

# BSNL JTO 2026 Exam Pattern / Syllabus

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## 13. Selection process: -

- a. The candidates shall have to undergo "Computer based-Multiple Choice-Objective Type Test" comprising following three sectional papers, Engineering Stream Section - I, Engineering Stream Section - II and General Ability Test Section - III. All candidates appearing in the "Computer based-Multiple Choice-Objective Type Test" shall be given a score based on their performance in the "Computer based-Multiple Choice-Objective Type Test".
- b. The standard of paper in engineering subjects will be that of Engineering Degree Examination of an Indian University.
- c. In the general ability test, special attention will be paid to assess the candidate's capacity for general awareness. The standard of the paper in general ability test will be as expected from an Engineering Graduate.
- d. On the basis of number of sessions of examinations, arises if any, normalization of marks would be adopted.
- e. All willing candidates are advised to ensure to fulfil all eligibility conditions before applying. In case during pre-appointment formalities or at a later stage or otherwise at any extent of time, it is found that the information furnished by an applicant is false/misleading or an applicant does not fulfil any of the eligibility conditions, etc. or otherwise, then candidature of such applicants would be summarily cancelled and no correspondence in this regard would be entertained.
- f. Selected candidates in the declared merit list shall have to go for document verification. The date and venue of document verification will be intimated in due course. However, BSNL reserves the right to change the number of posts.
- g. Appointment of selected candidates will be subject to their passing the company's Medical Examination as per standards laid down by BSNL.

- h. Those selected candidates who are already employed elsewhere will be required to resign from their respective organization only after being declared medically fit as per extant Medical rules. If any candidate resigns from his/her present employment before being declared medically fit for joining in BSNL, then BSNL shall bear no responsibility, whatsoever, on this account.
- i. BSNL reserves the right to cancel/ restrict/ enlarge/ modify/ alter the recruitment/ selection process, if the need so arises, without issuing any further notice or assigning any reason whatsoever. No communication in this regard shall be entertained in any manner.

14. **Scheme of examination & Syllabus: -**

- a. The pattern of the questions will be multiple choice objective type questions (MCQ) with negative marking. All candidates will undergo a "Computer based-Multiple Choice-Objective Type Test" of 3 hours duration.
- b. The examination (Computer based-Multiple choice-Objective type test) will consist of one paper as given below:

JTO (DR) - Telecom:

Section	Particulars	Number of Questions and Maximum Marks	Duration
I	Engineering Stream Section - I	200 Marks (50 Questions)	3 hours
II	Engineering Stream Section - II	200 Marks (50 Questions)	
III	General Ability Test Section - III	80 Marks (20 Questions)	
Total		480 Marks (120 Questions)	

Note: -

- i. The examination will be conducted in ONE shift comprising of three sectional papers Engineering Stream Section - I, Engineering Stream Section - II and General Ability Test Section - III for 3 hours duration.
- ii. Syllabus for Engineering Stream Section - I, Engineering Stream Section - II, General Ability Test Section - III has been detailed in ANNEXURE-B.
- iii. **Minimum qualifying Marks and Final Merit List:**
- a. The examination will be Objective type with negative marking. For each correct answer 04 (Four) Marks will be awarded and for each wrong answer (-) 1 (One) Mark will be awarded.
- b. Minimum Qualifying Marks in each Section shall be 40% in each Section and overall minimum Qualifying Marks in all three sections combined shall be 50 % for Unreserved Candidates and OBC (CL) Candidates. For SC/ST, OBC (NCL), PwBD and EWS Candidates, there shall be relaxation in Qualifying Marks and the Minimum Qualifying Marks in each Section shall be 35% and overall minimum Qualifying Marks in all three section combined shall be 45%.
- c. Candidates, obtaining less marks than the minimum qualifying marks in any of the Sections and three sections combined shall not be considered for including in the merit list.

- d. Final Merit List will be prepared based on Total Marks obtained in Section-I (Engineering Stream Section - I), Section-II (Engineering Stream Section - II) & Section-III (General Ability Test Section - III) provided the candidate has secured minimum Qualifying Marks as prescribed above.
- e. The appearance of the name in the final merit-list of the selection process does not confer any right on the candidate for the post. A final offer letter will be issued to the candidate after successful completion of all formalities relating to eligibility conditions.

15. **Bond, Training and Probation: -**

- a. All candidates recruited for the post of Junior Telecom Officer Telecom (JTO (T)-DR) will execute a Bond of Rupees 06 (Six) Lakhs in the format as specified by BSNL to serve BSNL for a period of at least FIVE YEARS from the date of their appointment as Junior Telecom Officer.
- b. Period of probation: Two Years.
- c. All Junior Telecom Officer Telecom (JTO (T)-DR) shall have to successfully undergo training for such period as may be specified from time to time by BSNL. If a selected candidate does not qualify the pre-appointment training in 1st attempt, he/she will be given one more chance to qualify the pre-appointment training examination without fresh training, failing which he/she will not be appointed as JTO and he/she has to appear afresh in the subsequent Direct Recruitment Examination. During the period of training, the Direct Recruit JTO will be entitled to stipend (training allowance) as decided by BSNL from time to time.

The Details of training are as follows:

- i. JTO Phase-I training: 10 weeks.
- ii. Field Training: 4 weeks.
- iii. JTO Phase-II training: 6 weeks (Specialisation course).

16. **Seniority: -**

The seniority on appointment of candidates in the cadre of JTO (T) shall be determined on the basis of 60% weightage of marks obtained in the examination, i.e., Direct Recruitment Examination and 40% weightage of marks obtained in pre-appointment Phase-I training. Further, in case of equal marks obtained by two or more candidates in Direct Recruitment, the seniority among them shall be determined on the basis of date of birth, i.e., the older one will be senior to the younger one.

- c. The amount of the fee shall not be accepted in any other form. Fee, once paid shall NOT be refunded under any circumstances nor can be held in reserve for any other examination or selection.
- d. The applicants would be admitted to the examination on the basis of the information furnished by them in their online application form. The candidates are, therefore, advised to fulfill all eligibility conditions before applying. In case any information is found false/misleading at a later stage or otherwise, the candidature of such applicants would be cancelled and no correspondence in this regard would be entertained.
- e. Before registering/submitting their online applications on the website the candidates should keep the following ready:
- i. Mobile number & E-mail ID in which the OTP will be sent for completing the registration process.
  - ii. Scanned copy of recent passport size colour photograph of the candidate with white background in jpg / jpeg format. (20kb-50 kb only).
  - iii. Scanned copy of the signature of the candidate in jpg / jpeg format (10kb - 20kb only).
  - iv. Class 10th Certificate (For verification of Date of Birth).
  - v. Degree Certificate of Essential Qualification.
  - vi. Consolidated Mark sheet/ transcript of essential qualification for all semesters or years.
  - vii. Photo identity proof (like Aadhaar card, Passport, Driving License, Voter Id Card).
  - viii. Valid proof of reservation in category as applicable (SC/ST/OBC(NCL)/EWS/PwBD, etc.)
  - ix. Medical Certificate for PwBD.
- f. After closing of registration period, EDITING WINDOW shall be opened for Seven (07) Days. Candidates can edit selective fields only in their application. Upon completion of registration in all respects, the required admit card will be made available on same registration link.
- g. In case of multiple applications/registration from the candidate, the latest application/registration number shall be considered as final and older applications shall be rejected.
- h. Candidates employed with Government Departments/Public Sector Undertakings/Autonomous Bodies are required to produce a "No Objection Certificate" from their present employer at the time of Documents verification positively.
- i. For the Unreserved (UR) vacancy, SC/ ST/ EWS/ OBC/ Ex-Serviceman/ BSNL candidates can apply subject to meeting with all general standards of eligibility. In such case, the category relaxation then may not be availed.
18. **Choice of Examination Center:** The Exam will be held in 27 Cities / Centers. The details of the Examination Cities /Centres are given in ANNEXURE-C. The candidate will have to choose only one Examination City / Center.
19. **Admit card** for appearing in the Junior Telecom Officer "Computer based-Multiple Choice-Objective Type Test" can be downloaded from the link provided through BSNL websites ([www.externalexam.bsnl.co.in](http://www.externalexam.bsnl.co.in)) by the candidates well ahead of time before the date of examination by using their

**SCHEME & SYLLABUS FOR JUNIOR TELECOM OFFICER - DIRECT RECRUITMENT (TELECOM) IN BSNL FROM OPEN MARKET**

For Direct Recruitment of Junior Telecom Officers, an objective type Examination of 3 hours duration consisting of following sectional papers will be conducted:

**Scheme**

- A. Engineering Stream Section - I
- B. Engineering Stream Section - II
- C. General Ability Test Section - III.

1. The standard of paper in Engineering Subjects will be that of Engineering Degree Examination of an Indian University.
2. In the General Ability test, special attention will be paid to assess the candidate's capacity for general awareness. The standard of paper in general ability test will be such as may be expected of an Engineering Graduate.
3. The syllabus for engineering stream papers will be as given below.

**SYLLABUS**

**SECTION - I**

**1. Materials and components**

Structure and properties of Electronic Engineering materials, Conductors, Semiconductors and Insulators, Magnetic, Ferroelectric, Piezoelectric, Ceramic, Optical and Superconducting materials. Passive components and characteristics, Resistors, Capacitors and Inductors; Ferrites, Quartz crystal, Ceramic resonators, Electromagnetic and Electromechanical components.

**2. Physical Electronics, Electron Devices and ICs**

Electrons and holes in semiconductors, Carrier Statistics, Mechanics of current flow in a semi-conductor, Hall effect; Junction theory; Different types of diodes and their characteristics; Bipolar Junction transistor; Field effect transistors; Power switching devices like SCRs, CTOs, power MOSFETs; Basics of ICs-bipolar, MOS and CMOS types; Basics of Opto Electronics,

**3. Network theory**

Network analysis techniques; Network theorem, transient and steady state sinusoidal response, Transmission criteria: delay and rise time Elmore's and other definition, effect of cascading. Elements of network synthesis.

**4. Electromagnetic Theory**

Transmission lines: basic theory, standing waves, matching applications, microstrip lines; Basics of waveguides and resonators; Elements of antenna theory.

### **5. Electronic Measurements and instrumentation**

Basic concepts, standards and error analysis; Measurements of basic electrical quantities and parameters; Electronic measuring instruments and their principles of working: analog and digital, comparison, characteristics, applications. Transducers; Electronic measurements of non-electrical quantities like temperature, pressure, humidity etc. Basics of telemetry for industrial use.

### **6. Power Electronics**

Power Semiconductor devices, Thyristor, Power transistor, MOSFETs, Characteristics and operation. AC to DC convertors; 1-Phase and 3-phase DC to DC Convertors. AC regulators. Thyristor controlled reactors, switched capacitor networks. Inverters: Single-phase and 3-phase. Pulse width modulation. Sinusoidal modulation with uniform sampling. Switched mode power supplies.

## **SECTION-II**

### **1. Analog Electronic Circuits**

Transistor biasing and stabilization, Small Signal analysis. Power amplifiers. Frequency response, Wide band techniques, Feedback amplifiers. Tuned amplifiers. Oscillators. Rectifiers and power supplies. Operational Amplifier, other linear integrated circuits and applications. Pulse shaping circuits and waveform generators.

### **2. Digital Electronic Circuits**

Transistor as a switching element; Boolean algebra, simplification of Boolean functions, Karnaugh Map and applications; IC Logic gates and their characteristics; IC logic families: DTL, TTL, ECL, NMOS, PMOS and CMOS gates and their comparison; Combinational logic circuits; Half adder, full adder; Digital Comparator; Multiplexer Demultiplexer; ROM and their applications. Flip-flops, R-S, J-K, D and T flip-flops; Different types of counters and registers; waveform generators. A/D and D/A convertors. Semiconductor memories.

### **3. Control Systems**

Transient and steady state response of control systems; Effect of feedback on stability and sensitivity, Root locus techniques; Frequency response analysis. Concepts of gain and phase margins; Constant-M and Constant-N Nichol's Chart; Approximation of transient response from Constant-N Nichol's Chart; Approximation of transient response from closed loop frequency response; Design of Control Systems, Compensators; Industrial controllers.

### **4. Communication systems**

Basic information theory; Modulation and detection in analogue and digital systems; Sampling and data reconstruction. Quantization & Coding; Time division and frequency division multiplexing; Equalisation; Optical Communication: in free space & fibre optic; Propagation of signals at HF, VHF, UHF and microwave frequency; Satellite communication.

### **5. Microwave Engineering**

Microwave Tubes and solid state devices, Microwave generation and amplifiers, Waveguides and other Microwave Components and Circuits, Microstrip circuits, Microwave antennas, Microwave Measurements, MASERS LASERS; Microwave Propagation. Microwave Communication Systems-terrestrial and satellite based.

#### **6. Computer Engineering**

Number Systems; Data representation; Programming; Elements of a high level programming language PASCAL/C; use of basic data structures; Fundamentals of computer architecture processor design; Control unit design; Memory organization. I/O System Organization. Personal computers and their typical uses.

#### **7. Microprocessors**

Microprocessor architecture - Instruction set and simple assembly language programming. Interfacing for memory and I/O. Applications of Microprocessors in Telecommunications and power system.

### **SECTION-III**

#### **General ability test**

The candidate's comprehension and understanding of General English shall be tested through simple exercises. Questions on knowledge of current events and of such matter of everyday observation and experience in their scientific aspects as may be expected of an educated person. Questions will also be included on events and developments in Telecommunications, History of India and Geography. These will be of a nature, which can be answered without special study by an educated person.

प्रवीण कुमार

## List of Examination Centre Cities

Sr. No.	Name of the Examination Cities / Centres
1	Port Blair
2	Vijayawada
3	Guwahati
4	Patna
5	Chennai
6	Raipur
7	Ahmedabad
8	Ambala
9	Shimla
10	Jammu
11	Ranchi
12	Bangalore
13	Thiruvananthapuram
14	Kolkata
15	Bhopal
16	Mumbai
17	Shillong
18	Dimapur
19	New Delhi
20	Bhubaneshwar
21	Chandigarh
22	Jaipur
23	Gangtok
24	Hyderabad
25	Lucknow
26	Meerut
27	Dehradun

Note: - Depending upon the number of the candidates, exam center may be any of the above mentioned cities or any nearby city (not mentioned above).

  
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