

Examination Notice

BHARAT SANCHAR NIGAM LIMITED

(A Govt. of India Enterprise)

Corporate Office

Recruitment Branch

Room No. 223, 2nd floor, Eastern Court Building,
Jan path, New Delhi - 110001.

No. 30-1/2015-Recdt.

Dated: 11/01/2016

To

All Chief General Managers, Telecom Circles, BSNL,
Chief General Managers, Kolkata Telephones/Chennai Telephones, BSNL
Chief General Managers, Mtce, NTR, BSNL, New Delhi.

Subject:-Limited Departmental Competitive Examination (LDCE) for promotion to the grade of Sub-Divisional Engineer (Electrical) under 33% Quota to be held on 27/03/2016 – Notification of Exam reg.

Starting date of Online Registration : 25/01/2016
Closing date of Online Registration : 19/02/2016
Date of LDCE for promotion to SDE (E) : 27/03/2016

Sir,

I am directed to state that it has been decided to hold the Limited Departmental Competitive Examination (LDCE) for promotion to the grade of Sub-Divisional Engineer (Electrical) under 33% quota as per the provision in the Recruitment Rule of Sub-Divisional Engineer (Electrical) (No. 20-24/2001-Pers.II dated 28/02/2002) circulated vide BSNL Corporate Office Letter No. 20-1/2001-Pers.II dated 06/03/2002 and amendment thereto issued from time to time in order to fill up the vacancies for the vacancy years 2013-2014 and 2014-2015 as well as backlog/unfilled vacancies for ST for the year 2012-2013.

2. The current vacancy position as conveyed by the Cadre controlling authority vide their U.O. Note 2-79/2015-Elect. dated 20/05/2015 is as follows :-

Sl. No.	Year	Current Vacancies				Backlog Vacancies		
		UR	SC	ST	Total	SC	ST	Total
1	2013-14	4	0	0	4	0	9	9
2	2014-15	4	1	1	6			

* Vacancies are subject to change.

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11/01/2016

3. The unfilled/back log vacancies up to 2012-13 (SC-0, ST-9) shall be filled up against the vacancy years 2013-14 onwards subject to the eligibility of candidates.

4. The examination will be conducted through Online mode and as per revised Scheme and syllabus of examination circulated by Electrical Wing, BSNL CO. vide letter No. 1-23-2/EW-2004 dated 20/08/2010. The details of Papers and Time Table of the examination will be as under:

Sl No.	Paper No.	Subject	Maximum Marks/No. of Questions	Day & Date	Time(IST)
1	I	Electrical Engineering-I	100 Marks / 100 Questions	27/03/2016 (Sunday)	10:00 hrs to 01:00 hrs
2	II	Electrical Engineering-II	100 Marks / 100 Questions	27/03/2016 (Sunday)	14:00 hrs to 17:00 hrs

Syllabus for each Paper has been detailed in **Annexure-A**.

5. As already informed vide BSNL CO letter No. 1-23-2/EW-2004 dated 20/08/2010, the examination will be of multiple choice objective type and as such each question will have 4 multiple choices for answer. Only **one** answer which is the most appropriate has to be selected by the candidate and click the relevant option accordingly. In case of wrong answer, 25% marks of that question will be deducted and as such the candidates are advised not to resort to arbitrary selection of answer. Minimum qualifying marks prescribed is 40% in each paper and 45% in aggregate in respect of 'OC' candidates and 35% in each paper and 40% in aggregate in respect of 'SC/ST' candidates.

6. The eligibility for appearing in the above mentioned Limited Departmental Competitive Examination shall be as per existing Recruitment Rules of SDE (E) and clarification issued by Pers. II section of BSNL CO vide their letter No. 20-1/2001-Pers.-II dated 30/07/2007. However, in case of any doubt with regard to eligibility, Syllabus and the Scheme of the examination, the Circles may take up the matter suitably with the Electrical Wing of the BSNL CO. for necessary clarification.

7. The LDCE will be held in 25 BSNL Territorial Circles at their respective headquarters. The details of the Territorial Circles where the LDCE will be conducted are given at **Annexure-B**.

8. The examination will be conducted strictly in accordance with provisions of Standard Operating Procedure (SOP) for conducting Computer based Online examination in BSNL.

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9. JTOs (E) who are eligible in accordance with the eligible conditions as referred in the Recruitment Rules and who desire to appear in the examination should submit application on-line. Candidates applying for LDCE for promotion to the post of Sub Divisional Engineer (Electrical) (SDE (E)) are required to apply online for which link shall be provided through BSNL web site www.internalexam.bsnl.co.in. Applications will be considered only through the online registration process which is to start from 25-01-2016 and will be closed on 19-02-2016. Therefore, candidates are advised to visit BSNL Intranet site (www.intranet.bsnl.co.in) for any updates regarding the LDCE. All candidates applying for LDCE for SDE (E) are required to read all the instructions provided on website www.internalexam.bsnl.co.in before filling the online application form. Candidates will have to provide valid Email ID and Mobile Number at the time of online Registration. After submitting the application on-line, the applicant may take a print out of application form and keep it with him/her for record.

10. The prescribed examination fee Rs.700/- (Rupees Seven Hundred only) for the OC/OBC candidates and Rs. 350/- (Rupees Three Hundred Fifty only) for the SC/ST candidates shall be paid through online mode i.e. Internet Banking, Credit Card, Debit Card only.

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.

11. Registration forms complete in every respect must be submitted Online on or before 19-02-2016. Candidates are advised to complete their registration process well before last date to avoid last day. Registration process will not be allowed after last date and all incomplete registrations will be treated as rejected. Candidates will have to download their Admit Card from the BSNL website www.internalexam.bsnl.co.in at least before 7 days from the date of the Written Test by using their user name & password. **It will not be sent either by post or by e-mail.** BSNL shall not be responsible for server crash problems or delays occurring on last day of registration.

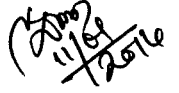
12. The applicants would be admitted to the examination on the basis of the information furnished by them in their registration form. They are, therefore, advised to ensure that they fulfill all eligibility conditions before applying. In case it is found at a later stage that the information furnished by an 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 promotion/appointment. Promotion/appointment will be solely subject to fulfillment of all eligibility conditions.

13. No electronic gadget or mobile phone will be permitted to be taken inside the examination premises by the candidates.

(Signature)
4/10/2016

14. THIS LETTER MAY PLEASE BE GIVEN WIDE PUBLICITY.

15. The receipt of this letter may please be acknowledged.



(K.D. Das)

Asstt. General Manager (Rectt.-I)

Tel. No. 011-23352491 (O)

Copy to:

1. PGM (Electrical), BSNL CO.
2. AGM (A&E) BSNL CO.
3. All recognized Associations.
4. Notice Board.
5. Guard file.
6. BSNL Intranet Portal



(Sudhanshu Shekhar Ray)
Deputy Manager-III (Rectt.)

**Syllabus for Limited Departmental Competitive Examination for promotion
from JTO (Electrical) to SDE (Electrical)
PAPER I (Multiple-choice)
ELECTRICAL ENGINEERING-I
(Maximum Marks = 100 – Time 3 hours)**

1. **GENERAL:** (5 Marks)
BSNL Mission and Vision, Role of Electrical wing in BSNL, BSNL CDA Rules.
2. **ACTS** (10 Marks)
Salient Feature of various Act such as RTI 2005, Energy Conservation Act 2001, Electricity Act 2003, I.E. Rules, Energy Conservation Building Code (ECBC).
3. **SPECIFICATIONS** (10 Marks)
CPWD specifications for Electrical Works (Internal and External), Sub station.
4. **TENDERING PROCEDURES** (10 Marks)
Contract and its type, Preparation of P.E and Plinth Area Rates, Preparation of D.E and Market Rates Analysis, Preparation of NIT and publicity, Sale of Tenders, Receipt of Tenders , EMD, Security Deposit, Award of work, Extra, Substituted and Deviated Items of works, EOT, Site Order book, Hindrance Register and MAS Register.
5. **ENERGY CONSERVATION & NEW TRENDS** (20 Marks)
BSNL's Strategies for Energy Conservation in Air Conditioning, Lighting System, Power System,. Energy Efficient Motors & Pumps. Renewable Energy sources for BSNL application. Brief description and use of Solar energy, Wind energy, Tidal energy, Geothermal energy and Non conventional fuel viz. Agro waste, rice husk, coconut shell etc. Labeling & star rating of Equipments. High sensible AC for telecom applications.

- 6. TELECOM SYSTEM OVERVIEW (10 Marks)**
Telecommunication system over view, Power system for Telecom Installations, Power Plants- Type and working principle, Battery system types, Environmental requirement in Telecommunication application.
- 7. ENERGY AUDIT (15 Marks)**
Energy Audit (Methodology and instruments used) No Cost Measures, Low cost and High cost measures, Energy Core Group in BSNL, Energy Audit of Telecom Buildings, CDM and carbon trading.
- 8. LIGHTING : (10 Marks)**
Principles of indoor and outdoor lighting design, Units and standards, types, characteristics and application of lamp in fittings and luminaries. Modern trend in Energy efficient lighting installations.. Advantage and disadvantage of CFL & LED Lighting.
- 9. OPERATION AND MAINTENANCE : (10 Marks)**
Preventive and day to day maintenance checks in respect of all the electrical/ electro-mechanical services in telecom installations, frequency of various tests prescribed by BSNL/DOT and equipment manufacturers.

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**Syllabus for Limited Departmental Competitive Examination for
promotion from JTO (Electrical) to SDE (Electrical)**

PAPER II (Multiple-choice)

ELECTRICAL ENGINEERING-II

(Maximum Marks = 100 – Time 3 hours)

1. MEASUREMENT AND INSTRUMENTATION :- (10 marks)

Units and Standards, measurement of current, Voltage, power, Power-factor and energy. Measurement of resistance, inductance, Capacitance and frequency. Electronic measuring instruments. Digital Voltmeter and frequency counter. Transducers and their applications to the measurement of non-electrical quantities like temperature, pressure, flow-rate displacement, acceleration, noise level etc.

2. POWER ELECTONICS (10 Marks)

Fundamentals and Principles in case of Power semi conductor devices- diodes, Thyristors, power bipolar and transistors, MOSFETs their characteristics, AC/DC converters, Principles of Single phase and 3-phase inverters.

3. ELECTRICAL MACHINES AND POWER TRANSFORMER:- (10 Marks)

Magnetic Circuits, Power transformers, Losses and efficiency, Regulation, Auto-transformer, 3 phase transformer, Parallel operation. Basic concepts in rotating machines. EMF, Torque, Types of machine, Leakage, losses and efficiency.

D.C. Machines, Construction, Excitation methods.. Armature reaction and commutation. Characteristics and performance analysis. Generators and motors. Starting and speed control. Testing, Losses and efficiency. Induction Machines. Construction. Principle of operation. Rotating fields. Characteristics and performance analysis, speed control.

(20/11/2014)

4. POWER SYSTEM

(10 Marks)

Different types of A.C. Switchgears, H.R.C. fuses and their application rupturing capacity. Outdoor switchgear. Different type of Bus bars system, connections, current carrying capacity, control board and switchboard.

5. SUB STATION

(10 Marks)

Substations, its need, classification, factors governing the location of substation, Space planning, Short circuit calculations for symmetrical and unsymmetrical faults, use of current limiting reactors, determination of the rating of circuit breakers and switchgear. Selection of capacity of Transformer and DG Set. Protection devices and safeties in Sub Station, their testing and calibrations. Power factor improvement capacitors & their selection.

6. DG Set:

(10 Marks)

Diesel power generation, Base load, Peak load, choice of sets (air cooled vs. water cooled, conventional vs. silent canopy). Combustion phenomenon, Fuel system, air & cooling circuit, Lubrication and cooling system, protection/safety devices, Manual and Automatic mains failures start. General layout, installation, performance and testing of DG sets, classes of governor, turbochargers, Remote monitoring and alarms. RTU DG sets and CPCB Norms.

7. AIR CONDITIONING:

(10 Marks)

General principles of Refrigeration and Air-conditioning, Terminology, Factors affecting A.C.Load, Psycho-metric chart, Evaporative cooling and ventilation, comfort air conditioning, General principles of window / split air conditioners, package units, Maintenance aspects of A.C. System, Environmental requirements for Electronics and BTS. Scheme of air conditioning, redundancy, filtration and efficiency etc. Specifications for installation, Acceptance and Testing of Package A.C Units.

8. EARTHING :

(10 Marks)

Design, layout, and installation procedures for Building/ Exchange earth, Lightning protection and Surge protection devices.

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9. PUMPS :

(10 Marks)

Various types of water lifting Pumps, their selection and application, installation procedures and specifications.

10. FIRE DETECTION AND FIRE FIGHTING:

(10 Marks)

Different type of fire – extinguishers, their use and applications, Various type of Fire – detectors, their selection, Specifications, installation and testing procedures. Dry and wet-riser Fire fighting installations, sprinkler systems, design and installation criterion, acceptance testing.

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Annexure-B**List of the Examination Centres for LDCE for promotion from JTO (E) to SDE (E)**

Sr. No	Name of the BSNL Coordinating Circle authorized to coordinate for the LDCE for SDE (E) Circles as mentioned	Name of Circles	Name of the Examination Centre
1	Andhra Pradesh	Andhra Pradesh	Hyderabad
2	Andaman & Nicobar	Andaman & Nicobar	Port Blair
3	Assam	Assam	Guwahati
4	Bihar	Bihar	Patna
5	Chhattisgarh	Chhattisgarh	Raipur
6	Gujarat	Gujarat	Ahmedabad
7	Haryana	Haryana	Ambala
8	Himachal Pradesh	Himachal Pradesh	Shimla
9	Jammu & Kashmir	Jammu & Kashmir	Jammu
10	Jharkhand	Jharkhand	Ranchi
11	Karnataka	Karnataka	Bangalore
12	Kerala	Kerala	Thiruvananthapuram
13	Madhya Pradesh	Madhya Pradesh	Bhopal
14	Maharashtra	Maharashtra	Mumbai
15	Northern Telecom Region [New Delhi]	Northern Telecom Region [New Delhi]	New Delhi
16	North East - I	North East - I	Shiling
17	North East - II	North East - II	Dimapur
18	Odisha	Odisha	Bhubaneswar
19	Punjab	Punjab	Chandigarh
20	Rajasthan	Rajasthan	Jaipur
21	Tamilnadu	Tamilnadu & Chennai Telecom. District	Chennai
22	Uttar Pradesh [East]	Uttar Pradesh [East]	Lucknow
23	Uttar Pradesh [West]	Uttar Pradesh [West]	Meerut
24	Uttaranchal	Uttaranchal	Dehradun
25	West Bengal	West Bengal & Calcutta Telecom. District	Kolkata

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11/01/2016