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

**(Pers-III Section)**
**5th Floor, Bharat Sanchar Bhawan,**
**Janpath, New Delhi**

**No. 250-76/2001-pers-III**
**Dated: 7.10.2011**

To

All Heads of the Telecom Circles,
Bharat Sanchar Nigam Limited*.
(* **Only Recruiting Circles**)

**Sub: Forwarding of Revised Scheme of Examination for Limited Departmental Competitive Examination (LDCE) for TTA under 40% quota---regarding.**

In partial modification to this office letter of even No. dated 4.12.2008, I am directed to enclose herewith a copy of revised Scheme of Limited Departmental Competitive Examination (LDCE) for TTA under 40% quota for favour of further necessary action at your end please. The Revised scheme shall be applicable for the examinations to be held henceforth.

**Encl: As above.**

7/10/11

**(Harsh Vardhan Singh)**
Addl.General Manager (Estt.)
TEL: 23715155 FAX: 23725255

Copy to:-

1. GM (Rectt.), BSNL CO, New Delhi.
2. AGM (DE-II), BSNL CO, New Delhi
3. General Secretary, BSNLEU, New Delhi.
4. Intranet
5. Guard File
6. Spare Copies
7. File No. 250-27/2008-Pers-III

No. 250-76/2001-Pers-III

**BHARAT SANCHAR NIGAM LIMITED**
(A Govt. of India Enterprise)

**SYLLABUS AND SCHEME OF EXAMINATIONFOR LIMITED DEPARTMENTAL COMPETITIVE EXAMINATION FOR TTAs**

## (A) SCHEME OF EXAMINATION

There will be a single **Objective Multiple-choice-type Paper** of 100 Marks comprising of two Sections. The time allowed shall be Three (3) hours. Each Section shall contain 50 questions of One (1) Mark each. There will be **negative marking** and for each wrong answer **25%** of the mark of that question shall be deducted.

| SUBJECT | MAXIMUM MARKS | TIME ALLOWED |
|---|---|---|
| **SECTION-I**<br><br>ELECTRICALS, ELECTRONICS AND COMMUNICATION | **50** | **3 Hours** |
| **SECTION–II**<br><br>DEPARTMENTAL PRACTICES | **50** | |
| **TOTAL** | **100 Marks** | |

**The minimum qualifying marks in the LDCE for TTA will be as follows:-**

**(a) 30% in each section and 37% in aggregate for OC candidates.**
**(b) 20% in each section and 30% in aggregate for SC/ST candidates.**

**P.T.O.**

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No. 250-76/2001-Pers-III

# SYLLABUS

## SECTION-I ELECTRICALS, ELECTRONICS AND COMMUNICATION

**ELECTRICAL**—Three-phase versus Single phase supply, concept of inductance and capacitance and impedance in AC circuits, series and parallel AC Circuits, star and delta connections, relation between phase and line voltage. Ohm's Law and its application. Power factor and their measurement, refrigeration and air conditioning. Principles of operations of Transformer, application of small transformer in electronics and communication engineering. Semi-conductor devices—Principles of operation and characteristics of diode, zener diode, transistor. Application of these devices in electronics circuits e.g. half wave/full wave rectifiers, invertors etc. Electronic Circuits—Basic electronic circuits viz. amplifiers, oscillators, multi-vibrators and integrated circuits (ICs). Units of attenuation, decibles and Nepers, characteristics of attenuation and concept of low pass (LP), band pass (BP) and high pass (HP) filters. Concept of dbm, psophometric noise, cross-talk and their measurements,

**COMMUNICATION**---Modulation and demodulation—principle and operation of various types of AM, FM and PM modulators/demodulators; pulse modulation—TDM, Multiplexing, principles and application of PCM.

**NETWORK, FILTERS AND TRANSMISSION LINES**---Transmission lines and their application, characteristic impedance of line, principle of impedance matching, bandwidth consideration of a transmission line.

**COMPUTERS**---Computer and its working, types of computers, familiarization with DOS and windows—concept of file, directory, folders, number system (Binary, Octal and hexadecimal), Memory types, Personal computers and their typical uses, types and working of modems, OSI models.

## SECTION-II DEPARTMENTAL PRACTICES

(i) Various types of subscriber instruments, exchanges viz. C-DOT, RAX/SBM/MBM/E-10-B/New Technology Max-I and their working principles.
(ii) Transmission systems functioning in DoT/BSNL and their working principles.
(iii) Telex and Trunk working principles/repair/maintenance.
(iv) Float rectifiers, power plant, engine alternator, batteries their operation and maintenance.
(v) Operation and maintenance of 3 channel system.
(vi) Repair of PCBs, connectors, soldering, de-soldering and pin-number in IC chips. Handling of ICs.
(vii) Type of switch-boards, cables, their identification and laying/terminations.
(viii) Organizational set up up-to Telecom Circle level.
(ix) PABX, MDF, IDF, Racks, Ruses, Relays.
(x) Various types of tools.
(xi) Earthing practices and methodology.

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