

# CALCUTTA TELEPHONES

## NOTICE

**Holding Special recruitment drive for filling up the backlog vacancies reserved for SC, ST, OBC & PH candidates through competitive exam for recruitment of “TELECOM TECHNICAL ASSISTANT” (TTA) through Direct Recruitment Quota-2010.**

**Closing date: 31.08.2010**

**The exact Date, Time and Venue of Exam will be intimated to the eligible candidates through hall permits (Admit Cards) and will be available in the web site [www.calcuttatelephones.com](http://www.calcuttatelephones.com).**

1. Applications are invited from eligible Indian Citizens for recruitment to the cadre of TELECOM TECHNICAL ASSISTANT (Group ‘C’ non-Gazetted) in the initial pay scale of BSNL of Rs. 13,600 - 25,420/- plus usual allowances as admissible from time to time in Calcutta Telephone District.
2. Total number of posts to be filled up– **68** (may vary depending upon the availability of vacancies).

The details of reservation position is as under:-

<b>TTA</b>	<b>OBC- 40</b>	<b>SC- 16</b>	<b>ST- 9</b>	<b>PH- 3</b>	<b>Total=68</b>
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Candidates claiming the benefit of reservation under OBC category not covered under the Creamy Layer must ensure that they furnish the OBC certificate duly signed by the competent authority in prescribed format.

The closing date for receipt of application will be treated as the date of reckoning for OBC status of the candidate and also, for assuming that the candidate does not fall in the Creamy Layer.

Other Backward Class (OBC) for the purpose of Age relaxation and reservation will mean “**Person of OBC category not belonging to the Creamy Layer**” as defined in Govt. of India Dept. of Personal & Training O.M. No. 36012/22/93-Estt.(SCT), dated 08.09.1993. And Modified vide O.M. No. 36033/3/2004-Estt(Res) dated 09.03.2004 & 14.10.2008.

In respect of Physically Handicapped (PH) persons, candidates with following Physical disability will permitted.

- i) Locomotive Impairment - OL (one leg affected or both legs affected but not arms)
- ii) Hearing Impairment - Partially Deaf

**( The minimum degree of disability is 40% in order for a person to be eligible for any concession/benefits) –Attested Xerox copy of Medical Certificate issued from Competent Authority to be attached.**

Vacancies for Ex-serviceman will be reserved as per extant Government orders for Group “C” Posts.

### 3. Eligibility:-

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

b) **Educational Qualifications** : The Applicant must possess as on **31.08.2010** (Closing date of receipt of application), the educational qualification in any of the following disciplines from a recognized institution/ university.

i) Three Years Engineering Diploma in

- Telecommunications Engineering
- Electronics Engineering
- Electrical Engineering
- Radio Engineering
- Computer Engineering
- Instruments Technology
- Information Technology.

ii) M.Sc (Electronics) from a recognized institution/ university.

**Note:-** a) There is no equivalence provided. Only such qualification and streams as prescribed in the Recruitment Rules of TTA 2001 may be allowed.

b) Candidates possessing higher qualification in the eligible stream are allowed to appear in the examination.

c) Candidates possessing three year Diploma certificates are eligible to appear in the Exam irrespective of percentage of marks obtained by them.

d) In case a candidate is possessing requisite educational qualification, irrespective of having entered the course in the 2<sup>nd</sup> year through lateral entry level after 10+2, he/she will be eligible to appear in the exam.

e) Candidates who have not acquired/ will not acquire the educational qualification as on the stipulated date will not be eligible and need not apply.

c) **Age:- i)** Between 18 to 30 years of age for OBC Candidates and upto 40 years of age for OBC PH candidates as on the 31.08.2010 (closing date for receipt of applications).

**ii)** Between 18 to 32 years of age for SC/ST/Government Servant, Candidates and upto 42 years of age for SC PH /ST PH/ Government Servant PH, candidates as on the 31.08.2010 (closing date for receipt of applications).

**iii)** Between 18 to 37 years of age for General PH candidates as on the 31.08.2010 (closing date for receipt of applications).

**iv)** For Ex-Serviceman (Ex-S) for Group'C' posts age concession will be allowed in accordance with the orders issued by the Government from time to time and they will be allowed to deduct military service from their actual age and such resultant age should not exceed the prescribed age limit by more than three years.

Age concession is not admissible to the sons, daughters and dependents of Ex-service man.

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**v)** For departmental candidates (BSNL employees) upto 45 years in respect of Scheduled Caste/Scheduled Tribes candidates and upto 43 years in respect of OBC Candidates, in accordance with instruction or orders issued by the BSNL.

**vi)** For Government servants upto 5 years in accordance with the instruction or orders issued by Central Government.

**vii)** For residents of J&K – Relaxation shall be in accordance with DoP & T.O.M. No.15012/7/19912-Estt.(D) dated 06.12.2005 pertaining to “Residents of State of Jammu and Kashmir (Relaxation of upper Age Limit for Recruitment to Central Civil Services and Posts) Rules 1997”.

Note:- Candidates should note that only the date of birth as recorded in the Matriculation/Secondary Examination Certificate or an equivalent certificate on the date of submission of application will be accepted by the authority for determining the age eligibility and no subsequent request for its change will be considered or granted.

**4. Selection:** The candidates will be provisionally selected as Telecom. Technical Assistant (TTA) on the basis of an open Competitive Examination followed by a medical test. Appointment and posting will be subject other eligibility conditions and requirements. Candidates obtaining less than minimum qualifying marks in any paper shall not be considered for inclusion in the merit-list. 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.

**5. Bond and Training : -**

i) All candidates provisionally selected for appointment against the vacancies for direct recruitment shall execute a bond for a period of five years from the date of their appointment as Telecom Technical Assistant in the proforma specified by the Department.

ii) The selected candidates before their appointment as Telecom Technical Assistant have to undergo the prescribed course of training in any of the training centers of the Department.

iii) During the period of training, the trainees will be entitled to stipend (training allowances) as directed by Department from time to time.

**6. Probation Period :-** The candidates appointed shall remain on probation for a period of two years.

**7. Service Liability :-** Normally within the territorial jurisdiction of Calcutta Telephones District but transferable any where in India in the interest of service. The candidates on appointment shall, if so required, be liable to serve in Territorial Army Signal Units for period specified in the Territorial Army act. and rules made there under.

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**8. For the Employed Candidates:-** Candidates working in Central/State Government Service/Public Sector under taking should send their applications through the head of their office/department so as to reach this office within due date i.e. 31.08.2010 (closing date for receipt of applications).

Application shall be straightway rejected if received late/ or not complete in all respect as provided in rules.

**9. Examination Fee :-**

a) Examination fee of Rs.500/- (Five hundred) is payable by the applicant in the form of demand draft drawn in favour of **A.O.(Cash)/BSNL/Calcutta** and must be purchased/ issued after the date of advertisement. Fee remitted by Money Order or Cheques will not be accepted. **Fee once paid will not be refunded under any circumstances.**

b) No fee for the applicants of SC, ST and PH categories.

**10. Disqualification :-** No person (a) who has entered into or contracted a marriage with a person having a spouse living or (b) who having a spouse living entered into or contracted a marriage with any person shall be eligible for appointment to any of the above posts. Provided that the Central Govt. may if satisfied that such marriage is permissible under the personal law applicable to such person and the other party to the marriage and that there are other grounds for doing so, exempt any person from the operation of this rule.

**An application will be summarily rejected at any stage of the recruitment process for not conforming to the official format/having incomplete information/wrong information/miss-representation of facts/left unsigned/submitted without fee where due/without good quality photograph pasted at the appropriate place/not accompanied by attested copies of certificates showing category (SC/ST/OBC/EX-S/PH), age, educational qualification, age relaxation or for submitting more than one application.**

**11. Concession for SC/ST Candidates:-**

a) Traveling Allowances 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) OM No. 19014/3/77-E.IV(B) dtd.17.02.1978.

b) Pre-recruitment training for SC/ST candidates. Necessary arrangement for Pre-recruitment training for SC/ST Candidates applied for TTA DR exam will be conducted by this circle before Exam date. Candidates who are willing to take part in Pre-recruitment training are requested to apply in plain paper along with caste certificate and send the application in the **O/o AGM(R&E), Calcutta Telephones, Taher Mansion, 3<sup>rd</sup> Floor, 8, Bentinck Street Kolkata-1 latest by 31.08.2010.**

**12.How to Apply :-** Application Form and syllabus will be available in the websites [www.calcuttatelephones.com](http://www.calcuttatelephones.com). Application Form as per format given duly filled in by the candidate enclosing only photocopies of all requisite certificates and detailed Mark Sheet duly attested by the candidate himself/herself and also by a Gazetted Officer should reach to the **O/o AGM(R&E), Calcutta Telephones, Taher Mansion, 3<sup>rd</sup> Floor, 8,Bentinck Street Kolkata-1 latest by 31.08.2010** through registered post only. The envelope containing the application should be superscribed in bold letters **“APPLICATION FOR TELECOM TECHNICAL ASSISTANT(TTA) Examination(SRD)”**. Two self-addressed envelope sized 23 x 11 cms. should also be enclosed with the application.

The departmental candidates must ensure that their applications (Through Proper Channel) also reach to the above address latest by the specified date i.e. 31.08.2010 otherwise their application will not be entertained.

**Note :-** Three recent identical coloured and clean passport size photographs (duly attested by Gazetted Officer) out of which one should be affixed in the space provided in the application and the rest should be enclosed with the application.

**Instructions relating to submission of Application :-**

- i) **In the columns of the Application Form, write the required information in English (Capital letters).**
- ii) **The envelope containing the application must be superscribed in bold letters as “APPLICATION FOR EXAMINATION OF RECRUITMENT OF TELECOM TECHNICAL ASSISTANT (TTA) (SRD) IN CALCUTTA TELEPHONES”.**
- iv) **If a candidate has changed his/her name or dropped/added part of his/her name after matriculation/SSC/Higher Secondary, he/she is required to submit an attested copy of Gazette Notification to the effect that he/she has changed his/her name after Matric etc. The Changed name should also have been indicated in the Gazette Notification.**
- v) The authority will not be responsible for Postal delays.
- vi) **A candidate should minutely go through all the provisions in the Advertisement to ensure that he/she is eligible for the post for which he/she is applying in terms of requirements of age, educational qualification as on crucial date, etc. Their admission at all stages of examination will be purely provisional as the authority does not undertake any pre-examination scrutiny of documents. Thus if at any stage, it is found that candidate does not fulfill any of the eligibility conditions, his/her candidature will be cancelled by the authority.**

**13. Syllabus for the Exam:** There shall be only one paper of 200 marks having objective multiple choice pattern of 3 hours duration with the following details.

- Part-I** -General ability test - 20 Marks,  
**Part-II** -Basic Engineering - 90 Marks,  
**Part-III** -Specialization - 90 Marks.

The total number of questions in the paper should be 200 and each question shall carry one marks.

The standard of paper in General ability test will be such as may be expected of an Engineering Diploma holder. The standard of papers in other subjects will approximately be that of Diploma level of an Indian Polytechnic. There shall be a single multiple choice objective type Paper of 3 hrs. duration as per details given below:-

Paper	Subject	Marks	Time-allowed
Part-I	General ability test	20	3 hours.
Part-II	Basic Engineering	90	
Part-III	Specialization	90	

Note: 1. The candidate is required to obtain minimum qualifying marks in each of these parts as may be prescribed by the BSNL.

### **Detailed Syllabus**

#### **Part-I**

##### **General ability test:- 20 Marks.**

The candidate's comprehension and understanding of General English shall be tested through simple exercise such as provision of antonyms and synonyms, fill in the blanks and multiple choice exercises etc. This shall also include questions on current events, general knowledge and such matters of everyday observation and experiences as may be expected of Diploma holder.

#### **Part-II**

##### **Basic Engineering :- 90 Marks.**

**Detailed syllabus is as under :-**

**1) Applied Mathematics** :- Co-ordinate Geometry, Vector Algebra, Matrix and Determinant, Differential Calculus, Integral Calculus, Differential equation of second order, Fourier Series, Laplace Transform, Complex Number, Partial Differentiation.

**2) Applied Physics** :- Measurement- Units and Dimension, Waves, Acoustics, Ultrasonic, Light, Laser and its Applications, Atomic Structure and Energy Levels.

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**3) Basic Electricity** :- Electrostatics, Coulomb's Law, Electric field, Gauss's theorem, concept of potential difference, concept of capacitance and capacitors, Ohm's Law, power and energy, Kirchoff's voltage, current laws and their applications in simple DC 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.

**4) Electronic Devices and Circuits** :- Classification of materials in to conductor, semi conductor, insulator etc., electrical properties, magnetic materials, various types of relays, switches and connectors, Conventional representation of electric and electronic circuit elements. Active and passive components, semi conductor Physics, Semiconductor Diode, Bipolar Transistor and their circuits, Transistor, Biasing and Stabilisation of operating points, Single stage transistor amplifier, field effect transistor, Mosfet Circuit applications.

Multistage Transistor Amplifier, Transistor Audio Power Amplifiers, Feedback in Amplifier, Sinusoidal Oscillators, Tuned Voltage Amplifiers, Opto Electronics Devices and their applications, Operational Amplifier, Wave shaping and switching circuits.

Block diagram of I.C. timer (such as 555) and its working, Motivation Circuits, Time Base Circuits, Thyristory and UJT, Regulated Power supply.

**5) Digital Techniques** :- Applications and advantages of digital systems, number system (binary and hexadecimal), Logic Gates, Logic Simplification, Codes and parity, Arithmetic Circuits, Decoders, Display Devices and Associated Circuits, multiplexes and De-multiplexes, Latches and Flip Flops, Counters, Shift Register, Memories, A/D and D/A converters.

### **Part-III Specialization :- 90 Marks.**

**Detailed syllabus is as under :-**

#### **1. Electrical :-**

3 phase vs single phase supply, Star Delta Connections, relation between phase & line voltage, power factor, and their measurements, construction and principles of working of various types of electrical measuring instruments, all types of motor and generator- AC & DC, transformers, starters, rectifiers, inverters, battery charges, batteries, servo and stepper motors, contactor control circuits, switchgear, relays, protection devices & schemes, substation, protective relaying, circuit breaker, generator protection, transformer protection, feeder & lightening protection, feeder & busbar protection, lightening arrestor, earthing, voltage stabilizer & regulators, power control devices & circuits, phase controlled rectifiers, inverters, choppers, dual converters, cyclo converters, power electronics application in control of drivers, refrigeration & air conditioning.

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## **2. Communication:-**

Modulation and demodulation :- Principles and operation of various types of AM, FM and PM modulators/demodulators, pulse modulation- TDM, PAM, PPM, PWM, Multiplexing, Principles and applications of PCM.

Introduction of Basic block diagram of digital and data communication systems, coding error detection and correction techniques, Digital Modulation Techniques- ASK, ICW, PSK, FSK, Characteristics/working of data transmission circuits, UART, USART, Modems, protocols and their function, brief idea of ISDN interfaces, local area Network, Carrier Telephony- Features of carrier telephone system.

Microwave Engineering, Microwave devices, Wave guides, Microwave Components, Microwave antennas, Microwave Communication Systems- Block diagram & working principles of microwave communication link.

## **3. Networks, Filters and Transmission Lines:-**

Two port network, Attenuators, filters, Transmission Lines and their applications, characteristic impedance of line, concept of reflection and standing waves on a transmission line, Transmission line equation, Principles of impedance matching, Bandwidth consideration of a transmission line.

## **4. Instruments and Measurements:-**

Specifications of instruments- accuracy, precision, sensitivity, resolution range, Errors in measurement and loading effect, Principles of voltage, current and resistance measurements, transducers, measurement of displacement and strain, forces and torque measuring devices, pressure measuring devices, flow measuring devices, 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 analyzer and logic analyzer, signal generator, distortion factor meter, spectrum analyzer.

## **5. Control Systems :-**

Basic elements of control system, open and closed loop system, concepts of feed back, Block diagram of control system, Time lag, hysteresis, linearity concepts, self regulating and non self regulating control systems, Transfer function of simple control components, single feedback configuration.

Time response of systems.

Stability analysis – characteristic equation, Routh's table, Nyquist criterion, Relative stability, phase margin and gain margin.

Routh Hurwitz criterion, root locus technique, Bode plot, Polar plot, Gain margin and phase margin.

## **6. Microprocessors:-**

Typical organization of a microcomputer system and functions of its various blocks, Architecture of a Microprocessor, Memories and I/O Interfacing, Brief idea of M/C & assembly languages, machines & Mnemonic codes, Instruction format and Addressing mode, concept of Instruction set, Programming exercises in assembly language, concept of interrupt, Data transfer techniques- sync data transfer, interrupt driven data transfer, DMA, serial output data, serial input data.

## **7. Computers:-**

Computer and its working, types of computers, familiarization with DOS and Windows – concept of file, directory, folder, 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 Organisation. Microprocessors – microprocessor architecture, instruction set and simple assembly level programming. Microprocessors based system design, typical examples. Personal computers and their typical uses, data communication principles, 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.

**APPLICATION FOR EXAMINATION OF RECRUITMENT OF TELECOM TECHNICAL  
ASSISTANT (TTA) IN CALCUTTA TELEPHONES.**

Paste a self signed  
recent colour &  
clean passport size  
photograph of the  
applicant duly  
attested by Gazetted  
Officer

1. Full Name of the Candidate :  
(In Block Letters)
2. Father's Name :
3. a) Postal Address in full with PIN Code :  
to which communication is to be sent  
(In Block Letters)  
b) Permanent Home Address with PIN Code :
4. Date of Birth (as in the Madhyamik :  
or equivalent Certificate. Attested  
Copy should be attached.) (dd) (mm) (yyyy)
5. Age on 31.08.2010 (closing date) :  
(Closing date for receipt of application)
6. a) Whether claiming age relaxation ? : Yes / No  
If yes, under what category.  
[Write the relevant category below]  
(i) Central Govt. servant/BSNL employee : \_\_\_\_\_  
(ii) SC/ST/OBC/Ex-Serviceman/PH :  
(To be specified) (Attested copy of  
necessary certificate to be enclosed)
7. State to which the applicant belongs :
8. Place of birth and State which located :
9. a) Whether belongs to SC/ST/OBC :  
(Write the relevant category)  
b) Whether Physically Handicapped : Yes / No \_\_\_\_\_% disability.  
(Medical certificate to be attached)  
c) Whether Ex-Serviceman ? :  
If so, the total period of military service.

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10. Details of Educational Qualification (attested copy of Mark Sheet & certificates of all examinations from school leaving onwards should be enclosed) :
11. Medium opted for answering question paper (English/Hindi) :
12. Gender ( Male / Female ) : \_\_\_\_\_
13. Nationality (Attested copy of necessary Certificate/Voter ID to be enclosed) :
14. Marital Status : ( Married / Unmarried )
15. Details of Application fee particulars :-
- i) Demand Draft No. & Date :
  - ii) Amount Rs. :
  - iii) Issuing Bank :
  - iv) Payable in favour of : **A.O.(Cash)/BSNL/Calcutta.**

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 being found false or incorrect, my candidature for the post of Telecom Technical Assistant is liable to be rejected or cancelled and 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.

Date and place :

\_\_\_\_\_  
Signature of the Applicant

List of Enclosures :-

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)

