

**BHARAT SANCHAR NIGAM LIMITED**  
( A Government of India Enterprise )

**Recruitment of Junior Telecom Officer(Telecom) under Special Recruitment Drive (SRD) for Persons with Disabilities (PWD)- JTO(SRD) 2011.**

**CLOSING DATE OF RECEIPT OF APPLICATION : 12.12.2011.**

**EXAMINATION DATE : 19.02 2012.**

Bharat Sanchar Nigam Ltd. (BSNL), Calcutta Telephone District will recruit about 10 Junior Telecom Officers under Special Recruitment Drive (SRD) -2011 for Persons with Disabilities through an open competitive **examination to be held on 19.02.2012.**

<b>Name of Cadre</b>	<b>Locomotive Impairment category (LI)</b>	<b>Hearing Impairment category (HI)</b>	<b>TOTAL</b>
<b>JTO(TELECOM)</b>	<b>4</b>	<b>6</b>	<b>10(Under PH Category)</b>

Reservation as per Central Govt. guidelines will be applicable for SC/ST/OBC candidates under PH category. In respect of Physically Handicapped persons, candidates having the following disability have been permitted :

- i) Hearing Impairment - Partially Deaf.
- ii) Locomotive Impairment - One arm or one leg or both legs affected.

**( As per Central Govt. Guidelines, the minimum degree of disability is 40% in order for a person to be eligible for any concession/benefits)**

**1. Scale of Pay**

The post of J.T.O. is in the IDA pay-scale of Rs. 16,400-40,500.

**2. Selection for a Particular Circle & Service liability :**

BSNL comprises a number of territorial Circles and functional Circles. The recruitment will be made centrally by BSNL, Calcutta Telephone District , so recruited will be allotted territorial/functional Circles depending on vacancies, their choice and merit.

The Junior Telecom Officer is a Circle-based and the candidates would be selected against the vacancies in a particular Circle and required to serve minimum of 5 years in that particular Circle only or until they are promoted to All India Cadre, whichever is earlier.

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However, the officers are liable to be transferred anywhere in India in the interest of service. BSNL has, however, the right to post any selected J.T.O to any of the Circles either temporarily or on permanent basis. The decision of BSNL in this regard shall be final and binding. The service conditions, seniority etc. of selected candidates will be determined as per prevailing rules of the Corporation from time to time.

**3. Eligibility :**

**3.1. Nationality :** Only Indian Nationals would be eligible to apply.

**3.2. Educational Qualifications :**

**3.2.1. JTO(Telecom)**

Applicant must possess **as on 31.12.2011**, the Bachelor of Engineering/Bachelor of Technology or equivalent Engineering degree in any of the following disciplines from a recognized engineering college/university.

- i. Telecommunication
- ii. Electronics
- iii. Radio
- iv. Computer
- v. Electrical
- vi. Information Technology
- vii. Instrumentation

Candidates appearing in the final year degree examination may also apply provided they possess the required educational qualification by 31.12.2011.

**3.3. Age : The applicant for JTOs(Telecom) should not be more than 30 years of age on the closing date for receipt of applications from candidates. However, this age is relaxable as per standing instructions on this subject for :-**

- i) Govt. servants upto 5 years in accordance with the instructions or orders issued by the Central Govt. .

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- ii) BSNL employees upto 5 years in accordance with the instructions or orders issued by the BSNL;
- iii) For Scheduled Castes & Scheduled Tribes candidates upto 5 years;
- iv) For OBC Candidates upto 3 years;
- v) For General Category PH candidates upto 10 years ; (for SC/ST 15 years and for OBC 13 years)
- vi) For certain other categories like ex-servicemen, displaced persons from East Pakistan(now Bangladesh), repatriates from Burma and Ceylon(now Srilanka), residents of Goa, Daman & Diu, persons migrated from Kenya, Uganda, Republic of Tanzania as per instructions issued by the Central Government from time to time in this regard.
- vii) For Residents of J&K-Relaxation shall be in accordance with Dop&T's Notification No. 15012/7/1991-Estt.(D) dtd. 7.12.2007 pertaining to "Residents of State of Jammu and Kashmir (Relaxation of Upper Age Limit for Recruitment to Central Civil Services & Posts) Rules 1997".

**3.4. Further in respect of apprentices who have undergone apprentice training in BSNL successfully, there will be following provision :-**

- (a) An apprentice will be required to complete in the common competitive examination conducted by BSNL, along with other direct candidates and preference to the apprentices over non-apprentices direct candidates will be given only if apprentices secures equal place in merit in select zone and all other eligibility conditions being equal.
- (b) The apprentices would not be required to get her/his name sponsored by any employment exchange.
- © The apprentices would be entitled to age relaxation to the extent of the period for which the apprentice had undergone training as apprentice in the BSNL.

**4. Mode of selection and nature of Question Paper:-**

The mode of selection is through open Competitive Examination. The examination will be of three hours duration with one Question Paper containing the following three sections:-

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### **For JTOs(Telecom)**

Section-I : Engineering stream : 50 questions  
Section-II : Engineering stream : 50 questions  
Section-III : General Ability Test : 20 Questions.

#### **5. Minimum qualifying standards:**

BSNL shall fix minimum qualifying marks for OC/OBC/SC/ST Physically handicapped candidates for each section as well as in the aggregate. Candidates obtaining less than minimum-qualifying marks in any of the sections or in aggregate shall not be considered for inclusion in the merit-list.

The merit-list will be drawn up on the basis of candidates performance in the exam and the number of vacancies. The appearance of the name in the merit-list does not confer any right to the candidate for employment. A final call letter/appointment letter will be issued to the candidate after completion of all other formalities.

#### **6. How to apply application form:**

The specimen of the application form is included in this advertisement. Neatly typed (only on one side of paper) copy in A4 size (30cms. X 20 cms.) may be used for making application. The completed **application form should be sent by Registered post to the Asstt. General Manager (R&E), O/o the Chief General Manager, B.S.N.L, Calcutta Telephones, 8, Bentinck Street, Taher Mansion, (3<sup>rd</sup> Floor), Kolkata- 700 001.** The envelop containing application form should be marked "**Application for J.T.Os(Telecom) under Special Recruitment Drive for Persons with Disabilities- 2011 Examination**" on bold letters on top of the envelope. **Govt. employee /departmental candidate should apply through proper channel.**

**Original advertisement or photocopy of the format in the advertisement must not be used for applying and in case candidate submits such an application the same will not be entertained. The given application format must be separately typed.**

#### **7. No Fee payable by PH candidates:-**

8.

Applicants belonging to OC/OBC/SC/ST communities are exempted from the examination fee. This exemption will, however, be available to only those handicapped persons who would otherwise be eligible for appointment to the post on the basis of the standards of medical fitness

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prescribed for the post (including any concessions specifically extended to the physically handicapped) and who **enclose with the application form, a necessary certificate from a Govt. Hospital/Medical Board in support of his claim for being handicapped.**

**8. Travelling Allowance to SC/ST Candidates:**

The applicants belonging to SC/ST categories will be entitled to T.A. as per provisions of Ministry of Finance (Deptt. of Expenditure) O.M. No. 19014/3/77-E.IV (B) dtd. 17.02.1978 for traveling by second class sleeper provided the distance travelled by train each way exceeds 30 K.Ms. on **production of unemployment Certificate issued by M.P./M.L.A. or Gazetted Officer of the place where the candidate normally resides & Caste Certificate in original alongwith journey ticket during the examination.**

**9. Closing date of receipt of Application Forms**

**Application forms complete in every respect must reach on or before 12.12.2011.**

Applications received after the closing date or incomplete in any respect shall be summarily rejected and no communication in respect of the rejected application forms shall be entertained. BSNL shall not be responsible for any postal delay.

The applicants would be admitted to the examination on the basis of the information furnished by them in their application form. They are, therefore, advised to ensure that they fulfill all eligibility conditions before applying. In case it is found at a later stage that the information furnished by a applicant is false or an applicant does not fulfill any of the eligibility conditions, the candidature of such applicants would be cancelled and no correspondence in this regard would be entertained. Issuance of an admit card for the examination will NOT confer any right for appointment. Appointment will be solely subject to fulfillment of all eligibility conditions.

**10. Training and Bond**

All candidates provisionally recruited shall execute Bonds in the format specified by the BSNL indicating their willingness to serve the Circle allotted and Corporation for a period of at least 5 years from the date of their appointment as JTOs. All candidates shall, before their appointment as JTOs have to successfully undergo prescribed training as per the training plan laid down and amended by the Company from time to time.

**11. List of enclosures**

- a. Three identical passport size photographs out of which one should be pasted (not stapled or pinned) on the application form, duly attested, and the other two attached to the application (not to be pasted or attested).
  
- b. Two self addressed unstamped envelopes of 27x12 cms size.
- c. Medical certificate in respect of Physically Handicapped candidates
- d. Certificate of Apprenticed training if undertaken in BSNL successfully.

Any dispute in regard to the recruitment will be subject to the Courts/Tribunals having jurisdiction over the place of concerned Circle office of BSNL where the candidate submits his/her application.

**APPLICATION FOR JUNIOR TELECOM OFFICERS(TELECOM) EXAMINATION  
SPECIAL RECRUITMENT DRIVE (SRD) FOR PERSONS WITH DISABILITIES -2011.**

1. Designation applied : .....
  
2. Full name of the candidate: ....  
[IN BLOCK LETTER]
  
3. a) Postal Address with PIN CODE to which  
Communication is to be sent : .....
  
- b) Permanent Home address with PIN CODE: .....
  
4. a) Date of Birth:            \_\_\_ \_\_\_    \_\_\_ \_\_\_    \_\_\_ \_\_\_  
                                          (dd)    (mm)            (yyyy)

[in the format dd mm yyyy e.g. 1<sup>st</sup> May 2009 will be 01-05-2009]  
[ As mentioned in Matriculation or Equivalent Certificate]

  
- b) Age on < Closing date for receipt of application > .....
  
- c) Whether claiming age relaxation? Yes/No .....

If yes, under what category, [Write the relevant category below]

  
- 4c.1. Central Govt. Servant/BSNL Employee/Apprentice(BSNL) .....
  
- 4c.2. SC/ST/OBC/Ex.Serviceman/PH/others[To be specified] .....
  
5. Father's Name : .....
  
6. State to which the applicant belongs : .....
  
7. Whether belongs to SC/ST/OBC/General : .....

[Write the relevant category]

  
8. Whether physically Handicapped (PH) : Yes/No .....

[Medical certificate to be attached]

If yes, write category of PH :-

  
- a) Whether Hearing Impairment OR Locomotive Impairment (To be specified): .....
  
- b) Percentage of disability : .....
  
9. Whether undergone Apprentice Training in BSNL successfully ? If so, enclose  
Documentary proof : .....
  
10. Gender : [Male/Female) : .....

Paste a recent attested Photograph of the applicant [Passport Size]

11. a) Nationality : .....
- b) Whether by birth / by domicile : .....
12. Marital status : (Married / Unmarried) : .....
13. Details of Education /Technical qualifications  
[Give details of Degrees obtained only of B.E/B.Tech & above]
- 13.1 Name of degree with discipline [BE/B.Tech & above] .....
- 13.2 Name of University/Institute : .. ..
- 13.3 Month and year of obtaining Engineering Degree : .....

I do hereby declare that all the statements made in the application are true, complete and correct to the best of my knowledge and belief. I understand that in the event of any particular information given above found false or incorrect, my candidature for the post of Junior Telecom Officer is liable to be rejected or cancelled in the event of any mis-statement or discrepancy in the particulars being detected after my appointment, my services are liable to be terminated forthwith without any notice to me.

I also understand that if appointed, I would rank junior to any J.T.Os who had been appointed earlier by the erstwhile DOT/DTS/DTO or BSNL or any other employee in the promotional cadre who had already qualified in the JTOs Examination but not appointed as JTO by BSNL so far.

I understand that if appointed I would have to serve the Circle allotted for the stipulated period of five years.

Date:

Place:

Signature of the applicant

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**Scheme and Syllabus for the Recruitment of Junior Telecom Officers(Telecom)**

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, Electronic 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.

**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.