment examination, may download their exam pattern and study material for particular posts in pdf format from this page.

BSNL operates and manages the optical fiber lines as well as telephonic service for its large number of customers and contenders are requested to download the information provided below. You may grab whole information about BSNL Syllabus 2016 from below segment of this page which is well structured by team of recruitmentresult.com.

Subjects Name	Covered		
General Ability	General English.		
	 Verbal Reasoning. 		
	 Non-Verbal Reasoning. 		
	Arithmetic Ability		
Basic Engineering	Applied Mathematics.		
	 Applied Physics. 		
	 Basic Electricity. 		
	 Electronic Devices & Circuits. 		
	 Digital Techniques 		
Specialization	Electrical		
	Communication.		
	 Network, Filters & Transmission Lines. 		
	 Instruments & Measurements. 		
	 Control Systems. 		
	 Microprocessors. 		
	Computer		

BSNL JE Syllabus

How to Prepare For Written Examination

BSNL JE Exam Pattern

Paper No.	Subject Name	Max Ques.	<u>Max Marks</u>
Ι	General Ability Test	20	20
II	Basic Engineering	90	90

III	Specialization	90	90
Total		200	200

Syllabus of BSNL JTO

Subjects Name	Topics To Be Covered
Section I	<u> </u>
Materials and Components	Physical Electronics, Electron
 Electronic Engineering materials 	Devices
Capacitors	 Integrated Circuits
Ceramic materials	 Bipolar Junction Transistor
Ceramic resonators	 Carrier Statistics
Conductors	 Electrons and Holes concept
 Electromechanical components 	Hall Effect
Ferroelectric material	 Junction theory
Inductors	 Power switching devices
Insulators	 Semiconductors
Magnetic material	 Types of diodes
Optical materials	 Types of IC's like bipolar,
 Passive components 	MOS and CMOS
 Piezoelectric materials 	
Resistors	
 Semiconductors 	
 Superconducting materials 	
Electromagnetic Theory	Electronic Measurements and
 Basics of antenna theory 	Instrumentation
 Transmission lines 	 Electronic measurements of
 Waveguides and resonators 	non-electrical quantities
	 Electronic measuring
	instruments
	 Error analysis
	 Measurement standards
	 Measurements of basic
	electrical quantities
	 Transducers
	 Working principles of
	measuring instruments
Network Theory	Power Electronics
 Elements of network synthesis 	 AC regulators
 Network analysis techniques 	 AC to DC convertors
 Network theorem 	 Inverters
• Transient and steady state sinusoidal	 Power Semiconductor devices
response	Pulse width modulation
Transmission criteria	 Single-phase and 3-phase
	Invertors
	 Sinusoidal modulation

		•	Switched capacitor networks
		•	Transistor
Sect	tion II		
Dig	ital Electronic CircuitsBoolean algebra	Ana	alog Electronic Circuits
	Boolean functions	•	Feedback amplifiers
-	Combinational logic circuits	•	Frequency response
-	De-multiplexer		Operational Amplifier
-	Digital Comparator	•	Oscillators
-	Flip-flops	•	Power amplifiers
-	Full adder	•	Pulse shaping circuits
-	Half adder		Rectifiers
-	IC logic families		Small Signal analysis
-	IC Logic gates	•	Transistor biasing
-	Karnaugh Map	•	Tuned amplifiers
-	Multiplexer		1
-	Semiconductor memories		
-	Transistor		
-	Types of counters and registers		
-	Waveform generators		
Con	trol Systems	Cor	nmunication Systems
-	Compensators		Frequency division
-	Design of Control Systems		multiplexing
-	Frequency response analysis	•	Optical Communication
-	Gain and phase margins	•	Propagation of signals
-	Industrial controllers	•	Quantization & Coding
-	Root locus techniques	•	Sampling
-	Transient and steady state response	•	Data reconstruction
		•	Satellite communication
		•	Time division Multiplexing
d			
Mic	rowave Engineering	Cor	<u>nputer Engineering</u>
•	Microwave antennas	•	Control unit design
•	Microwave Communication	•	Data representation
•	Microwave generation and amplifiers	•	Computer architecture
•	Microwave Measurements		processor design
•	Microwave Propagation	•	Data structures
•	Microwave Tubes	•	I/O System Organization
•	Solid state devices	•	Memory organization
-	Waveguides	•	Number Systems
		•	Personal computers
		•	Programming
Mic	roprocessors	-	
•	Applications of Microprocessors in		
	Telecommunications		
•	Assembly language programming		
•	Instruction set		

Interfacing for memory and I/O Microprocessor prohitecture	
Section III	
 English Language Current affairs Current events and developments in Telecommunication Sector 	-

Secret Tips & Tricks for Written Exam

Exam Pattern for BSNL JTO Exam:

For JTOs (Telecom)

Section	<u>Stream</u>	Max Ques.
Ι	Engineering Stream	50
II	Engineering Stream	50
III	General Ability test	20
Total		120

10 Common Mistakes You Make in Tests – Check Here

For JTOs (Electrical)

Section	Stream	Max Ques.
Ι	Electrical Engineering Stream	50
Π	Electrical Engineering Stream	50
III	General Awareness	20
Total		120

You May Also Check This Section Of BSNL

BSNL Recruitment	BSNL TTA Recruitment
BSNL Question Paper	BSNL Online Mock Test
BSNL Admit Card	BSNL Result

BSNL TTA Syllabus

Subjects Name	Top	bics To Be Covered
Paper 1: General Ability Test		
-	•	Current events,
	•	General knowledge,
	•	Reasoning and Social science.
	•	Comprehension and understanding of
		General
	•	English

Paper2: Basic Engineering				
App	Applied Mathematics: Applied Physics:			
-	Co-ordinate Geometry;	•	Measurement – Units and	
-	Vector Algebra;		Dimensions;	
-	Matrix and Determinant:	-	Waves,	
-	Differential Calculus and	•	Acoustics,	
	Integral Calculus:	•	Ultrasonics;	
-	Differential equation of second	-	Light;	
	order: Fourier Series;	•	Laser and its applications;	
-	Laplace Transform;	•	Atomic Structure and Energy Levels.	
-	Complex Number;			
•	Partial Differentiation			
Basi	ic Electricity:	Elec	ctronic Devices and Circuits:	
-	Electrostatics,	•	Classification of materials into	
-	Coulomb's Law,		conductor,	
-	Electric field,	•	semi conductor,	
-	Gauss's Theorem,	•	Insulator etc.,	
•	concept of potential difference;	•	electrical properties,	
-	concept of capacitance and	-	magnetic materials,	
	capacitors;	•	various types of relays,	
-	Ohm's law,	-	Switches and connectors.	
-	power and energy,	•	Conventional representation of	
-	Kirchoff's voltage,		electric and electronic circuits'	
-	Current laws and their		elements.	
	applications in simple DC	•	Active and passive components etc	
	circuits; Basic Magnetism;			
-	Electro Magnetism:			
	Electromagnetic induction;			
•	concept of alternating			
-	voltage & current;			
•	Cells and Batteries;			
-	Voltage and Current Sources;			
•	Thevenin's theorem,			
-	Norton's theorem and their			
	applications.			
Dig	ital Techniques:			
-	Applications and advantages of	digi	tal systems;	
•	 Number system (binary and hexadecimal); 			
-	Logic Gates;			
•	Logic Simplifications;			
•	Codes and Parity;			
•	Arithmetic Circuits;			
•	Decoders,			
•	 Display Devices and Associated Circuits; Multipleyers and De multipleyers; 			
•	• Multiplexers and De-multiplexers;			
•	Latches and Fliptlops,			

-			
•	Counters,		
-	Shift Register,		
-	Memories;		
•	A/D and D/A converters		
Pap	er III: Specialization		
Eleo	<u>ctrical:</u>	Cor	mmunication:
•	3 Phase Vs Single Phase	•	Modulation and demodulation:
	Supply,		principles and operation of various
•	Star Delta Connections,		types of AM, FM and PM
•	Relation Between Phase &		modulators/demodulators
	Line Voltage,	•	pulse modulation – TDM, PAM,
-	Power Factor And Their		PPM, PWM
	Measurements,	•	Multiplexing,
-	Constructions And Principles	•	Principles and applications of PCM
	Of Working Of Various Types	•	Introduction of Basic block diagram
	Of Electrical Measuring		of digital and data communication
	Instruments,		systems
•	All Types Of Motor And	•	Coding error detection and correction
	Generator – AC & DC,		techniques
•	Transformers,	•	Digital Modulation Techniques –
•	Starters,		ASK, ICW, FSK, PSK
-	Rectifiers,	•	Characteristics/ working of data
•	Inverters,		transmission circuits
•	Battery Charges,	•	UART
•	Batteries,	•	USART;
•	Servo And Stepper Motors,	•	Modems,
•	Contactor Control Circuits,	•	Protocols and their functions,
•	Switchgear,	•	brief idea of ISDN interfaces,
•	Relays,	•	local area Network;
•	Protection Devices & Schemes,	•	Carrier Telephony-Features of carrier
•	Substation,		telephone system
•	Protective Relaying,	•	Microwave Engineering: Microwave
•	Circuit Breaker,		Devices Ware and the st
	Generator Protection,		waveguides; Microwave Components:
	Foodor & Lightoning		Microwave Components;
	Protection		Microwave antennas,
-	Figure & Rushar Protection	-	- Block diagram & working
	Lightening Arrestor		- DIOCK diagram & WORNing
	Eigneening Allestol, Farthing		communication link
	Voltage Stabilizer &		communication mix.
[Regulators		
	Power Control Devices &		
	Circuits		
	Phase Controlled Rectifiers		
	Inverters		
	m, on (015,		

-	Choppers,		
-	Dual Converters,		
-	Cycloconverters;		
	Power Electronics Application		
	In Control Of Drivers.		
	Refrigeration & Air		
	conditioning.		
Net	work. Filters and Transmission	Inst	ruments and Measurements
Lines			Specifications Of Instruments
	Two port network:		Accuracy.
-	Attenuators		Precision
	Filters:		Sensitivity
	Transmission Lines and their		Resolution Range
	applications:		Errors In Measurement And Loading
-	characteristic impedance of		Effect:
	line:		Principles Of Voltage
	concept of reflection and		Current And Resistance
	standing waves on a		Measurements Transducers.
	transmission line: Transmission		Measurement Of Displacement &
	line equation:		Strain.
-	Principle of impedance		Force & Torque Measuring Devices.
	matching:		Pressure Measuring Devices.
-	Bandwidth consideration of a		Flow Measuring Devices.
	transmission line.		Power Control Devices & Circuits.
			Types Of AC Millivoltmeters –
			Amplifier Rectifier And Rectifier
			Amplifier:
			Block Diagram
			Explanation Of A Basic CRO And A
			Triggered Sweep,
			Oscilloscope,
		•	Front Panel Controls;
		•	Impedance Bridges And Q Meters;
		•	Principles Of Working
			And Specifications Of Logic Probes,
			Signature Analyser And Logic
			Analyser,
		•	Signal Generator,
		•	Distortion Factor Meter,
		•	Spectrum Analyser.
Control systems:		Mic	roprocessors
•	Basic Elements Of Control		Typical Organisation Of A
	System,		Microcomputer System & Functions
-	Open And Closed Loop		Of Its Various Blocks;
	System, Concepts Of	•	Architecture Of A Microprocessor;
	Feedback.	•	Memories And I/O Interfacing;

-	Block Diagram Of Control	•	Brief Idea Of M/C & Assembly			
	System.		Languages,			
-	Time Lag,	•	Machines & Mnemonics Codes;			
-	Hysterisis,	•	Instruction Format And Addressing			
-	Inearity Concepts.		Mode;			
-	Self Regulating And Non Self	-	Concept Of Instructionset;			
	Regulating Control Systems.	-	Programming Exercises In Assembly			
	Transfer Function Of Simple		Language:			
	Control Components.	-	Concept Of Interrupt:			
-	Single Feedback Configuration.	-	Data Transfer Techniques – Sync			
-	Time Response Of Systems		Data Transfer.			
-	Stability Analysis –	-	Sync Data Transfer.			
	Characteristic Equation.	-	Interrupt Driven Data Transfer.			
-	Routh's Table Nyquist	-	DMA .			
	Critereon.	-	Serial Output Data.			
-	Relative Stability.	-	Serial Input Data.			
	Phase Margin and Gain		~ • • • • • • • • • • • • • • • • • • •			
	Margin.	_				
-	Routh Hurwitz Criterion.					
-	Root Locus Technique.					
-	Bode Plot.					
-	Polar Plot.					
-	Gain Margin And Phase					
	Margin.					
Con	nputers					
-	Computer and its working,					
-	types of computers.					
-	familiarisation with DOS and W	Vind	ows – concept of file, directory,			
-	folder,					
-	Number systems,					
-	Data representation;					
-	Programming _ Elements of hig	h le	vel programming language, PASCAL,			
	C;					
•	use of basic data structures;					
•	Fundamentals of computer architecture,					
•	Processor design,					
•	Control unit design,					
•	Memory organisation.					
•	I/O system organisation.					
•	Microprocessors – micro processor architecture.					
•	Instruction set and simple assembly level programming.					
•	Microprocessor based system design ;					
•	typical examples.					
•	Personal computers and their typical uses,					
•	data communication principles,					
1	types and working					

- principles of modems,
- Network principles,
- OSI model,
- functions of data link layer and network layer,
- networking components,
- communication protocols- X –25,
- TCP/IP.
- Database Management System basic concepts,
- entity relationship model,
- relational model,
- DBMS based on relational model

How to Solve a Problem in Exam Correctly

BSNL TTA Exam Pattern

BSNL Telecom Technical Assistants exam will be organized in three papers and all three papers will be of objective type and its marks distruction as indicated below in tabular format:

Paper No.	Subjects Name	Marks	Time Duration
Paper I	General Ability Test	100	02 Hours
Paper II	Basic Engineering	500	03 Hours
Paper III	Specialization	500	
Total		1100	