



TO-I

1. a) What is CEA? Describe its function and duties?

CEA is Central Electricity Authority

Functions and duties of Authority.

73. The Authority shall perform such functions and duties as the Central Government may prescribe or direct, and in particular to -
- (a) advise the Central Government on the matters relating to the national electricity policy, formulate short-term and perspective plans for development of the electricity system and co-ordinate the activities of the planning agencies for the optimal utilisation of resources to subserve the interests of the national economy and to provide reliable and affordable electricity for all consumers;
 - (b) specify the technical standards for construction of electrical plants, electric lines and connectivity to the grid;
 - (c) specify the safety requirements for construction, operation and maintenance of electrical plants and electric lines;
 - (d) specify the Grid Standards for operation and maintenance of transmission lines;
 - (e) specify the conditions for installation of meters for transmission and supply of electricity;
 - (f) promote and assist in the timely completion of schemes and projects for improving and augmenting the electricity system;
 - (g) promote measures for advancing the skill of persons engaged in the electricity industry;
 - (h) advise the Central Government on any matter on which its advice is sought or make recommendation to that Government on any matter if, in the opinion of the Authority, the recommendation would help in improving the generation, transmission, trading, distribution and utilisation of electricity;
 - (i) collect and record the data concerning the generation, transmission, trading, distribution and utilisation of electricity and carry out studies relating to cost, efficiency, competitiveness and such like matters;
 - (j) make public from time to time information secured under this Act, and provide for the publication of reports and investigations;
 - (k) promote research in matters affecting the generation, transmission, distribution and trading of electricity;
 - (l) carry out, or cause to be carried out, any investigation for the purposes of generating or transmitting or distributing electricity;
 - (m) advise any State Government, licensees or the generating companies on such matters which shall enable them to operate and maintain the electricity system under their ownership or control in an improved manner and where necessary, in co-ordination with any other Government, licensee or the generating company owning or having the control of another electricity system;
 - (n) advise the Appropriate Government and the Appropriate Commission on all technical matters relating to generation, transmission and distribution of electricity; and
 - (o) discharge such other functions as may be provided under this Act.

b) List the provision relating to safety and Electricity supply as per EA 2003?

Provisions relating to safety and electricity supply

53. (1) The Authority may in consultation with the State Government, specify suitable measures for –

- (a) protecting the public (including the persons engaged in the generation, transmission or distribution or trading) from dangers arising from the generation, transmission or distribution or trading of electricity, or use of electricity supplied or installation, maintenance or use of any electric line or electrical plant;
- (b) eliminating or reducing the risks of personal injury to any person, or damage to property of any person or interference with use of such property ;
- (c) prohibiting the supply or transmission of electricity except by means of a system which conforms to the specification as may be specified;
- (d) giving notice in the specified form to the Appropriate Commission and the Electrical Inspector, of accidents and failures of supplies or transmissions of electricity;
- (e) keeping by a generating company or licensee the maps, plans and sections relating to supply or transmission of electricity;
- (f) inspection of maps, plans and sections by any person authorized by it or by Electrical Inspector or by any person on payment of specified fee;
- (g) specifying action to be taken in relation to any electric line or electrical plant, or any electrical appliance under the control of a consumer for the purpose of eliminating or reducing a risk of personal injury or damage to property or interference with its use;

c) What is abatement and the punishment imposed for it as per EA 2003?

150. (1) Whoever abets an offence punishable under this Act, shall, notwithstanding anything contained in the Indian Penal Code, be punished with the punishment provided for the offence.

(2) Without prejudice to any penalty or fine which may be imposed or prosecution proceeding which may be initiated under Act or any other law for the time being in force, if any officer or other employee of the Board or the licensee enters into or acquiesces in any agreement to do, abstains from doing, permits, conceals or connives at any act or thing whereby any theft of electricity is committed, he shall be punishable with imprisonment for a term which may extend to three years, or with fine, or with both.

d) Who is the authority to issue tariff order and procedure adopted for evolving the tariff order?

State Electricity Regulatory Commission is the Authority to issue Tariff Order.

Procedure for tariff order.

64. (1) An application for determination of tariff under section 62 shall be made by a generating company or licensee in such manner and accompanied by such fee, as may be determined by regulations.

(2) Every applicant shall publish the application, in such abridged form and manner, as may be specified by the Appropriate Commission.

(3) The Appropriate Commission shall, within one hundred and twenty days from receipt of an application under sub-section (1) and after considering all suggestions and objections received from the public,-

(a) issue a tariff order accepting the application with such modifications or such conditions as may be specified in that order;

(b) reject the application for reasons to be recorded in writing if such application is not in accordance with the provisions of this Act and the rules and regulations made thereunder or the provisions of any other law for the time being in force: Provided that an applicant shall be given a reasonable opportunity of being heard before rejecting his application.

(4) The Appropriate Commission shall, within seven days of making the order, send a copy of the order to the Appropriate Government, the Authority, and the concerned licensees and to the person concerned.

(5) Notwithstanding anything contained in Part X, the tariff for any inter-State supply, transmission or wheeling of electricity, as the case may be, involving the territories of two States may, upon application made to it by the parties intending to undertake such supply, transmission or wheeling, be determined under this section by the State Commission having jurisdiction in respect of the licensee who intends to distribute electricity and make payment therefore:

(6) A tariff order shall, unless amended or revoked, shall continue to be in force for such period as may be specified in the tariff order.

e) What is intra state transmission and the role of SLDC in it?

Intra-State transmission - Transmission within a State

30. The State Commission shall facilitate and promote transmission, wheeling and inter-connection arrangements within its territorial jurisdiction for the transmission and supply of electricity by economical and efficient utilisation of the electricity.

31. (1) The State Government shall establish a Centre to be known as the State Load Despatch Centre for the purposes of exercising the powers and discharging the functions under this Part.

(2) The State Load Despatch Centre shall be operated by a Government company or any authority or corporation established or constituted by or under any State Act, as may be notified by the State Government. Provided that until a Government company or any authority or corporation is notified by the State Government, the State Transmission Utility shall operate the State Load Despatch Centre: Provided further that no State Load Despatch Centre shall engage in the business of trading in electricity.

32. (1) The State Load Despatch Centre shall be the apex body to ensure integrated operation of the power system in a State.

(2) The State Load Despatch Centre shall -

(a) be responsible for optimum scheduling and despatch of electricity within a State, in accordance with the contracts entered into with the licensees or the generating companies operating in that State;

(b) monitor grid operations;

(c) keep accounts of the quantity of electricity transmitted through the State grid;

(d) exercise supervision and control over the intra-state transmission system; and

(e) be responsible for carrying out real time operations for grid control and despatch of electricity within the State through secure and economic operation of the State grid in accordance with the Grid Standards and the State Grid Code.

(3) The State Load Despatch Centre may levy and collect such fee and charges from the generating companies and licensees engaged in intra-State transmission of electricity as may be specified by the State Commission.

2. a) List down different categories of charging of batteries?

2.04 Charging Operations

The charging of the battery can be classified into the following five categories:

1. Initial charging
2. Trickle charging
3. Routine charging
4. Quarterly Equalising charge
5. Special charging.

b) Write about standard clearances to be adopted between lines of different voltage level and a building?

13.03.02 Clearance to Buildings

A. Medium and low voltage lines and service lines:

Power lines should not be taken over buildings as far as possible and every effort should be made to divert the line away for all buildings. Where, however, buildings cannot be avoided, the minimum clearances specified in Rule 79 of I.E. Rules 1956 extracted below shall be maintained.

"1. For any flat roof, open balcony, verandah, roof and lean to roof.

- i) When the line passes above the building a vertical clearance of *8 feet (2.5m)* for the nearest point.
- ii) When the line passes adjacent to the building a horizontal clearance of *4 feet (1.25m).*"

"2. Any conductor so situated as to have a clearance less than that specified above, shall be adequately insulated and shall be attached by means of metal clips at suitable intervals to have earthed bearer wire having a breaking strength of not less than 317.5 Kg (700 lbs)

"3. The horizontal clearance shall be measured when the line is at a maximum deflection for the vertical due to wind pressure."

B. Clearances for Building of H.V. lines.

1. Where a H.V. overhead line upto and including 33KV passes above or adjacent to any building or part of a building it shall have a maximum safe vertical clearance of not less than 12 feet (3.75m) above the highest part of the building immediately under such line.
2. The horizontal clearance between the nearest conductor and any part of such building shall on the basis of maximum deflection due to wind pressure be not less than
 - a) for HV lines upto and including 11 KV = 4 feet (1.25m)
 - b) for HV lines above 11KV and upto and including 33KV = 6 feet (1.85m)

c) Explain about various types of fire extinguishers?

10.03 Types of Fire Extinguishers

10.03.01 The types of fire extinguishers and their suitability for various classes of fires are listed below:

S.N.	Type of Extinguishers	Suitability
1.	Soda Acid :	Suitable for fires involving combustible materials of organic nature such as wood, paper, rubber etc. only. <i>These extinguishers should not be used on fires involving FLAMMABLE liquids and energised electrical equipments; also unsuitable for fires involving flammable gases and combustible metals.</i>
2.	Chemical FOAM :	Best suited to put out fires involving combustible materials of organic nature and flammable liquids like transformer oil. <i>They are not suitable for fires involving flammable gases under pressure and combustible metals which are reactive to water and water containing agents. Foams are electrically conductive and therefore are not recommended for use on electrical fires.</i>
3.	Dry Powder :	This type of extinguisher is suitable for fire involving flammable liquids and flammable gases under pressure and also best suited for fires in electrical equipments. <i>They are unsuitable for fires involving combustible materials of organic nature like paper, rubber etc. and also for fires involving combustible metals.</i>

S.No.	Type of Extinguishers	Suitability
4.	Carbon-dioxide :	-do- -do- it is ideally suited for electrical fires indoor equipments and not so effective in open air usage.
5.	Fire Buckets Water (in a round bottom bucket of 10 litre capacity) :	This method of fire extinguishing can be used when the cooling effect of water is essential for extinction of fires. (e.g.) fires involving paper, plastics etc. It is unsuitable for tackling liquid and gas fires and the fires in electrical equipments.
6.	Sand (in round bottom bucket of 10 litre capacity) :	Sand can be used to extinguish fires where a blanketing effect is essential (e.g.) fires involving combustible materials of organic nature like wood, paper etc. and flammable liquids.

d) For which type of fire DCP can be used and also explain its working principle and operation?

10.04.03 Dry Powder Type (Gas Cartridge Type) 10 kg & 22.5 kg

i) Construction

The construction of this type of extinguisher is shown in Fig.10.1. The chemical powder is stored in the main shell of the extinguisher and carbon dioxide gas is held under high pressure in a sealed cartridge.

ii) Method of Operation

Carry the extinguisher to the place of fire and keep it upright. Remove the safety clip and strike the knob located in the cap to actuate the piercing mechanism which in turn breaks the sealing disc of the cartridge. Direct the stream of escaping powder at the base of the flame. For effective result stand about 5 to 6 feet away and direct the stream near the seat of the fire. Progress forward, moving the nozzle rapidly with a side to side sweeping motion. On out door fires, always operate the extinguisher from the wind ward side of the fire to extend the effective range of the spray.

iii) Principle of Working

Sodium based chemical powders are generally employed and when applied to a fire, they undergo chemical reaction. The free radicals which are responsible for sustaining any fire, are put out of action by the dry chemical powders and as a result, the fire dies out very fast. When this extinguisher is operated, the cartridge containing the CO₂ gas is broken, allowing the gas to escape to the main shell and push out the dry chemical powder stored in the outer container in the form of fog. It is quite useful for quenching fires in out door equipments.

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e) Write about the types of protective relays and the tests to be carried out?

Tests should be carried out on all relays by injection of current and/or voltage into the relay coils. The following are some of main tests to be carried out on various types of relays.

a) Attracted armature type relays

Tests should be carried out for drop off and pick up values. Operating times of current relays should be noted for 1,2 and 4 times the setting or rated value.

Check should be made for contact bouncing and adhesion between armature and pole face.

b) Induction type over current relays

The relay should first be tested for minimum operating current and time of operation for minimum operating current. Times of higher operating currents should be determined and checked to see if they conform to the characteristic curves of the relays.

The resetting time of the disc (at the time setting in use) should be noted and recorded to check the strength of the permanent magnets.

If the relay timings do not conform to their characteristic curves, the relays should be adjusted so as to get the timings as close to the curve as possible.

c) Directional Relays

Normal voltage should be applied to the voltage coil and the minimum current required for the operation of the relay determined. The results obtained should be compared with those obtained during the commissioning tests or the previous routine tests.

Times of operation of relay for minimum currents and for higher currents should be noted and checked with characteristic curves.

The minimum voltage for operation of the relay should be noted with normal current (corresponding to setting value) passing through the current coil. The time of operation should also be noted in this case and the values obtained compared with those got during the previous tests or during the commissioning tests.

The contacts should be checked for rebounding.

d) Impedance relays (distance type):

Tests should be carried out to determine time distance curves for 2 or 3 values of current.

Note: The insulation resistance of all relays coils, internal connections, terminals, etc., should be measured with a 500V megger and results recorded.

e) Other auxiliary relays

Relays not coming under any of the above categories may be got tested annually in combination with the main relays for checking up for satisfactory operation and also individually as per manufacturers' instructions.

3. a) What is BLTC, RLTC and CLTC and list down its Chairman and members?

Board level Tender Committee,
Regional Level Tender Committee and
Circle Level Tender Committee

4.0 Tender Committee

The Tender Committee at the level of Chief Engineers and Superintending Engineers shall decide the tenders for purchase of materials and award works contracts and condemnation of obsolete/damaged/burnt equipments. Final decision is by the Chief Engineer or Superintending Engineer as the case may be. However, no committee is necessary at the level of Chief Engineers / Superintending Engineers at Board's Headquarters and also at the level of Executive Engineers in circles.

(a) The Tender Committee at the Chief Engineer's level outside Board's Headquarters shall consist of the following :

- | | | |
|---|-----|----------|
| 1. Chief Engineer | ... | Chairman |
| 2. A Superintending Engineer working under the Chief Engineer | ... | Member |
| 3. An Executive Engineer working under the control of Chief Engineer | ... | Member |
| <hr/> | | |
| 4. A Deputy Financial Controller to be nominated by the Accounts Member | ... | Member |

(b) The Tender Committee at the Superintending Engineer's level shall consist of the following :

- | | | |
|--|-----|----------|
| 1. Superintending Engineer | ... | Chairman |
| 2. Executive Engineer (General) | ... | Member |
| 3. Another Executive Engineer to be nominated by the Chief Engineer concerned from among the Executive Engineers within the circle | ... | Member |
| 4. Deputy Financial Controller/Accounts Officer (where there is no Deputy Financial Controller) to be nominated by the Superintending Engineer | ... | Member |

(c) The Board level Tender Committee shall consist of the following members :

1. Chairman
2. Accounts Member
3. Member (Generation)
4. Member (Distribution)
5. The concerned Chief Engineer dealing with the tender proposal

The Tender Committee at all levels shall have a quorum of three, including the Chairman.

b) Write short notes on EMD, SD and LD?

11.0 Earnest Money Deposit

- 11.1 Every tender, other than Single Tender, shall be accompanied by Earnest Money Deposit which shall be in cash or in such other form as may be specified by the Board from time to time.
- 11.2 The requirements of Earnest Money Deposit must be worked out at 1% of the estimated face value of the contract rounded off to the nearest Rs. 100/- subject to the condition that the maximum Earnest Money Deposit to be paid is limited to Rs. 2 Lakhs. The amount of Earnest Money Deposit so fixed shall be mentioned in the Tender notice/specification along with the mode of payment.
(Per) B.P. (FB) No. 5 (Accounts Branch) Dt. 25—5—98.
- 11.3 The approved tenderer shall, in lieu of Earnest Money Deposit, submit proof of Permanent Deposit.
- 11.4 The Competent Authority may waive the Earnest Money Deposit clause in respect of any specification under Limited Tender for good and sufficient reasons to be recorded.
- 11.5 Where a tenderer is exempted from payment of Earnest Money Deposit, he shall, in lieu of Earnest Money Deposit, submit proof of such exemption.
- 11.6 Small Scale Industries registered within the State of Tamil Nadu are to produce their Registration Certificate showing the materials which they are permitted to manufacture and the period of validity on the Certificate as proof of eligibility for exemption from payment of Earnest Money Deposit/Securit Deposit. The Registration should be valid for the entire period of currency of the contract.
[(Per) B.P. (FB) No. 25 (Accounts Branch) Dt. 20—9—97]

12.0 Security Deposit :

- 12.1 "The successful tenderer will have to pay a security deposit of 10% of the value of the contract, inclusive of Earnest Money Deposit paid subject to a monetary ceiling of Rs. 10 lakhs (Rupees Ten lakhs only). Of this 2% of the value of the contract including

amount remitted as Earnest Money Deposit has to be paid in Cash/DD and the balance 8% in the form of Bank Guarantee".

(Per) B.P. (FB) No. 5 (Accounts Branch) Dt. 10—4—2000.

In the case of Tenderers who are exempted from the payment of Security Deposit like Undertakings/Corporations of the Government of Tamil Nadu, SSI registered in Tamil Nadu an undertaking must be obtained before placing the order (including the undertaking already given for Earnest Money Deposit) agreeing to pay an amount not exceeding 10% (including the undertaking already given for Earnest Money Deposit) of the value of the contract in case of any breach or violation of the contract.

(Per) BF (FB) No. 25 Accounts Branch dated 20—9—97

- 12.2 In the case of Civil Works Contract, 2% of the value of the contract (including Earnest Money Deposit paid already) shall be paid in cash as Security Deposit. In the case of building works wherever the response to the Tender Call is poor, the competent authority may permit the tenderer to pay the Security Deposit in three instalments by recovery from the first three consecutive bills. Further, 5% of the value of the work done will be recovered from each bill as withheld amount.

If the security deposit in cash is not paid within the time frame stipulated in the contract, penal interest at Board's borrowing rate will be levied for the delayed period.

[Per B.P. (FB) No. 34 (Accounts Branch) Dt. 24—10—97]

Liquidated damages

- 10.7 (a) The specification should include a "Liquidated Damages" clause for delay in delivery, which shall be at half percent (0.5%) of the contract price of undelivered items/materials for each completed week of delay and the total shall not exceed ten (10%) percent of the contract price of the units/materials so delayed. This shall be incorporated in all the Purchase Orders.
- (c) The actual date of delivery at destination stores shall be reckoned for the purpose of deciding "Liquidated Damages" for delay in supply. It should be the suppliers' responsibility to arrange for inspection, despatch etc., in time to keep up the delivery schedule.
- (d) The tender deciding authority can accept the date of Railway Receipt as date of delivery for this purpose in individual cases based on merits. However, approval of the Chief Engineer is necessary to reckon date of Lorry Receipt as the date of delivery for the purpose of "Liquidated damages" for delay.

c) Write down the procedure to be followed at tender opening?

22. Procedure to be followed at tender opening.-

The following procedure shall be followed at the tender opening.-

- 1(a) All the envelopes containing tenders and the tenders received through the electronic mail in the designated website shall be counted.
 - (b) All the tenders received in time shall be opened.
 - 2 (c) Any tender received subsequently shall not be opened and shall be returned unopened to the tenderer and in the case of tenders submitted through electronic mail in the designated website, a report on the late submission of tenders shall be generated and the same shall be sent to the tenderers concerned". ;
 - (d) On opening the tender, the members of the Tender Scrutiny Committee shall initial the main bid including the prices and any corrections;
 - (e) A record of the corrections noticed at the time of the bid opening shall be maintained;
 - (f) The name of the tenderers and the quoted prices should be read out aloud.
 - (g) the fact whether earnest money deposit has been submitted and other documents required produced may be indicated, but this shall be merely an examination of the documents and not an evaluation;
 - (h) Minutes of the tender opening shall be recorded. The signatures of the tenderers present shall be obtained unless any of the tenderers or his representative refuses to sign the minutes
- d) Describe about the delegation of powers to officers for sanctioning Deposit Contribution Works?

Item No. 17 Deposit contribution works :

	Authority	Powers (in Rs.)
Shifting of lines, structures etc., relating to EHT, HT, LTCT, LT consumers and local bodies at their request and Shifting of services.	Chairman	
	CE	Full Powers.
	SE	10 Lakhs
	EE	3 Lakhs
	AEE	50,000/-

e) What are the details to be mentioned in notice inviting tender?

10. Details to be mentioned in notice inviting tenders.-

The Notice Inviting Tenders shall contain the following details, namely:-

- (a) The name and address of the procuring entity and the designation and address of the Tender Inviting Authority;
- (b) Name of the scheme, project or programme for which the procurement is to be effected;
- (c) The date upto which and places from where the tender documents can be obtained;
- (d) The amount of earnest money deposit payable;
- (e) The last date and time for receipt of tenders;
- (f) The date, time and place for opening of tenders received; and
- (g) Any other information the Tender Inviting Authority considers relevant.

4. a) Narrate the procedures to be followed for closing of work order?

Closing of work order

112. Within six weeks from the date of giving service or earlier the completed work order should be closed and sent to the Central Office. The work order should be sent with a detailed bill of service connexion in M.E.D. Form 15 showing the allocations between the consumer and Government and supported by requisitions and devolutions, so that the accounts of the service may be closed and any refunds or charges due to or from the consumer settled promptly.

NOTE :—(1) The certificate regarding devolution of materials should be furnished.

(2) The Assistant Engineer should check measure the work if required by rules before sending the closed work orders to the Central Office.

b) What is LPO and how to prepare, scrutinize and issue the LPO?

LPO Local Purchase Order

Local purchase orders—Preparation, scrutiny and issue of orders.

390. Indents may conveniently be grouped under—

- (1) Bulbs.
- (2) Meters.
- (3) Cables and cable boxes.
- (4) Iron articles.
- (5) House service connection materials.
- (6) Spares for equipment.
- (7) Transformers.
- (8) Metering and feeding cubicles.
- (9) Conductors.
- (10) Switchgear, etc., lightning arresters.
- (11) Poles, crossarms and clamps.
- (12) Insulators.
- (13) Testing instruments, etc.

NOTE.—Longcloth is not an article of stationery and may be obtained as stores by indenting officers.

391. As far as possible, materials should be standardized including the nomenclature. In the indents, only this nomenclature and classification should be adopted, those not falling under them being detailed at the end of each class.

392. When machinery, spare parts or accessories to existing machine, instrument or equipment are requisitioned for, it is most important that a statement, more or less in detail, should be given of the purpose for which it is required. In the case of spare parts or accessories, full particulars should be given, viz., the date of supply, the names of the makers, the number, if any, of the machine, the ship by which received, the serial number, capacity range, etc. When the nomenclature of a spare is in any way doubtful, a description and a sketch should accompany the demand. The departmental specifications should be given in the orders.

393. Indents or orders for spare parts should not be sent, piecemeal but half-yearly or three months, as this will be advantageous for better prices.

394. None but the approved type of article for which a type or pattern has been laid down may be included in the requisition without the orders of the Chief Engineer.

395. For standard articles, use should be made as far as possible of the contract schedules of the India Stores Department. But for large quantities if there is a possibility of securing lower prices for materials satisfying departmental specification, tenders should be invited.

396. All orders must state clearly the head of charge to which the cost is to be debited. All requisitions should state definitely the date or dates by which the stores are required. Vague phrases, such as "urgently required", "wanted as early as possible", convey no precise meaning.

397. When placing orders for stores, the original will be sent to the firm with whom the order is placed, one copy will be sent to the Chief Accountant, one copy to the Superintending Engineer, one to the Audit Officer, if necessary, and another filed with the office of origin. Orders should be placed in the special M.E.D. Form 146, printed for the purpose.

398. The order should give the various items serially numbered, a brief specification of the materials to be supplied, the quantity in numbers or weight, the unit rate and the cost of the item. The order should also specify definitely and clearly the place of delivery, date of delivery and penalty for late delivery.

399. The orders for purchase of stores will further clearly state whether the rates are f.o.r. destination or freight prepaid, or to pay, as the case may be, the supplying firms being asked to include in their bills the charges not covered by f.o.r. prices supported by cash vouchers.

400. For facility and economy, orders will be placed for a particular item or group of items covering the requirements of the entire department, but it is also permissible to place separate orders pertaining to each paying unit, i.e., system.

c) What is a numerical account and write about annual and triennial verification?

Numerical accounts

Numerical accounts. 461. Both for tools and plant and spares, numerical accounts should be kept in M.E.D. Form 155. The account should be maintained by each Junior Engineer or Supervisor. The articles should be kept classified civil, mechanical or electrical and also according to the various stations and lines for which they are intended for, e.g., sub-station equipment, line equipment, spares for above tools, office furniture, consumables, etc. Whenever tools or spares are drawn from stores, a requisition should be given for stores accounts and they should be shown as receipts in the month in the numerical accounts. Articles transferred to other stations, used on works or written off

should be similarly shown as issues in the month. There should be a formal requisition (on different colour) without value for all spares used on works and articles transferred to other subordinates. The receipts and issues during a month should be intimated to the Chief Accountant on the 5th of the next month in M.E.D. Form 155-A separate statements being used for tools and plant and for spares. When there are no transactions in a month a 'nil' statement should be sent.

Annual Verification of Tools and spares by the System/ Circle Officers. 466-A. The tools and spares shall be verified numerically once in every year by the Assistant Engineer. The Chief Accountant and Deputy Chief Accountants also shall, during their tours, verify 10% of the articles at random to ensure the financial checks. Prompt action should be taken by the verifying officer to investigate and settle as far as possible the discrepancies found during verification. Articles found surplus should be shown as receipts, in his presence in the monthly statement and brought on to the register of Tools and Plant in Tamil Nadu Electricity Board 155 (not printed). In the case of articles found deficient a note of the shortage should be made in his presence in red ink in the monthly statement without making entries in the column for number or in the Register so that the articles may continue to be borne on the numerical accounts until the loss is adjusted by a recovery or a sanctioned write-off. The verification reports either by the Assistant Engineer or the Central Office should be sent in T.N.E.B. Form (Not printed) to the Chief Accountant within three days of such verifications supported by receipts and issues statements. If the shortages are made good by recovery of cost or write off is sanctioned, the articles may be shown as issues both in the monthly statement, and the Register. Similar entries should be made in the registers in the Central Office. The results of verification requiring disciplinary action will be reported by the Central Office to the Divisional Engineers and final adjustments watched. It is of utmost importance that correspondence is not protracted on the discrepancies found during verification. In difficult and important cases the Chief Accountant should arrange to inspect the works locally and ensure speedy settlement.

466-B. The tools and plants shall be verified once in three years by the Stock Verifiers of the Office of the Chief Controller of Accounts. The Stock Verifiers will act as an agency independent of the systems and circles. This triennial verification shall be confined to the verification of Tools and Plants, Furniture, Scientific and Testing Instruments and Rolling Stock of Meters. Tools and Plants issued to subordinates under their personal account (i.e., 050 Accounts) in the projects and construction circles will also come under the purview of Triennial Verification. A list of officers holding Tools and Plants in the systems and circles should be drawn up by the Chief Accountant and forwarded to the Chief Controller of Accounts once in three years for the Triennial Verification of all the sections, Tools and Plants. The headquarters will draw up a programme and get the Triennial Verification conducted by the Stock Verifiers.

d) List down the field check to be carried out by field Engineers in preparation of extension estimate?

(4) The field check of all estimates should be carried out by the Junior Engineers, Assistant Engineers or Divisional Engineers as the case may be according to the importance of the land and the extension scheme. Among other points, the following should receive attention :—

- (i) Effective maintenance of the line and easy accessibility in emergency conditions.
- (ii) Accessibility of switching points.
- (iii) Proximity of future potential loads.
- (iv) Minimum compensation for future extensions.
- (v) Maximum overall economy of route.
- (vi) An equitable balance of the above conditions.

All schemes costing Rs. 25,000 and over should be checked personally by the Assistant Engineers and all schemes costing Rs. 50,000 and over by the Divisional Engineers.

This rule does not however relax the necessity of checks on other schemes. The distribution of check should be only empirical and serve only as a sort of minimum standard and every effort should be made by the Assistant Engineers and Divisional Engineers to scrutinise personally as many of the smaller schemes as possible.

(5) It is important that extensions should not be underestimated as this throws out the calculations for revenue. On the other hand over-estimating will tend to restrict development.

(6) In preparing estimates, the transformer capacity should be based upon the actual initial requirement and expansion within the first year of supply. Diversity should be allowed according to the nature of the load.

(7) For the purpose of revenue forecast, the minimum according to the tariff proposed to be applied is to be taken into account. In the case of Agricultural and Industrial load, however, basic annual revenue respectively of Rs. 50 and 40 per horse-power should be adopted irrespective of the minimum as per tariff. The basic revenue is arrived at periodically, say, once in two years or oftener, by taking the actual revenue during the previous years and the corresponding horse-power connected. Approval of the Chief Engineer should be obtained for changing the basic revenue. The agreements should be based on the tariffs and no special guarantees need ordinarily be taken unless the forecast as per basic revenue is insufficient to make the scheme remunerative.

Estimates—
Particulars
should be
furnished.

(8) Whenever the execution of a work includes devolution of materials, i.e., whenever credit is to be afforded to the estimate, the work order application and the work order should exhibit—

- (a) Gross expenditure.
- (b) Credit.
- (c) Net amount of Estimate or Work Order.

(9) *Provision for establishment and other charges—Percentage*—Where the line extensions and small works chargeable to Capital are constructed by the operating organizations, the estimates for such works should include a surcharge of 15 per cent made up as follows:—

	PER CENT.
(a) Establishment including share of pensionary charges.	8½
(b) Tools and Plant	1
(c) Audit and Accounts	1
(d) Technical services	2½
(e) Cost of Chief Engineer and staff	1½
(f) Purchasing Agency	½
	15

e) Write about the procedures to be adopted for land acquisition?

Compensations

(i) Land acquisition

Compensa-
tion for
acquisition
of land

543. (i) When land which is not already in the possession of the Government is permanently required for the purpose of the Government, it should be acquired through the agency of the Land Acquisition Act (Act I of 1894 as amended by Act XXXVIII of 1923) which alone can confer an indefeasible title. The Divisional Engineer concerned should, in the first instance, consult the Revenue Divisional Officer and obtain from him the fullest possible information as to the probable cost of the land, per acre otherwise, together with the value of buildings, etc., situated on the property, for which compensation will have to be paid, and a draft notification under section 4 (1) of the Land Acquisition Act. Upon the information thus obtained, an estimate should be framed by the Divisional Engineer and submitted for

sanction. The draft notification should be submitted with the estimate for the approval of Government and publication in the *Fort St. George Gazette*.)

(ii) (In cases in which the owner of a land about to be acquired is willing to make a free gift of the land required a deed of gift should not be executed in favour of Government but the procedure prescribed by the Land Acquisition Act should be followed and an award should be passed under section 11 of the Act for the full market value of the land and not for a nominal amount. The owner, who is willing to make a free gift of the land, should receive the compensation awarded and may make a gift of the amount of the compensation to Government to be utilized for the public purpose for which land is acquired.)

NOTE:—(1) There is, however, no objection to local officers negotiating with the owners of land with the object of coming to an amicable agreement with them as to the price to be paid previous to the initiation of the proceedings under the Land Acquisition Act, with a view to guard against subsequent exorbitant demands or awards, provided that this procedure will result in economy. Any settlement thus arrived at should immediately be communicated to the Land Acquisition Officer. The settlement must take the form of an agreement that the owner is willing to sell for a certain specified sum plus 15 per cent of that sum for compensation, the total of the two sums being the actual price agreed on.

(2) (In cases of urgency acquisition should be made under section 17 of the Act, possession is then obtainable fifteen days after publication of notice under section 9 (1) of the Land Acquisition Act.) (When possession has once been taken, under section 16 or 17 of the Act, Government cannot withdraw from its acquisition; therefore, when the claim is largely in excess of the award, possession should not be taken without a reference to the authority sanctioning the work.)

544. (When sanction to an estimate framed) as above directed (has been obtained and when the draft notification referred to has been published, the Divisional Engineer should make over the matter to the Revenue Divisional Officer who will take the necessary steps for the acquisition and transfer of the land,) subject to the

instructions which he may receive from the Revenue authorities to whom he is subordinate. These instructions provide that (if the estimate originally framed and sanctioned is likely, when the land comes to be acquired, to be materially exceeded, the Revenue Officer making the award should give sufficient notice to the officer of the Electricity Department and should take into consideration any representation which such officer may make, whether it is made orally or by letter. More especially he should, before making the award, allow such an officer, an opportunity of appearing in person or by agent and of producing evidence as to the value of the land. When such a reference is made, the Divisional Engineer should, if it is found impossible to obtain the land without materially exceeding the estimate, or to obtain some other plot of land in lieu of that originally proposed, submit a revised estimate for sanction. When possession has once been taken under section 16 or 17 of the Act, Government cannot withdraw from the acquisition of land. In cases, therefore, where the amount claimed in pursuance of a notice under the Act is largely in excess of the amount subsequently awarded by the Collector, and the acquisition of the land is not absolutely necessary, possession should not be taken without a reference to the authority sanctioning the work until the time within which an application for a reference to the court must be made under section 18 of the Act has elapsed without such application being made.)

NOTE:—The arrangements between the officers of the department and the Revenue Officers to determine as to which land should be taken up should, where practicable, be made without divulging the intentions of the Government, in order to prevent the prices being put up and to render private bargaining possible.

545. After the preliminary arrangements described in the preceding paragraphs have been duly carried out, the land will be taken up under the Act either by the Collector or by a special officer placed at the disposal of the Electricity Department and invested with the powers of a Collector under the Act.) The procedure in the two

cases is described in the Madras Financial and Account Code, Volume II—Appendix X.

NOTE:—(1) All copies of correspondence regarding land acquisition should be sent to the Superintending Engineer of the System as well as to the Central Office by the Divisional Engineers.

(2) Payment of award may be made in cash to the Revenue Department.

(3) Land registers should be maintained by the Divisional Engineers; a similar register in the Central Office should be maintained.

(4) The unwanted assets such as trees and buildings that exist in the lands acquired should not be auctioned without the prior approval of the Board. The Superintending Engineers will send proposals in time for disposal of these items.

5. a) What are the General rules and principles for safety?

1. பொது விதிகளும் அடிப்படைக் கொள்கைகளும் (General Rules and Principles)

கை-நூல் பிரதிகள்

1. ஒவ்வொரு அலுவலகத்திலும், மின் நிலையத்திலும், பிரிவிலும், மின் பங்கீட்டு நிலையத்திலும் கை-நூல் பிரதி ஒன்று இருத்தல் வேண்டும். அது வேலை செய்வோருக்குத் தேவையான போது கிடைக்கும்படி எப்போதும் அங்கு இருக்கவேண்டும்.

நடைமுறைப்படுத்தல்

2. பிரிவு அலுவலர் (Section Officer), அதிகாரம் அளிக்கப்பட்ட எல்லா வேலையாட்களுக்கும் சேம விதிகள் எல்லாவற்றையும் தவறாமல் பின்பற்றும்படி போதிக்கவேண்டும். அவர், எழுத்தறிவில்லாத வேலையாட்களுக்கு முன் எச்சரிக்கை விதிகளைத் தேவையானபோது சொற்பொழிவுகள்மூலம் கற்பிக்க ஏற்பாடு செய்யவேண்டும். வேலையாட்கள் ஒரு குழுவாக வேலை செய்யும் போது, அவ் வேலைப் பொறுப்பை ஏற்றுக்கொண்ட இயந்திர முதல்வர் (Foreman), அல்லது மின்பாதைப் பார்வையாளர் (Line Inspector), அல்லது பிரிவு அலுவலர் (Section Officer) ஆகியவரே சேம விதிகளை நடைமுறைக்குக் கொண்டுவருவதற்கும் பொறுப்பாளியாவார்.

சோதனை நிகழ்த்தல்

3. வேலையாட்கள் எல்லோரும் இக் கை-நூலில் உள்ள போதனைகளை நன்கு அறிந்துள்ளார்களா எனப் பரிசோதனை செய்ய

மேற்பார்வையாளர்கள் (Supervisors) அடிக்கடி சோதனைகள் நிகழ்த்தவேண்டும். எல்லா வேலையாட்களும் ஒன்பதாம் பிற் சேர்க்கையிலுள்ள கேள்விகளுக்கு விடை அளிக்கக்கூடியவர்களாக இருக்கவேண்டும்.

புதிய வேலையாட்களுக்குச் செயற்கை உயிர்ப்பு முறை, முதலுதவி முதலியன கற்பித்தல்

4. புதிய வேலையாள் ஒருவர் வேலைக்குச் சேரும்போது, அவருக்குச் செயற்கை உயிர்ப்பு முறை, முதலுதவிபுரியும் வழிகள், தீயணைக்கும் கருவிகளை உபயோகித்தல், விபத்துகள் நேரிட்ட போது கையாளவேண்டிய முறைகள் ஆகியவற்றை மேற்பார்வையாளர் (Supervisor) கற்பித்தல்வேண்டும்.

5. கட்டுப்பாடு

எட்டுப்பாடு

5. (1) தமாஷ் செய்தல், போட்டிபோடுதல், பரிகசித்தல் ஆகிய விளையாட்டுகளுக்கும், முட்டாள் துணிச்சல்களுக்கும் ஒருவரும் இடங்கொடுக்கக்கூடாது. வேலைக்கருவிகளைக் கையில் வைத்துக்கொண்டு விவாதித்தலை முற்றிலும் தவிர்க்கவேண்டும்.

புகை பிடித்தலும், பற்றி எரியக்கூடிய திரவ பதார்த்தங்களின் அருகில் தீயைக் கொண்டுபோதலும்

5. (2) ஆவியாய் மாறுகின்ற பற்றி எரியக்கூடிய திரவ பதார்த்தங்களுக்கு அருகிலும், எண்ணெய்கள் உள்ள சாதனங்களைத் திறக்கும்பொழுதும் வேலையாட்கள் புகை பிடிக்கவோ அல்லது எரியும் சுவாலையைக் கொண்டுபோகவோ கூடாது. மின்கல அடுக்கு (Battery) உள்ள அறையில் திறந்த கூடர்களைக் கொண்டு வரக்கூடாது. உந்தூர்தியிலோ அல்லது அதற்கு அருகிலோ நெருப்புக் குச்சிகளைப் பற்றவைத்தல் கூடாது.

முதலுதவி விதிகள் அடங்கிய புத்தகம் முதலியவற்றை எடுப்பான இடத்தில் வைத்தல்

6. முதலுதவி, செயற்கை உயிர்ப்பு முறை, தீயணைத்தல் ஆகியவற்றின் விதிகள் அடங்கிய புத்தகத்தின் பிரதி ஒன்று ஒவ்வொரு மின் நிலையத்திலும், உப மின் நிலையத்திலும் எடுப்பான ஓர் இடத்தில் வைத்திருக்கவேண்டும். முக்கியமான 'செய் விதிகளை'யும், 'செய்யா விதிகளை'யும் அறிவிக்கும் சேம விளம்பரத்தாள்

பொது விதிகளும் அடிப்படைக் கொள்கைகளும்

3

ஒன்றை எல்லா மின் நிலையங்களிலும், உப மின் நிலையங்களிலும் அனைவருக்கும் தெரியும்படி வைத்தல்வேண்டும். (பிற் சேர்க்கை II பார்க்கவும்.)

விதிகளை மாற்றுதல்

7. சில குறிப்பிட்ட சேம விதிகளைச் செயல்படுத்தும்போது, வேலைகளின் முன்னேற்றம் தடைபட்டுத் தாமதங்கள் ஏற்படலாம். அச் சமயங்களில் வேலைப்பொறுப்பேற்றவர் மேற்பார்வையாளரின் (Supervisor) சம்மதத்தின்பேரில் விபத்து நேரிடக்கூடிய சந்தர்ப்பங்களை அதிகப்படுத்தாமல் விதிகளைத் தக்கவாறு சிறிது மாற்றிக் கொள்ளலாம்.

பயிற்சி பெறாத வேலையாட்களும் பார்வையாளரும்

8. பயிற்சிபெறாத வேலையாட்களும், பார்வையிட வந்தவர் களும் மின் இயக்கமுள்ள பாகங்களை நெருங்கவிடலாகாது; நெருங்குவதானால் தகுதியுள்ள வேலையாள் ஒருவர் உடன் செல்லுதல்வேண்டும்; அவர் மின் இயக்கமுள்ள பாகங்களை நெருங்குவதால் உள்ள அபாயத்தை அவர்கட்கு எடுத்துச் சொல்லி எச்சரித்தல்வேண்டும்.

இயக்குவோருக்குப் படங்கள்

9. மின் சாதனங்களும் பாதைகளும் நிறுவப்பட்ட முறைகளையும் இடங்களையும் குறிக்கும் படங்களையோ அல்லது மற்ற உபகரணங்களையோ மின் நிலையங்களில் இயக்குவோர் (operators) கண்ணுக்குத் தெரியும்படி வைக்கவேண்டும்; அல்லது அவை கோப்புக் கட்டிலாவது (file) இருக்கவேண்டும்.

எச்சரிக்கைக் குறிகள்

10. வேலை செய்வோர் கவனத்தைக் கவரவும், வேலையில் ஈடுபடாத மற்றவர்களை எச்சரிக்கவும், எச்சரிக்கை அறிவிப்பு களையும், அபாயக் குறிகளையும் எடுப்பான இடங்களில் அமைக்க வேண்டும்.

அனுபவமில்லாத அல்லது தகுதியற்ற வேலையாட்கள்

11. மின் இயக்கமுள்ள சாதனங்களில் அல்லது மின்பாதைகளில் எந்த வேலையைச் செய்வதானாலும் அதற்கு வேண்டிய தகுதியும் அதிகாரமும் இன்றி ஒருவரும் வேலை செய்யக்கூடாது. வேலை செய்பவர் எவருக்காவது தமக்குக் கொடுக்கப்பட்ட

வேலையைப்பற்றிச் சந்தேகம் இருக்குமாயின், அதுபற்றிக் கேட்டுத் தெரிந்துகொள்ளவேண்டும்.

பின்னிக் கிடக்கும் அல்லது கீழே விழுந்த மின்கம்பிகள்

12. பின்னிக் கிடக்கும் அல்லது கீழே கிடக்கும் மின்கம்பிகளை ஒரு வேலையாள் பார்த்தால், அவர் அவ்விடத்தில் காவல் இருந்தோ அல்லது மற்ற முறைகளாலோ விபத்து நேரிடாமற் பாதுகாத்தல் வேண்டும்; பின்னர் சேம விதிகளைப் பின்பற்றிப் பழுதுபார்க்க வேண்டும்; அல்லது சம்பந்தப்பட்டவர்களுக்குப் பழுதுபார்க்கும்படி சொல்லி அனுப்பவேண்டும்.

பாதுகாப்புக் கருவிகளையும் சாதனங்களையும் சோதித்தல்

13. மேற்பார்வையாளர் (Supervisor) தம் மேற்பார்வையிலுள்ள வேலையாட்கள் உபயோகிக்கும் எல்லாப் பாதுகாப்புக் கருவிகளையும், சாதனங்களையும் குறிப்பிட்ட காலங்களில் சோதித்து, அவை நன்கு பேணப்பட்டு நல்ல நிலையில் உள்ளனவா என்பதைக் கவனித்தல்வேண்டும். சோதனை செய்யும் மேல் உத்தியோகஸ்தர்களும் எல்லாப் பாதுகாப்புக் கருவிகளையும் சாதனங்களையும் பழுதின்றி நன்றாகப் பேணப்பட்டு, நல்ல நிலையில் இருக்கச் செய்து, இயக்குவோரது அல்லது வேலை செய்வோரது சேமத்தை உறுதிப்படுத்தல்வேண்டும்.

b) Write explanatory notes on safety belt?

4. சேமக்கச்சைகள்

பளு இடுமுன் சோதித்தல்

4. (1) ஒரு வேலையாள், தனது உடம்பின் பளுவைச் சேமக் கச்சை (safety belt) தாங்கும்படி செய்யுமுன், அக் கச்சையின் இணைப்புச் சாதனங்கள் சரியாகப் பொருத்தப்பட்டனவா எனக் கவனித்து, அக் கச்சையில் தான் சேமமாக உள்ளதை உறுதி செய்து கொள்ள வேண்டும்.

சோதித்தல்

4. (2) கச்சைகளின் தோலின் நிலை, துளைகளின் அருகில் உள்ள தோலின் நிலை, தைப்பு ஆணிகள் (rivets), தையல்கள், பிடிப்புகள் (buckles) வளையங்கள் முதலியவற்றைக் குறித்த கால இடைகளில் கவனத்துடன் சோதிக்கவேண்டும்.

எண்ணெய்கொண்டு பதனிடுதல்

4. (3) ஆமணக்கு எண்ணெய் (castor oil) போன்ற தகுந்த ஊடுருவிச் செல்லக்கூடிய எண்ணெய் ஒன்றைக்கொண்டு பாதுகாப்புக் கச்சைகளின் தோல்களைப் பதனிட்டு, அவற்றை வளையும்படி வைத்திருக்கவேண்டும்.

சேமித்துவைத்தல்

4. (4) கருவிகள் பட்டு வெட்டுப்படாமலும், அரங்கள் பட்டுத் தேயாமலும், பளுவான மின்பாதைப் பொருள்களின் (line materials) கீழ் அகப்படாமலும் இருக்கவும் பாதுகாக்கவும் திருப்தி யளிக்கக்கூடிய முறையில் தகுந்த அறைகளில் கச்சைகளைச் சேமித்து வைக்கவேண்டும்.

சேமக்கச்சைகளைக் கவனித்தல்

4. (5) (அ) ஒவ்வொரு நாளும் கச்சையை உபயோகிக்குமுன், அதில் ஒரு குற்றமும் இல்லை என்பதை உறுதிப்படுத்திக்கொள்ள வேண்டும்.

(ஆ) ஒரு கச்சை தற்செயலாக வெட்டுப்படின, அதனை உடனே கழித்துவிட வேண்டும்.

(இ) ஒரு தோற்கச்சையை அல்லது வாரைக் குத்தித் துளை செய்யக்கூடாது. அதிகப்படியான துளைகள் வேண்டியிருந்தால்,

ஒரு சரியான துளையிடும் கருவியைக் (punch) கொண்டு துளையிட வேண்டும். எந்த இரு துளைகளுக்கும் இடைவெளி ஓர் அங்குலத் துக்குக் குறைந்திருக்கக்கூடாது.

(ஈ) மழையில் வேலை செய்திருந்தால் வேலை முடிந்ததும், ஒரு தூய துணையைக்கொண்டு கச்சையைத் துடைத்து அறைக்குள் உலரவைக்க வேண்டும்.

(உ) சேமக் கச்சைகளை, நீராவிச் சுருள்களிலிருந்து (steam coils) அல்லது வெப்ப வெளியேற்றிகளிலிருந்து (radiators) வரும் வெப்பம் படும்படி வைக்கக்கூடாது. ஊது சுவாலைகள் (blow torches), உலைகள் அல்லது மற்ற வெப்பச் சாதனங்களின் வெப்ப எல்லைக்கு வெளியே சேமக்கச்சைகளை வைக்கவேண்டும்.

(ஊ) கச்சைகளை மேலே உயரத்திலிருந்து தரையில் விழும்படி நழுவிடவோ எறியவோ கூடாது.

c) What are the precautions to be observed in execution of work of lines?

4. மேல்நிலை மின்பாதைகளும் புதைவடங்களும் (Over Head Lines And Under Ground Cables)

அ. மின்பாதைகளில் பேணும் தொழில்கள்

தனிப்படுத்துதல், மின்வலியை வெளியேற்றல், நிலத்துடன் இணைத்தல்

1. பின்வருமாறு மின்வலியை வெளியேற்றி (discharge) நிலத்துடன் இணைத்தன்றி, மின் கம்பங்களிலோ, இணைப்புத் தண்டுகளிலோ (bus bars). அல்லது கடத்திகளிலோ ஒருவரும் வேலை செய்யக்கூடாது.

1. (1) எந்த மின்சுற்றில் அல்லது கடத்தியில் வேலை செய்ய வேண்டுமோ அதன் திறப்பானைத் திறந்தோ (switching off), இணைப்புக் கோல்களைத் (links) திறந்தோ அல்லது மின் எரியிழைகளை (fuses) அகற்றியோ அதில் மின் அழுத்தம் இல்லாமல் செய்ய வேண்டும். பிறகு திறப்பான், இணைப்புக் கோல் ஆகியவற்றைத் திறந்த நிலையில் பூட்டவேண்டும். தபால் நிலையச் சிவப்பு வர்ணத்தில் 'முடாதே—ஆட்கள் பாதையில்' என்று எழுதப்பட்ட அபாய அறிவிப்புப் பலகையைத் திறப்பான் அல்லது இணைப்புக் கோலின் கீழே நன்றாகப் பொருத்துதல் வேண்டும்.

காற்று முறிவுத் திறப்பான் (air break switch), இணைப்புக் கோல் ஆகியவற்றைத் திறக்கும்போதும், எரியிழைகளை அகற்றும் போதும் ரப்பர் கையுறைகளையோ (gloves) அல்லது நீண்ட கையுறைகளையோ (gauntlets) உபயோகித்தல் வேண்டும்.

1. (2) மின் இயக்கமில்லாமற் செய்தபின்னும், மின்பாதைகளில் வேலைசெய்யத் தொடங்கு முன்னும், ஒவ்வொரு மின் கடத்தியிலும் மின்னழுத்தம் இல்லை என அறிய, அதை ஒரு மின் அகற்றுங்கோல் (discharge rod) கொண்டு பரிசோதனை செய்தல் வேண்டும். மின் அகற்றும் கடத்திகள் (discharge wires) உடலுக்கு இரண்டு அடி தூரத்திலாவது இருக்கும்படி வைத்தல் வேண்டும். இம் முற்காப்புச் செயல், வேலைசெய்ய இருக்கும் மின்பாதைதான் தனிப்படுத்தப்பட்டதென உறுதியாக அறிய அவசியம். மின் அகற்றும்போது (discharging) இரு கைகளிலும் ரப்பர் கையுறைகளையோ அல்லது அத்னிணும் உசிதமாக நீண்ட கையுறைகளையோ அணியவேண்டும். ஏழாவது பிற்சேர்க்கையில் ஒரு மாதிரி நில இணைப்பின் அமைப்பும் (earthing arrangement), அதுபற்றிய விரிவான போதனைகளும் கொடுக்கப்பட்டுள்ளன.

1. (3) பிறகு, எல்லாக் கடத்திகளையும் குறுக்குச்சுற்று செய்து (short circuit), போதுமானபடி நிலத்துடன் இணைத்தல் வேண்டும். நில இணைப்பை வேலைசெய்யும் இடத்துக்கு இருபுறமும் செய்ய வேண்டும். இதைச் செய்யும்போதும், ரப்பர் கையுறைகளையோ அல்லது நீண்ட கையுறைகளையோ அணியவேண்டும். வேலைசெய்ய வேண்டிய கம்பங்களையும், ஏழாவது பிற்சேர்க்கையிலுள்ள சித்திரப்படி நிலத்துடன் இணைத்தல் வேண்டும்.

1. (4) இரு பக்கத்திலும் நிலத்துடன் இணைக்கப்பட்டு வேலை செய்யப்படும் கடத்திப் பிரிவு, ஒரு மைல் நீளத்துக்கு மேற்படக் கூடாது.

வேலை செய்யப்படும் கம்பத்தில் பல மின்பாதைகள் சந்தித்தால் அல்லது குறுக்கிட்டுச் சென்றால், அப் பாதைகள் எல்லாவற்றையும் முன் கூறியபடி நிலத்துடன் இணைத்தல்வேண்டும். மற்றப் பாதைகளில் மின் இயக்கமுள்ளபோது ஒரு பாதையில்மாத்திரம் வேலை செய்யக்கூடும் எனில், அதை அனுமதித்தாளில் குறிப்பிட்டிருந்தால், மற்றப் பாதைகளை நிலத்துடன் இணைக்க வேண்டுவதில்லை. அப்போது முதல் அதிகாரம் 17 (15)ஆம் பிரிவில் குறித்த சேம தூரங்கள் இருக்கின்றன என்பதை உறுதிப்படுத்திக்கொள்ள வேண்டும்.

1. (5) பின்னூட்டு (back feed) நேரிடாது என்பதையும் உறுதிப்படுத்துதல் வேண்டும்.

2. கம்பம், கட்டடம், கோபுரம், மின்பாதை ஆகியவற்றில் வேலை செய்யும்போது, சேமக் கச்சைகளை அணிதல் வேண்டும்.

d) Write short notes on first aid for an electrical shock?

6. மின் அதிர்ச்சிக்குச் சிகிச்சையும் முதலுதவியும் (Shock Treatment and First Aid)

மின் அதிர்ச்சி விபத்துகள்

1. விபத்துகள் மின் அதிர்ச்சியால் (electric shock) ஏற்பட்டன எனச் சந்தேகம் இருப்பின், பின்வரும் முறையை மேற்கொள் :

(அ) எவ்வளவு விரைவில் மின் இயக்கமில்லாதபடி செய்ய முடியுமோ அவ்வளவு விரைவில் செய். இதைச் செய்ய அதிக நேரமாகும் எனில், விபத்துக்குட்பட்டவரை அப்புறப்படுத்து.

(ஆ) மர நாற்காலி, ரப்பர்ப் பாய், தென்னைநார்ப் பாய் போன்ற உலர்ந்த கடத்தாப் பொருளின்மேல் நின்றுகொண்டு, உலர்ந்த தோல், கயிறு, துணி, காகிதம் அல்லது மற்றக் கடத்தாப் பொருளைக்கொண்டு, மின் இயங்கும் பாகத்திலிருந்து விபத்துக்குட்பட்டவரைப் பிரி. பிரிப்பதற்கு எக் காரணங்கொண்டும் வெறுங்கைகளை உபயோகித்தல் கூடாது.

(இ) விபத்து உயர்மின் அழுத்தப் பாதைகளில் அல்லது சாதனங்களில் ஏற்பட்டிருந்தால், தனிப்பட்ட கவனத்தைச் செலுத்துதல் வேண்டும்.

(ஈ) மிகவும் அருகிலுள்ள மருத்துவருக்கு (doctor) ஆள் அனுப்பு. மின் நிலையத்துக்கு அருகிலுள்ள மருத்துவர்களது பெயர், முகவரி, தொலைபேசி எண் ஆகியவற்றையும், எளிதில் எய்தக்கூடிய மருத்துவமனைகளின் (hospitals) பெயர், இருக்குமிடம், தொலைபேசி எண் ஆகியவற்றையும் குறித்துவைத்திருத்தல் வேண்டும்.

(உ) பாதிக்கப்பட்டவருக்கு வெளித்தோற்றத்தில் உயிர்ப்பு இல்லை எனில், தாமதியாமல் உடனே செயற்கை உயிர்ப்பு (artificial respiration) அளிக்கத் தொடங்கு. தாமதிக்கும் ஒவ்வொரு விநாடியும் கேடு விளைவிக்கும்.

(ஊ) புகையிலை, செயற்கைப் பற்கள், மெல்லும் சவ்வுப் பண்டம் (chewing gum) போன்ற அந்நியப் பொருள்கள் பாதிக்கப்பட்டவரின் வாயிலோ தொண்டையிலோ இருப்பின், அவற்றைக் கவனத்துடன் அப்புறப்படுத்து.

e) What are the tools to be used for earthing of overhead lines?

மேல்நிலை மின் பாதைகளை நிலத்தோடு இணைக்க உபயோகிக்கும் கருவித்தொகுதிப் பையில் (Kit) பின்வருவன அடங்கியிருத்தல் வேண்டும்

- (1) இரு மின்னகற்றுங் கோல்கள் (discharge rods—விளக்கப் படம் 3). இவை சுமார் 28 கம்பி அளவுத் தரமுள்ள (S.W.G.) தாமிர இழைகளால் ஆகியதும் $\frac{1}{2}$ அங்குல விட்டமும் 30 அடி நீளமும் உள்ள வளையுங் கடத்தியைக் (flexible wire) கொண்டவையாக இருத்தல் வேண்டும்.
- (2) ஆறு நிலஇணைப்புக் கோல்கள் (earthing rods—விளக்கப் படம் 5).
- (3) ஆறு நில இணைப்புப் பிடிப்புக் கருவிகள் (earthing clamps) இரண்டாம் படத்தில் குறித்தவாறு மூன்று; நான்காம் படத்தில் குறித்தவாறு மூன்று.
- (4) இரண்டு நில இணைப்புக் குழாய்கள். இவை குறுக்குச் செருகாணி (bolt), திருகுமரை (nut), செருகாணியில் இடும் துத்தநாகம் பூசிய வளையங்கள் (galvanised washers), தேவையான நீளமுள்ள வளையும் கடத்தி முதலியன எல்லாம் உட்பட.
- (5) இரண்டு சோடி ரப்பர்க் கையுறைகள் (gloves) அல்லது கைக் கவசங்கள் (gauntlets).
- (6) இரண்டு சோடி மின்பாதையாளர் சேமக் கச்சைகள்.
- (7) மூன்று சோடி $\frac{1}{2}$ அங்குல விட்டமும் 30 அடி நீளமுமுள்ள தாமிர இழைகளாலாகிய வளையும் கடத்திகொண்ட நில இணைப்புப் பற்றுக்கருவிகள் (earthing clips—விளக்கப்படம் 7).
- (8) இரு 7 பவுண்டு பளுவுள்ள சம்மட்டிகள்.
- (9) இரு தகுந்த மரை திருகும் கருவிகள் (spanners),
- (10) இரு $\frac{1}{2}$ அங்குல விட்டமும் 10 அடி நீளமும் உள்ள மணிலாக் கயிற்றுத் துண்டுகள்.

6. a) How to assess the quantum of energy in case of theft of energy?
[Form 8 [See Regulation 23 (AA) (7)]

FORMULA TO ASSESS THE QUANTUM OF ENERGY IN CASE OF THEFT OF ELECTRICITY

The following factors are to be considered to arrive at a formula for the assessment of quantum of energy in case of theft of electricity.

- (i) Nature of Service
- (ii) Connected load / Contracted demand
- (iii) Load factor
- (iv) Nature of feeder (Rural / Urban / Industrial) and supply restrictions in the feeder
- (iv) Per day usage hours for which assessment has to be made.

The authorized officer may take into account the following and arrive at the least period (duration) of theft:

- (i) for the period of twelve months
- (ii) for the period from the date of prior inspection if any by the Enforcement or meter testing wing to the date of detection
- (iii) from the date of service connection to the date of detection
- (iv) wherever electronic meters are installed and the load curves are studied periodically the period of theft could be limited to the exact period as could be determined scientifically.
- (v) Based on the document produced by the accused person.
- (vi) For any other reasonable period as assessed by the authorized officer to the best of his judgment

$$U = \frac{L \times LF \times H \times D}{DF}$$

Where

U = Quantum of energy Assessed in Units

L = Load / demand in KW

LF = Load factor

H = Number of hours the load is considered to be used in a day

D = Duration of assessment in days

DF = Diversity Factor

b) Write about the option to pay charges in advance and about the interest to be credited into the consumer account?

16. OPTION TO PAY CHARGES IN ADVANCE

The consumers who opt for depositing electricity charges in advance shall be permitted to do so. Such deposits shall be recorded in the consumer meter card.

TNERC's notification no. SC/7-28 dt 5.9.2011

Interest at bank rate or such rate as specified by the commission shall be calculated on such balance advance amount and credited to the consumer ledger accounts

c) How to arrive the average losses in transformer for HT consumer whose metering is done on LT side?

(7) Where metering of the High Tension service connection is on the Low Tension side i.e. on the secondary side of the Transformer :

(i) The average losses in the transformer shall be calculated as follows and added to the energy consumption indicated by the meter ::

$$\text{Average loss} = \frac{720 \times 1.0 \times C}{100} \text{ Units per month}$$

where C = KVA rating of the transformer

(ii) The transformer loss arrived at by the above formula shall be added to the energy consumption, even when

the recorded energy consumption is nil.

(iii) 1% of the transformer capacity for transformer above 63 KVA. will be added to the recorded maximum demand

on the Low Tension side to arrive at the equivalent High Tension demand

d) How to deal with the problem of inaccessibility of meter for reading?

10. Inaccessibility of meter for reading.

(1) When a Low Tension consumer leaves his installation connected to the Licensee's mains but makes it inaccessible for reading by the employees of the Licensee, the consumer shall, for the first occasion of such inaccessibility, be charged provisionally on the basis of the amount charged on the previous assessment. The employee of the Licensee will leave an assessment slip in the premises, wherever possible.

(2) If, on the next occasion, the meter is accessible for reading, the consumer will be charged for the actual consumption less the amount already charged, subject to the minimum monthly charges for both the periods. If, on the other hand, the meter remains inaccessible on the second occasion also, the consumer will be served with a 3[48 hours notice] to open his

premises at a fixed time and date to enable an employee of the Licensee to read the meter. If the meter is now made accessible for reading, the consumer will be charged the actual consumption less the provisional amount charged and paid for the first period of inaccessibility subject to the minimum monthly charges for both the periods. If the meter remains inaccessible even after the 3[48 hours notice], the supply to the premises will be disconnected and for that period also provisional amount as in the case of previous occasion will be charged.

(3) If the meter is made accessible, subsequent to the disconnection, for purpose of reading the meter and settling accounts or for reconnection of the service as the case may be, the consumer will be charged the actual consumption subject to the minimum monthly charges payable for both periods less the two provisional amounts levied and paid for the two periods of inaccessibility. Reconnection

charges, if any, shall also be levied. Any excess amount collected will be adjusted in future current consumption charges.

(4) When a High Tension consumer leaves his installation connected to the Licensee's mains but makes the meter inaccessible for reading by the employees of the Licensee, the employees of the Licensee will serve the consumer with a 1[48 hours notice] to open his premises for reading of the meter at a fixed time. If the meter is now made available for reading, the readings will be taken. If the meter remains inaccessible even after the 1[48 hours notice], the supply to the premises will be disconnected and the consumer will be charged provisionally on the basis of the amount charged for the previous month. If the meter is made accessible subsequent to the disconnection, the consumer will be charged the actual consumption less the provisional amount charged subject to minimum monthly charges. All reconnections shall attract reconnection charges over and above the other charges as are applicable.

(5) Serving of notices to the consumers with regard to the provisions under the sections above, can be executed by pasting the same at a conspicuous place at the premises.

e) What are the procedures to be followed for restoration of supply?

22. Restoration of supply of electricity

(1) The Licensee shall restore the supply to the service immediately and in any case not exceeding twelve hours

1[in the case of urban areas and twenty four hours in the case of rural areas] on recovery of electricity charges or such other sums together with any expenses incurred by the Licensees in cutting off and re-connecting the supply.

(2) In the case of a service connection remaining disconnected for six months or more the consumer's installation will be tested, revised test report obtained and the testing charges collected from the consumer before the same is restored.

2[Such revised test report shall be signed by the consumer or legal owner or legal occupant of the premises].

(3) To restore supply to a High Tension service connection which remains disconnected for one year or more, approval of the competent authority with regard to safety and security of the installation shall be obtained.

(4) In the case of service connections, which have been disconnected, the Licensee shall have the power to allow installment payments of all arrears in deserving cases.

(5) The Licensee shall restore the disconnected service before issue of termination of Agreement Notice and also during the notice period for termination of agreement on recovery of total arrears due till the date of restoration.

3[(6) (i) When a service connection remains disconnected for non payment of electricity charges beyond the notice period of three months, if the consumer comes forward within the period mentioned below to pay the actual dues and agrees to remit the charges in clause (ii) below, the official authorized by the Licensee may grant extension of time beyond the notice period and revoke the termination of agreement provided that the lines feeding the service connection have not been dismantled, so as to facilitate reconnection of the disconnected service.

Category	Period for reconnection of disconnected service
HT consumers	Within five years from the date of Disconnection
LT Agricultural consumers	-do
Other LT consumers	Within two years from the date of Disconnection

(ii) In accordance with sub-regulation (4), the authorized Officer of the Licensee may permit such consumer to pay the outstanding in instalments and to avail reconnection on receipt of 40% of the total arrears outstanding after closing of account due to the licensee, which include.

- (a) Arrears on the date of disconnection
- (b) (b) Tariff minimum and meter rent for the period of six months from the date of disconnection (including the notice
- (c) period)
- (d) (c) The applicable BPSC / interest upto the date of payment.
- (e) (d) The balance 60% of the amount shall be collected in ten monthly instalments.
- (f) (e) In addition to the above, the full amount of Security Deposit adjusted while closing of account shall be collected
- (g) in one lumpsum before effecting new service connection.

7. a) What are the norms to be followed for effecting supply for storied building having a total floor area of 900 sq mtrs. and above?

(11) In storied building sufficient space at a suitable place shall be made available free of cost to the Licensee for installing transformers, switchgears etc., in addition to the space requirements stated below:

(12) ¹[For any building / premises requiring LT service connection(s) having either (a) total floor area of 900 square meter and above (excluding the stilt floor / basement floor) or (b) the total demand of all the LT services in the building exceeds 150 kW],

(i) (a) an electrical room with RCC roof having clear floor area 6 metres x 4 metres with a vertical clearance of 2.75 metres with locking facility, exhaust fans and adequate size of cable duct, shall be provided at the ground floor within the consumer premises of storied buildings nearer to the main entrance for installing floor mounted distribution transformer and associated switchgear or

(b) a clear space of ²[10 metre x 4 metre or 5 metre x 5 metre] open to the sky shall be provided within the consumer premises preferably at the main entrance for installing structure mounted distribution transformer and associated switchgears, and

³[(ii) Space as per the following norms shall be allotted for establishment of a sub station / switching station in places of group housing / commercial complex where the total demand exceeds 5 MVA. These areas shall be specifically shown in the plan.

b) List down the requirements to be met out by the consumer for shifting of service connection?

37. SHIFTING OF SERVICE CONNECTION : The cost of shifting a new service connection for which line is laid but service connection is yet to be effected shall be borne by the intending consumer. The intending consumer shall pay the above charges in advance in full. The shifting work will be taken up only after the payment is made. The estimate will cover the following: -

- (a) Charges for dismantling at the old site.
- (b) Charges for transport from the old site to the new site.
- (c) Charges for re-erection at the new site.
- [(d) Depreciated value of retrievable materials, if any, not used at the site should be credited to the consumer.
- (e) Cost of new materials including transport, if required
- (f) Cost of irretrievable materials at depreciated value.]
- (g) Overhead charges.

[With regard to shifting of existing service connection, the consumer shall pay all the arrears due to the Licensee, apart from the above shifting charges.]

c) What are the duties of distribution licensee?

(4) Distribution Licensees:

The duties of the Distribution Licensee are-

- i. To develop and maintain an efficient coordinated and economical distribution system in his/her area of supply and to supply electricity in accordance with the provisions contained in the Act.
- ii. To implement the code with respect to the requirements from the consumers and oversee for prudent practices and code discipline.
- iii. To facilitate review and recommend to the Commission amendments to the code without prejudice to the provisions in clause 51 of this code.
- iv. To ensure that the consumer installations comply with the requirements of the code at the time of effecting service connection.
- v. To take measures for resolution of issues arising due to non-compliance of operational / commercial / technical regulations of the code by the various sections of consumers in their jurisdiction.
- vi. To allow the Distribution lines to be used as common carrier as and when the Commission introduce non-discriminatory open access to any of the consumer in his/her area to get supply from other Licensees / Generating Companies outside his/her area.

d) Describe about the Distribution System Planning?

Chapter 3 : Distribution System Planning

4. Distribution System Planning

(1) The main Objectives for the distribution system planning are to ,-

- a. plan, design and develop the distribution system so that it may be operated in an economical, safe and reliable manner conforming to the relevant Act and rules there under,
- b. specify technical conditions, which enable the licensee and consumers to meet set standards for efficient operation of the electrical interface between them
- c. [define the procedure for the exchange of data on system planning between the Licensee and consumers of the distribution system.]
- d. provide sufficient information for a consumer to access opportunities for connection.
- e. establish methods through which the Licensee shall coordinate with the STU, which includes furnishing of data required by the Commission/ or the Authority.

(2) These guidelines of planning cover the individual sub-stations, system planning, analysis and the techno economical

aspects in the field of Distribution systems. It applies to all the consumers already connected or awaiting or seeking connection to the distribution system, Distribution Licensees and State Transmission Utility (STU), wherever it is applicable.

e) How to report accident as per the Act?

18. Accident Reporting: Notice of accidents and inquiries as set out in section 161 of the Act reads as:

(1) If any accident occurs in connection with the generation, transmission, distribution, supply or use of electricity in or in connection with, any part of the electric lines or electrical plant of any person and the accident results or is likely to have resulted in loss of human or animal life or in any injury to a human being or an animal, such person shall give notice of the occurrence and of any such loss or injury actually caused by the accident, in such form and within such time as may be prescribed, to the Electrical Inspector or such other person as aforesaid and to such other authorities as the Appropriate Government may by general or special order, direct.

(2) The Appropriate Government may, if it thinks fit, require any Electrical Inspector, or any other person appointed by it in this behalf, to inquire and report

(a) As to the cause of any accident affecting the safety of the public, which may have been occasioned by or in connection with, the generation, transmission, distribution, supply or use of electricity, or

(b) As to the manner in, and extent to, which the provisions of this Act or rules and regulations made hereunder or of any licence, so far as those provisions affect the safety of any person, have been complied with.

(3) Every Electrical Inspector or other person holding an inquiry under sub-section (2) shall have all the powers of a civil court under the Code of Civil Procedure, 1908 (5 Of 1908) for the purpose of enforcing the attendance of witnesses and compelling the production of documents and material objects, and every person required by an Electrical Inspector be legally bound to do so within the meaning of section 176 of the Indian Penal Code (45 of 1860).

8. a) What are the duties of licensee to supply on request?

4. Duties of the Licensees to Supply on Request

Section 43 of the Act deals with duty to supply and read as below:

"43. (1) Every distribution licensee, shall, on an application by the owner or occupier of any premises, give supply of electricity to such premises, within one month after receipt of the application requiring such supply:

Provided that where such supply requires extension of distribution mains, or commissioning of new sub-stations, the distribution licensee shall supply the electricity to such premises immediately after such extension or commissioning or within such period as may be specified by the Appropriate Commission.

Provided further that in case of a village or hamlet or area wherein no provision for supply of electricity exists, the Appropriate Commission may extend the said period as it may consider necessary for electrification of such village or hamlet or area.

(2) It shall be the duty of every distribution licensee to provide, if required, electric plant or electric line for giving electric supply to the premises specified in sub-section (1):

Provided that no person shall be entitled to demand, or to continue to receive, from a licensee a supply of electricity for any premises having a separate supply unless he has agreed with the licensee to pay to him such price as determined by the Appropriate Commission.

(3) If a distribution licensee fails to supply the electricity within the period specified in sub-section (1), he shall be liable to a penalty which may extend to one thousand rupees for each day of default."

The Licensees shall endeavor to give supply within a week but not exceeding 30 days wherever no extension or improvement works are involved in giving supply.

b) Write down the procedure to be followed in interruption and restoration of supply?

12. Interruptions and Restoration of Supply

(I). The Licensee may, for reasons of testing or forced outage or maintenance, temporarily discontinue the supply for such period as may be necessary, provided that in case of planned shut down for improvement / periodical maintenance of distribution network, the Licensee will, wherever possible give advance notice in this behalf and notify through local newspapers in advance.

(II) In case of interruptions to individual or a group of consumers due to breakdown, the Licensee shall restore supply as per the time schedule furnished below:

Table

Interruption Due To (1)	Power Restoration Time			
	Corporation	Urban Municipalities	Rural	Hill Area
	(2)			
HT Supply failure	1 hour	3 hours	6 hours	12 hours
Fault in Transformer Structure or LT Line or Pillar Box	2 hours	4 hours	6 hours	12 hours
Fault of Distribution Transformer	24 hours	48 hours	48 hours	48 hours
Individual Service Connection fault	3 hours	9 hours	12 hours	24 hours

Failure / Interruption in Corporation limits and certain special areas declared by the Commission from time to time shall be attended to round the clock within the time limit specified for urban areas. Complaints of failure/ interruption at consumer premises in rural areas and urban areas other than

corporation limits shall be attended to between 8.00 AM and 6.00 PM. Individual complaints of consumers received during night hours i.e., from 6.00 PM to 8.00 AM shall be considered to have been received at the start of working hours on the next day and attended to within the time limit as specified above. The restoration time specified in respect of individual service connection faults in rural areas shall exclude the time period of 6.00 PM to 8.00 AM. However the complaints from essential services like Water supply, Hospitals, and other important Govt. services shall be attended to immediately, round the clock

(III) In case of interruptions, it is the responsibility of the affected consumer to inform the same to the Licensee's local office or nearest fuse off call center by Telephone / written communication in person, etc.

c) Write notes on handling of consumer complaint?

20. Handling of Complaints on Non-compliance

The Licensee is required to maintain standards of performance for supply of Electricity to all consumers in a manner prescribed. The time limit prescribed in these standards refer to the maximum time required to be taken to perform different activities of consumer service. It shall be the endeavour of the Licensee to provide best possible service well within time limits specified in these regulations.

- (i) The Licensee shall register every complaint made by a consumer whether orally or in writing regarding failure/meter board /service lines, payment of bills and other services relating to supply of power, in the registers exclusively maintained under the following categories:
 - Supply related complaints register
 - Meter related complaints register
 - Billing and payment related complaints register

- (ii) A unique number shall be allotted to each complaint and conveyed to the consumer. In case of complaints which are supply related and restoration of supply, authorized persons of Licensee shall prepare an acknowledgment slip in duplicate after attending to the complaint and get the consumer signature. Where the consumer refuses to sign the acknowledgment slip, the fact shall be recorded and a copy handed over to the consumer. As a measure of precaution and proof of having visited the consumer's service location, the Licensee's employee shall also record the meter reading of the respective service and any one of the adjoining service connection in the acknowledgement slip. The designated officer shall entertain any complaints from the consumer for non-compliance, only if the complaint is accompanied with a copy of acknowledgment slip. The Licensee shall ensure redressal of all complaints promptly

- (iii) Complaints in respect of supply of electricity, its metering, billing and payment thereof, shall be made at the offices specified by the Licensee. The Licensee shall publish through public notices, local News Paper, TV, Radio, printing in the bills and receipts etc., the name of the office(s) its address(s), telephone number where the consumer can lodge complaints. The phone services for recording complaints when outsourced by the Licensee, the phone numbers

of such call centers shall be incorporated in electricity bills and also displayed at the concerned offices of the Licensee.

- (iv) The office where a complaint is registered shall dispose it and if any instruction/ sanction is to be obtained from higher authority, it shall be obtained by the complaint registering office. The higher authority may also directly communicate the decision. The complainant should not be required to approach such higher authority. Similarly in case an outsourced phone service is opted for, the complaint shall be forwarded to the concerned officer by such center itself and the Licensee shall ensure proper compliance by the outsourced service, including posting of its officers at such centers to streamline responses.
- (v) Complaints against non-registration of complaints and failure to perform within the time limits and/or to meet the performance targets, as specified in this regulation, shall be made to the concerned officers of the Licensee. The Licensee shall nominate the officers to whom the consumers can lodge their complaints initially and also the next level higher officer.
- (vi) In case a consumer is not satisfied with the disposal of the complaint even after taking the issue at the higher level, the consumer can approach the consumer grievance redressal forum

d) What is SAIFI and SAIDI?

1[25. Service Reliability

The following reliability/outage indices are prescribed by the Institute of Electrical and Electronics Engineers (IEEE) Standard 1366 of 1998. The Licensee shall compute and report the value of these indices as per the formula and methodology specified below:

- (a) System Average Interruption Frequency Index (SAIFI)
- (b) System Average Interruption Duration Index (SAIDI)

Method to compute Distribution System Reliability Indices:

The Indices shall be computed for the Distribution Licensee as a whole by stacking, for each month, all the 11KV/22KV feeders in the supply area, excluding those serving predominantly agricultural loads, and then aggregating the number and duration of all interruptions in that month for each feeder. The Indices would then be computed using the following formulae:

$$1. SAIFI = \frac{\sum_{i=1}^n (A_i * N_i)}{N_t} \quad \text{Where,}$$

A_i = Total number of sustained interruptions (each longer than 5 minutes) on i th feeder for the month

N_i = Connected load of i th feeder affected due to each interruption

N_t = Total connected load at 11/22 KV in the Distribution Licensee's supply area

n = number of 11/22 KV feeders in the licensed area of supply (excluding those serving predominantly agricultural loads)

$$2. SAIDI = \frac{\sum_{i=1}^n (B_i * N_i)}{N_t} \quad \text{Where,}$$

B_i = Total duration of all sustained interruptions on i th feeder for the month.

Note : The feeders must be segregated into rural and urban and the value of the indices must be reported separately for each month.

(i) The Licensee shall compute the value of these indices separately for feeders serving predominantly agricultural loads. The methodology for computation of indices shall remain the same as in the case of other feeders.

(ii) Based on the information provided by the Licensees, the Commission would notify the target levels for these indices annually.]

e) What are the compensation to be paid by the licensee for deficiency / delay in service?

21. Compensation

The Licensee is expected to achieve the performance prescribed. If a Licensee fails to meet the standards specified for various service areas, the affected consumer is entitled for compensation by the Licensees as stipulated in the Act. ¹[The compensation payable is set out in the table below, namely:-

Table]

S.No.	Events	Compensation payable
1	Duty to give supply on request a) New Service connection b) Additional Load c) Temporary Supply d) Shifting of service connection e) Transfer of service connection f) Change of tariff	Rs.100/- per day of delay subject to maximum of Rs.1000/-
2	Complaints in billing	Rs.150/- for non-reply within the period.
3	Replacement of meters	Rs.100/- for each day of delay subject to a maximum of Rs.1000/-
4	Interruption of supply	Rs.50/- for each six hours (or part thereof) of delay in restoration of supply subject to a maximum of Rs.2000/-
5	Voltage fluctuations and complaints	Rs.250/- for failure to visit or convey findings within the stipulated period
6	Responding to consumer's complaints	Rs.25/- for each day of delay subject to a maximum of Rs.250/-
7	Making and keeping appointments	Rs.50/- for failure of keeping appointment
8	Grievance handling	Rs.50/- for failure of grievance handling
¹ [9]	² [Refund of deposit in respect of temporary supply after the expiry of the temporary supply period and refund of balance deposit within the period as stipulated in regulation 6 of Distribution Standards of Performance Regulations or in the regulation 17 (6) of the Tamil Nadu Electricity Supply Code or in the regulation 33 (5) of the Tamil Nadu Electricity Distribution Code]	³ [Rs.100/- per week or part thereof of delay in addition to the interest at the rate specified by the Commission till the date of refund.]

offence and shall be liable to be proceeded against and punished accordingly:

Provided that nothing contained in this sub-section shall render any such person liable to any punishment if he proves that the offence was committed without his knowledge or that he had exercised all due diligence to prevent the commission of such offence.

(2) Notwithstanding anything contained in sub-section (1), where an offence under this Act has been committed by a company and it is proved that the offence has been committed with the consent or connivance of or is attributable to any neglect on the part of any director, manager, secretary or other officer of the company, such director, manager, secretary or other officer shall also be deemed to be guilty of having committed such offence and shall be liable to be proceeded against and punished accordingly.

Explanation:— For the purpose of this section,—

- (a) “company” means a body corporate and includes a firm or other association of individuals; and
- (b) “director”, in relation to a firm, means a partner in the firm.

150. Abetment:— (1) Whoever abets an offence punishable under this Act, shall, notwithstanding anything contained in the Indian Penal Code (45 of 1860), be punished with the punishment provided for the offence.

(2) Without prejudice to any penalty or fine which may be imposed or prosecution proceeding which may be initiated under this Act or any other law for the time being in force, if any officer or other employee of the Board or the licensee enters into or acquiesces in any agreement to do, abstains from doing, permits, conceals or connives at any act or thing whereby any theft of electricity is committed, he shall be punishable with imprisonment for a term which may extend to three years, or with fine, or with both.

151. Cognizance of offences:— No court shall take cognizance of an offence punishable under this Act except upon a complaint in writing made by Appropriate Government or Appropriate Commission or any of their officer authorized by them or a Chief Electrical Inspector or an Electrical Inspector or licensee or the generating company, as the case may be, for this purpose.