



**SOUTHERN POWER DISTRIBUTION COMPANY OF TELANGANA LIMITED**

**(A Govt. of Telangana Undertaking)**

**(Formerly Central Power Distribution Company of Andhra Pradesh Ltd.)**

6-1-50, Corporate Office, Mint Compound :: Hyderabad - 500 063, Ph.No.040-23431003/1032.

CIN U40109TG2000SGC034116 Website : [www.tssouthernpower.com](http://www.tssouthernpower.com)

**NOTIFICATION.NO. 01/2015**

**ASSISTANT ENGINEER (ELECTRICAL) IN TSSPDCL**

Southern Power Distribution Company of Telangana Limited (TSSPDCL) with Head quarters at Hyderabad is carrying out electricity distribution business as part of the unbundling of erstwhile A.P.S.E.B catering to the electricity requirements of Hyderabad, Rangareddy, Mahabobnagar, Medak and Nalgonda Districts.

**Para- I:-**

Applications are invited On-line from qualified candidates through the proforma application to be made available on TSSPDCL Website [www.tssouthernpower.com](http://www.tssouthernpower.com) and <http://tssouthernpower.cgg.gov.in> to the post of Assistant Engineer/Electrical.

- i) Starting date for payment of Fee - 07.10.2015
- ii) Starting date of application submission - 08.10.2015
- iii) Last date for payment of Fee - 28.10.2015 up to 5.00 PM.
- iv) Last date for submission of Online Application - 29.10.2015 up to 5.00 PM.
- v) Starting date for downloading of Hall Tickets - 16.11.2015
- vi) Date of Examination - 22.11.2015 time 10.30 AM to 12.30 PM.

**2.** The candidates who possess requisite qualification may apply On-line by satisfying themselves about the terms and conditions of this recruitment. The details of vacancies are given below :-

<b>S. No</b>	<b>Name of the post</b>	<b>Number of vacancies</b>	<b>Age as on 01.07.2015 (Min-Max)</b>	<b>Scale of the post (In Rupees)</b>
1	Assistant Engineer/ Electrical	201	18Yrs - 44Yrs	41155 - 1700 - 44555 - 1985 - 54480 - 2280 - 63600

The details of the vacancies community wise and gender wise {General(G)/Women(W)} is shown below :-

Roster Community	OC		BCA		BCB		BCC		BCD		BCE		SC		ST		P H*	Total
	G	W	G	W	G	W	G	W	G	W	G	W	G	W	G	W		
30% Vacancies	19	10	3	2	3	2	1	0	2	1	1	1	5	3	2	2	3	<b>60</b>
70% Vacancies	43	22	7	2	9	6	1	0	8	3	5	1	15	7	6	2	4	<b>141</b>
<b>Total</b>	<b>62</b>	<b>32</b>	<b>10</b>	<b>4</b>	<b>12</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>10</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>20</b>	<b>10</b>	<b>8</b>	<b>4</b>	<b>7</b>	<b>201</b>

**(\*) PH Vacancies :-**

PH 30% vacancies – VH(W),HH,OH

PH 70% vacancies – VH,HH(W),OH,HH(W)

**IMPORTANT NOTE:-** The number of vacancies are subject to variation.

**3. Educational Qualifications:** Applicants must possess the qualifications from a recognized University as detailed below or equivalent thereto, as specified in the relevant Service Rules of TSSPDCL as on the date of notification.

Name of the Post	Educational Qualifications
Assistant Engineer (Electrical)	Must possess a Bachelors Degree in Electrical Engineering/Electrical and Electronics Engineering of a Recognised University in India established or incorporated by or under a Central Act, Provincial Act, or a State Act (or) an Institution recognized by the University Grants Commission /AICTE (or) any other qualification recognized as equivalent thereto (or) a Pass in Section- “A & B” of A.M.I.E examination conducted by Institute of Engineers in Electrical/Electrical & Electronics Engineering.

**4. Age :** Minimum 18 years, Maximum 44 years. **The age is reckoned as on 01/07/2015.**

As per SP.O.O.(CGM-HRD)Ms.No.701,dt.19.09.2015, the Upper age limit is raised up to 10 years i.e., from 34 to 44 years.

**Age Relaxation:-** The Upper age limit prescribed above is relaxable up to 5 years in respect of SC/ST/BC candidates and up to 10 years in respect of Physically Handicapped candidates.

**5. Fee :**

**a) Remittance of fee:-** Each applicant must pay Rs. 100/- (Rupees one hundred only) towards Online application processing fee. This apart, the applicants have to pay Rs. 120/- (Rupees one hundred twenty only)

towards **examination fee**. However, the applicants belonging to SC, ST, BC and PH categories are exempted from payment of **examination fee**.

**b) Mode of payment of Fee:** The fee mentioned at Para-I, 5 (a) is to be paid through the following methods as mentioned below :-

- i) The payment can be made in any one of the T.S. Online centers and obtain Fee paid receipt with Journal Number.
- (or)
- ii) Applicants can also pay the fee through Internet Banking/Debit Card/Credit card duly following online instructions and make a note of the transaction Number.

**Note:-** The fee once remitted, shall not be refunded or adjusted under any circumstances. Failure to pay the examination fee, application fee, wherever applicable will entail total rejection of application.

After payment of the Fee, the candidates have to logon to the website [www.tssouthernpower.com](http://www.tssouthernpower.com) and click on Careers link or directly visit <http://tssouthernpower.cgg.gov.in> to view the detailed notification, user guide and application form. The applicants have to invariably fill all the relevant fields in the Application. Immediately on submission of application, the applicant will get an acknowledgement in the form of a downloadable pdf document.

## **Para -II**

**Centres for the written examination :-** The written examination for recruitment of Assistant Engineer(Electrical) will be held at different centers located in GHMC jurisdiction.

## **Para-III :-**

**6. How to upload the Application form :** The applicants have to carefully read the Notification and **user guide** before submission of online applications and then proceed further.

**I Step:- Payment of Fee:** The Applicant should pay the prescribed Fee as per the notification in any one of the T.S. Online centers (or) through Internet Banking/Debit Card/Credit card duly following online instructions and obtain Fee paid receipt with Journal Number/Transaction Number in the first instance.

**II Step:- Submission of Application:** After payment of Fee, the Candidate has to logon to the website [www.tssouthernpower.com](http://www.tssouthernpower.com) and at careers on home page click on **APPLY ONLINE** link or directly visit <http://tssouthernpower.cgg.gov.in> for online submission of application. The applicants have to provide payment details (journal number/transaction number, date of payment of fee and date of birth) and upload the scanned copy of passport size photograph with signature (see instructions for scanning and uploading photograph with signature) and then invariably fill all the relevant fields in the Application. Immediately on submission of application, applicant will get an acknowledgement in the form of a downloadable pdf document.

**Note :-**

- i) TSSPDCL is not responsible for any discrepancy in Bio-data particulars while submitting the application form through On-line. The applicants are therefore advised to strictly follow the instructions and user guide on their own interest before submitting the application.
- ii) The particulars furnished by the applicants in the application form will be taken as final and data entry is processed based on these particulars only by Computer. Candidates should therefore, be very careful in Uploading/Submitting the application form On-line.
- iii) Incomplete/Incorrect application form will be summarily rejected. The information if any furnished by the candidate subsequently in any form will not be entertained by TSSPDCL under any circumstances. Applicants should be careful in filling-up the application form and submission. If any lapse is detected during the scrutiny, the candidature will be rejected even though he/she comes to the final stage of recruitment process or even at a later stage.
- iv) Before uploading/submission of application form, the candidates are required to go through the detailed notification and should carefully ensure his/her eligibility for this examination. No relevant column of the Application form should be left blank, otherwise application form will be rejected.
- v) Hand written/Typed/Photostat copies/Outside printed Application Form will not be accepted and liable for rejection.

vi) Candidates are required to retain a photocopy of application form with Reference ID for future reference.

vii) Candidates have to submit application only through online mode well in advance of the last date to avoid last day rush.

viii) Only applicants willing to serve anywhere in the TSSPDCL jurisdiction should apply.

ix) For any problems related to Online submission and downloading of Hall-Tickets please contact Help Desk No.040-23120303 or log on to <http://tssouthernpower.cgg.gov.in> and click on the complaint box.

**Para-IV: General Provisions:**

1) Applicants must compulsorily fill up all relevant columns of application and submit the application through website only. The particulars made available in the website shall be processed through Computer and the eligibility decided in terms of notification.

2) The applications received online in the prescribed proforma available in the website and within the time shall only be considered and TSSPDCL will not be held responsible for any kind of discrepancy.

3) Applicants must upload his/her own scanned photo signature through jpg format in the following steps:

**Instructions for Scanning of Photograph with Signature for Uploading in the Application form.**

Photograph
Signature

Photo width= 3.5cm  
 Photo Height= 4.5cm  
 Signature Space = 1.5 cm

**i)** Paste the Photo on any white paper as per the above required dimensions. Sign in the Signature Space provided. Ensure that the signature is within the box.

**ii)** Scan the above required size containing photograph and signature. Please do not scan the complete page.

**iii)** The entire image (of size 3.5 cm by 6.0 cm) consisting of the photo along with the signature is required to be scanned and stored in \*.jpg format on local machine.

**iv)** Ensure that the size of the scanned image is not more than 50 KB.

**v)** If the size of the file is more than 50 KB, then adjust the settings of the scanner such as the dpi resolution, no. of colours etc., during the process of scanning.

**vi)** The candidate has to sign in full in the box provided. Since the signature is proof of identity, it must be genuine and in full; initials are not sufficient. Signature in CAPITAL LETTERS is not permitted.

**vii)** The signature must be signed only by the candidate and not by any other person.

**viii)** The signature will be used to put on the Hall Ticket and wherever necessary. If the candidate's signature on the answer script, at the time of the examination, does not match the signature on the Hall Ticket, the candidate will be disqualified.

### **Sample Photo and Signature**



e.g. The Technical Specifications of the sample scanned image shown above are:

- Size of the file < 50 KB
- Dpi setting = 200 dpi
- True Colour

The candidate has to upload his/her Photo with Signature in the prescribed format by clicking on the browse button at the time of submission of application form.

4) The applicants should not furnish any particulars that are false, tampered, fabricated or suppress any material information while making an application through website.

5) All the essential certificates issued by the competent authority of Telangana State shall compulsorily be kept with the applicants to produce as and when required to do so. Failure to produce the required certificates on the day of verification will be lead to disqualification.

6) Important : The claim of the candidates with regard to the date of birth, educational/technical qualifications and community are accepted only provisionally on the information furnished by them in their application form and is subject to the verification and satisfaction of TSSPDCL. Mere admission to any test or inclusion of the name of a candidate in a merit list will not confer on the candidates any right for appointment. The candidature is therefore provisional at all the stages and TSSPDCL reserves the right to reject candidature at any stage of the selection even after the advice has been made.

7. Candidates called for verification of certificates will be required to furnish documentary proof in evidence of the following as and when called for:

- i) Age : Proof of age as recorded in SSC certificate or equivalent.
- ii) Qualification of BE/B.Tech/AMIE or equivalent including marks memo etc., from any recognised University in India.
- iii) Permanent Community certificate in original obtained from Govt. of Telangana State in respect of SC/ST & BC candidates clearly indicating the sub-caste and group. Further, candidates claiming to be belonging to B.C have to produce a certificate regarding their exclusion from the Creamy Layer from the Competent authority (Tahsildar)
- iv) Physically handicapped certificate indicating the minimum 40% of disability issued by the concerned Hospital as mentioned below :
  - ENT Hospital, Koti, Hyderabad ----- In respect of PH-HH
  - Sarojini Devi Eye Hospital, Hyderabad--- In respect of PH-VH
  - Osmania General Hospital, Hyderabad ----- In respect of PH-OH

**The certificate should be later than 01.07.2015.**

v) Study Certificate obtained from the School/Institution and Residential Certificate should be obtained from Govt. of Telangana.

8. Candidates will be required to appear for written test as and when conducted at their own cost.

9. Admission for written test or calling the qualified candidates in the written test to furnish documentary proof does not confer any right for appointment.

10. The decision of the Selection Committee/TSSPDCL is final in selection and allotment of candidates.

**PARA-V : IMPORTANT PROVISIONS GOVERNING THE RECRUITMENT**

**PROCESS :**

1. Vacancies : The Recruitment will be made to the vacancies notified subject to variation. There shall be no waiting list as per G.O.Ms.No.81, Gen. Admn. (Ser.A)Department,dt.22.02.1997 as adopted in B.P.(P&G-Per)Ms.No.100, dt. 28.07.1997.

2. Recruitment : The Recruitment will be processed as per this notification and also as per the rules and regulations of TSSPDCL existing as on date.

3. Rules : All are informed that various conditions and criterion prescribed herein are governed by the Rules and Regulations /Orders existing in TSSPDCL.

4. Transparency in Recruitment : The whole Recruitment and selection process is carried out with utmost secrecy and confidentially so as to ensure that the principle of merit is scrupulously followed. A candidate shall be disqualified for appointment, if he/she himself/herself or through relations or friends or any others has canvassed or endeavored to enlist for his/her candidature, extraneous support, whether from official or non-official sources for appointment to this service.

5. The 70% vacancies are available on preference to the candidates who studies up to Xth class for 4 years or resided for 4 years before acquiring Xth class within the territorial area of the Company.

The 30% of vacancies are available for all candidates belonging to State of Telangana.



6. Employed : The Persons already in Government service /Power Utilities/ Autonomous bodies / Govt. Aided Institutions etc., whether in permanent or temporary capacity or as work charged employees are required to inform in writing to the Head of Office / Department as the case may be and required to submit “No Objection” from the concerned Head of Office / Department to apply for this recruitment.

7. Caste & Community : The Community Certificate issued by the competent authority (obtained from the Government of Telangana) should be submitted at appropriate time in respect of SC & ST candidates. In respect of candidates belonging to Backward classes are required to produce Community Certificate (BC-A, BC-B, BC-C, BC-D & BC-E) from competent authority i.e., from Tahsildar in the State of Telangana not below the rank of Deputy Tahsildar. No person who professes a religion different from Hinduism shall be deemed a member of Scheduled Caste.

8. Reservations: The following percentages of reservations are applicable subject to the orders of the Government from time to time.

BC- 25% + 4% Reservation to BC-E will be subject to the adjudication of the litigation before the Hon`ble Courts including final orders in Civil Appeal No.(a) 2628-2637 of 2010 in SLP.No.7388-97 of 2010 dated 25.03.2010 and orders from the Government. The categories in BC`s as notified by the State Government from time to time.

SC- 15%,

ST- 6%,

PH- 3%

Women- 33 1/3 % reservation is applicable as per rules.

9. **Creamy Layer** : In terms of G.O.Ms.No.8, Backward Classes Welfare (OP) Department,dt.13.11.2014, Govt. of Telangana, as adopted by TSTRANSCO vide T.O.O.(CGM-HRD-Per) Ms.No.188,dt.22.09.2015 and subsequently adopted by TSSPDCL the candidates claiming to be belonging to Backward classes have to produce a certificate regarding their exclusion from the Creamy Layer from the Competent Authority (Tahsildar). The certificate excluding from the Creamy Layer has to be produced at an appropriate time. B.C. candidates whose parents income is less than 6 lakhs per annum come under non creamy layer. In case of failure to produce the same on the day of verification of certificates, the candidature will be rejected without further correspondence.

10. The candidates who have obtained Bachelors Degree in Engineering through Open Universities are required to have recognition by the University Grants Commission/ AICTE as the case may be. Unless such Degrees have been recognized by the relevant statutory authority, they will not be accepted for purpose of educational qualification. The decision of the management will be final.

**PARA-VI :**

i) The candidates eligible for 70% of the vacancies should obtain the required Study certificates (from class IV to X) or Residence Certificate in the proforma only for those candidates who have not studied in any Educational Institutions as the case may be. The relevant certificates may be got ready with authorized signature and kept with the candidates as and when required.

ii) The candidates eligible for 70% of the vacancies should have studied in Educational Institution(s) for not less than four consecutive academic years prior to and including the year in which he/she appeared for S.S.C. or its equivalent examination. If however, he/she has not studied in any Educational Institution and obtained S.S.C. or its equivalent qualification or Open School, Private Study basis, he / she has to produce residential certificate issued by the Tahsildar.

(iii) For 70% vacancies based on study, the candidate is required to produce a certificate from the Educational Institution(s) where he/she has studied during the said 4/7 year period .If, however, it is based on residence, a certificate should be obtained from an officer of the Revenue Department not below the rank of a Tahsildar / Deputy Tahsildar in independent charge of a Mandal.

(v) If, however, a candidate has resided in more than one Mandal during the relevant 4/7 years period but within the same District or Zone as the case may be, separate certificates from the Tahsildar exercising jurisdiction have to be obtained in respect of different areas.

(vi) In cases where visually handicapped and hearing handicapped persons studied in special schools meant for them, the native place of the parents of such visually handicapped and hearing handicapped persons will be the Company area.

(vii) Candidates eligible to claim preference to 70% of vacancies in TSSPDCL Jurisdiction. Details given below:-

<b>Territorial Jurisdiction</b>	<b>Districts</b>
TSSPDL	HYDERABAD, RANGAREDDY, MEDAK, NALGONDA & MAHABUBNAGAR

**PARA-VII - SCHEME OF EXAMINATION :**

The written test comprising of 100 marks consisting of 100 multiple choice questions and each question carrying 1 mark. The section A consisting of 80 questions on core technical subject and the section B consisting of 20 questions on General Awareness, Numerical Ability etc.,

The duration of the written examination will be 2 hrs. (120 minutes).

**Details of Written Examination:**

- i) **Syllabus:** The syllabus for the written examination is placed at Annexure.
- ii) **Hall Tickets:** The hall tickets will be placed on the website seven days prior to the date of examination. The candidate has to down load the Hall ticket from the website only. Hall tickets will not be sent to the candidates by post.
- iii) **Date of examination:** The written examination for recruitment of Assistant Engineer(Electrical) will be held on 22.11.2015 from 10:30 am to 12:30 pm or any other date to be specified in the website.
- iv) **Examination Centers:** The written examination for recruitment of Assistant Engineer (Electrical), will be held at different centers located with in the jurisdiction of GHMC.
- v) Instructions to Candidates at the time of Written Examination:
  1. The test is of two hours duration. The date and time will be indicated on the Hall ticket. Candidates should reach the test center in time. The candidates have to report 30 Minutes before the exam time at the examination venue. Candidates will not be allowed into the examination hall after the test has started and will not be permitted to leave examination hall before the closure of test time under any circumstances. The candidates shall appear for written examination at their own cost.
  2. The test will be of objective type with multiple-choice questions with only one answer being correct among the four alternatives suggested.

3. A separate O M R (Optical mark Reader) answer sheet will be provided to the candidates. The candidate has to indicate his response to each question by darkening the appropriate bubble with a Black Ball Point pen. No corrections with white fluid will be permitted.

4. The candidate has to bring a good quality Black Ball Point pen to the examination hall.

5. The candidate has to handover the OMR Sheet to the invigilators in the examination centre and is however permitted to take away the question paper after the examination. If any candidate in violation of the above instructions takes away the OMR Sheet, his/her candidature to the recruitment will be rejected besides invocation of penal provisions including debarment of the candidature for all future recruitments to be conducted by the TSSPDCL.

6. The candidate has to follow meticulously all the instructions given on the question paper booklet and OMR Answer Sheet, else his answer sheet may not be valued.

7 Usage of Calculators/mathematical tables is not permitted. Candidates should not bring cell phones or any other electronic gadgets to the examination hall.

8. The provisional key will be placed on website.

9. If any objections on the provisional key, the same can be raised within 3 days from the date of placing of provisional key to email : [cgm-hrd@tssouthernpower.com](mailto:cgm-hrd@tssouthernpower.com).

**PARA-VIII : PROCEDURE FOR SELECTION:**

i) The selection of candidates for appointment will be made 100% on Written examination only.

ii) Only those candidates who qualify in the written examination by being ranked high, community wise will be called for verification of Original Certificates.

(iii) The minimum qualifying marks in the written test for the above selection process shall be as follows:

OC - 40%

BC - 35%

SC/ST - 30%

PH - 30%

Note: Mere securing minimum qualifying marks doesn't vest any right to a candidate for being called for verification of original certificates.

(iv) The selection list will be drawn into two parts. The first part will comprise 30% of the posts for OPEN consisting of common merit list which shall be filled first and the remaining second part will comprise the balance 70% of the posts consisting of Company level only and the posts will be filled following the existing rules given in the C.O.O.Jt.Secy(IR)Ms.No.611, dt.05.02.2009, SP.O.O.(CGM-HRD)Ms.No.730, dt.26.09.2015 and other rule of reservation issued from time to time. The candidates will be selected and allotted to various places in TSSPDCL jurisdiction.

**TERMS AND CONDITIONS OF SERVICE:**

1. Scale of Pay: Rs. 41155-1700-44555-1985-54480-2280-63600.

2. Training cum Probation: The candidates appointed to the post shall be placed on probation for a period of 2 years which includes 1 year Training. At the time of joining training, they shall have to deposit their original certificates such as Date of Birth (SSC), Degree, Caste and Study / Residence Certificates etc. During the training period, they will be paid initial scale of pay of Assistant Engineer with usual allowances admissible at the place of posting.

3. Place of posting: The candidates appointed shall be required to work at rural areas of TSSPDCL for a minimum period of 3 years.

4. The candidate will be governed by the rules and regulations applicable or as framed by the TSSPDCL and as amended from time to time.

5. **Execution of Service Bond:** At the time of joining training, the candidate shall have to execute a Bond to serve TSSPDCL for a minimum period of 5 years and thereafter. The candidate who leaves the Company during the training period shall refund the total emoluments received by him/her plus Rs. 50,000/- (Rupees Fifty Thousand only) by way of liquidated damages. The candidate who leaves the Company without serving a minimum period of five years after completion of training, shall pay to the Company a sum of Rs. 1,00,000/- (Rupees One Lakh only) by way of liquidated damages.

**PARA – IX : DEBARMENT:**

1. Candidates should make sure of their eligibility to the post applied for and that the declaration made by them in the format of application regarding their eligibility is correct in all respects. Any candidate furnishing incorrect information or making false declaration regarding his/her eligibility at any stage or suppressing any information, is liable to be debarred from appearing any examinations conducted by the Telangana Power Utilities and summarily rejection of their candidature for this recruitment and future recruitments.

2. Any candidate is or has been found impersonating or procuring impersonation by any person or resorting to any other irregular or improper means in-connection-with his/her candidature for selection or obtaining support of candidature by any means, such a candidate may, in addition to rendering himself/herself liable to Criminal Prosecution, will also be liable to be debarred permanently from any exam or selection held by TSSPDCL and other TS Power Utilities.

**PARA- X: INSTRUCTIONS TO IN-SERVICE EMPLOYEES:** The employees working in TSSPDCL in the cadre of Assistant Engineer and above are not eligible to apply. If found applied, they are liable for disciplinary action apart from prosecution.

**PARA-XI : TSSPDCL`S DECISION TO BE FINAL:**

The decision of TSSPDCL in all aspects and all respects pertaining to the application and its acceptance or rejection as the case may be, conduct of examination and at all consequent stages culminating in the selection or otherwise of any candidate shall be final in all respects. TSSPDCL reserves its right to alter and modify time and conditions laid down in the notification for conducting the various stages up to selection, duly intimating details thereof to all concerned, as warranted by any unforeseen circumstances arising during the course of this process, or as deemed necessary by TSSPDCL at any stage.

Place: Hyderabad

Date : 27.09.2015

SD/-

( G.RAGHUMA REDDY )  
CHAIRMAN & MANAGING DIRECTOR.

**Annexure**  
**Syllabus – Assistant Engineers (Elect.)**

**Part-A (80 Questions)**

**1. Electrical Circuits and Networks:** Kirchhoffs laws, mesh and node analysis, network theorems, sinusoidal steady state analysis of single phase and three phase circuits, resonance, transient response of RL, RC, RLC Circuits for different input, two-port networks, Two element network synthesis. Measurement of power by two-wattmeter method; Fourier, Laplace and Z transforms

**2. Control Systems:** Modeling of physical system, Block diagrams and signal flow graphs, Time and frequency domain analysis, Steady state errors, Routh's criterion, Nyquist and Bode plots, compensation, root loci, elementary ideas of state variable analysis, control system components.

**3. Measurements and Instrumentation:** Measurement of current, voltage, power, power-factor and energy, Measurement of resistance, inductance, capacitance and frequency-bridge methods, transducers and their applications to the measurement of non-electrical quantities like temperature, pressure, strain, displacement etc., CRO.

**4. Electrical Machines:** Single phase transformer; equivalent circuit, tests, regulation and efficiency, three phase transformers connections, parallel operation, auto transformer, principle of energy, Conversion, windings of rotating machines, DC generator and motors, characteristics, starting and speed control, three phase induction motors performance characteristics, starting and speed control, single phase and three-phase induction motors, synchronous generators, performance, regulation, parallel operation, synchronous motors, starting characteristics and applications synchronous condensers, fractional horse power motors, permanent magnet and stepper motors.

**5. Power Systems:** Electrical power generation thermal, hydro, nuclear, Types of Tariffs; transmission line parameters, steady state performance of overhead transmission lines and cables, surge propagation, distribution systems, insulators, bundle conductors, corona and radio interference effects, Sag and Tension, per-unit quantities, bus admittance and impedance matrices, load flow: voltage control and power factor correction, economic operation, Load Frequency Control, symmetrical components, analysis of symmetrical and unsymmetrical faults, principles of over-current, differential and distance protection, circuit breakers, concept of system stability, swing curves and equal area criterion, HVDC transmission

**6. Analog and Digital Electronics:** Characteristics of diodes, BJT, FET, SCR, Amplifier biasing, equivalent circuit, frequency response, feed-back amplifiers, power amplifiers, oscillators, operational amplifiers and applications, wave shaping circuits, multiplexer, flip-flops, universal gates, combinational circuits, A/D and D/A converters, 8-bit microprocessor basics (8085), architecture, programming and interfacing.

**7. Power Electronics & Drives:** Semiconductor power diodes, transistors, thyristors, triacs, GTOs, MOSFETs and IGBTs - static characteristics and principles of operation; triggering circuits; phase control rectifiers; bridge converters - fully controlled and half controlled; dual converters, principles of choppers, inverters, cyclo-converters and ac voltage controllers. Four quadrant operation, Types of loads, Steady-state stability, Types of braking in dc & ac motors, Energy loss during starting and braking of dc and ac motors, Basic concepts of converter and chopper fed dc drives; V/f control of ac motors, chopper controlled rotor resistance and slip power recovery scheme.

**8. Utilization:** High frequency eddy current heating, dielectric heating, Arc furnace, electric arc welding & electric resistance welding, Illumination: Laws of illumination, MSCP, SV & MV lamps, Factory, street & flood lighting, Electric traction and track electrification, Speed-time curves, Tractive effort, Specific energy consumption, Mechanism of train movement, adhesive weight and coefficient of adhesion.

**9. Switchgear protection:** Principles of over current, differential and distance protections, circuit breaker, concept of system stability, swing curves and equal area criterion. Power System Operation & Control, Relays, Protection for Generator, Transformers, feeder and Busbars, Grounding, Protection against Over Voltages, Batteries and Battery Chargers.

**10. Electricity Act' 2003 and Indian Electricity Rules.**

**11. Non-Conventional Energy: Solar, Wind and Bio-mass.**

**Part-B (20 Questions)**

<b>Sl.No</b>	<b>Particulars of the section</b>	<b>Weightage</b>
1	Numerical Ability (Indices, Ratios, Proportions, Profit & Loss, Menstruation, Algebra, Geometry and Statistics)	20 Questions
2	Language proficiency (Vocabulary, Sentence corrections, Reading comprehension).	
3	Computer Awareness	
4	General Knowledge	
5	Socio-economic, Political and Cultural History of Telangana with special emphasis on Telangana Statehood	