

# COURSE OUTLINE (DISTRIBUTION)

## TECHNICAL STAFF

<b>SW</b>	<b>LM -II &amp; LM-I</b>	<b>02 Days</b>
<b>01. S-100</b>	<b>LS, LM, ALM</b>	<b>01 WEEK</b>
<b>02. T-50</b>	<b>ALM</b>	<b>02 WEEKS</b>
<b>03. T-100</b>	<b>ALM</b>	<b>05 WEEKS</b>
<b>04. T-150</b>	<b>LS</b>	<b>03 WEEKS</b>
<b>05. T-200</b>	<b>ALM</b>	<b>05 WEEKS</b>
<b>06. T-300</b>	<b>LM</b>	<b>07 WEEKS</b>
<b>07. T-500</b>	<b>LS</b>	<b>08 WEEKS</b>
<b>08. T-400</b>	<b>LM-I TO LS-II</b>	<b>06 WEEKS</b>

# SAFETY WORKSHOP

**Participants**  
**Duration**

**Line man II & I**  
**2 Days**

**1. INTRODUCTION TO SAFETY**

**2. WAPDA SAFETY POLICY**

**3. URPOSE OF SAFETY AND ITS BASIC PRINCIPLES**

**4. REASONS OF ACCIDENT AND THEIR PREVENTIONS**

**5. INDIVIDUAL RESPONSIBILITIES**

**6. DUTIES OF LINEMAN**

**7. PERSONAL PROTECTIVE EQUIPMENTS AND ITS USES**

**8. USE OF T&P**

**9. SAFETY MEASURES**

# **S-100** **TECHNICAL COURSE**

## **PARTICIPANTS DURATION**

**FOR LS, LM, ALM  
01 WEEK**

1. Introduction to Safety.
2. General Safety.
3. Principles of First Aid.
4. First Aid for Ailments.
5. Resuscitation and Artificial Respiration.
6. Individual Safety Responsibilities and Penalties.
7. Safety for Technical Supervisor.
8. Safety for Non-Technical Supervisor.
9. Fire Prevention
10. Transportation
11. Safety and Safety Equipment.
12. Fire Prevention and Control.
13. First Aid Skills and Practices.

# **T-50**

## **TECHNICAL COURSE**

### **PARTICIPANTS DURATION**

**ALM PRE-INDUCTION)  
02 WEEKS**

1. Introduction to the WAPDA Distribution Organization and Distribution System.
2. Importance of Training and Over View Role and Function of the Assistant Lineman.
3. Importance of Handling Kinds of Rope Knots and Hitches.
4. Tools (T&P).
5. Material use in Line Construction.
6. Storing and Maintenance of Line.
7. Excavation and Trenches.
8. Uses and Care of Ladder.
9. Patrolling of Lines.
10. Tree Trimming and Cutting.
11. Safety and Safety Equipment.
12. First Aid Skills.

# **T-100**

## **TECHNICAL COURSE**

### **PARTICIPANTS**

### **DURATION**

**ALM TECHNICAL**  
**05 WEEKS**

1. Introduction to Distribution System.
2. Safety, Fire Fighting & First Aid Skills
3. Tools and plants (T&P).
4. Material use in Line Construction.
5. Handling and Storage of Line Material.
6. Excavation and Trenches.
7. Erection of the Pole / Structures.
8. Climbing on Pole / Structure in Emergency.
9. Splicing of Conductor.
10. Distribution Transformer.
11. Installation of Guys, Earth System & Service line.
12. Patrolling of Lines.
13. Tree Trimming and Tree Cutting.

# **T-150**

## **TECHNICAL COURSE**

**PARTICIPANTS**  
**DURATION**  
**WEEKS**

**L.S (PRE-INDUCTION)**  
**03**

1. Introduction to WAPDA Organization.
2. Responsibilities of Line Superintendent.
3. Safety, First Aid Skills and Fire Fighting.
4. Introduction and use of Tools and Plants.
5. Material use in Line Construction.
6. Handling and Storage of Line Material.
7. Erection of Pole / Structure.
8. Selected Distribution System Standards / Specification.
9. Basic Electricity concept and testing measuring Instrument and their uses.
10. Guy and Installation of Guy.
11. Line Configuration and Installation of Conductor.
12. Splicing of Conductor.
13. Installation of Earth System.
14. Installation of Service Line and Energy Meter.
15. Description and protection of Transformer.
16. Voltage Improvement Devices.
17. Location of Faults and Consumer Complaints.

# **T-200** **TECHNICAL COURSE**

## **PARTICIPANTS** **DURATION**

**ASSITANT LINEMAN**  
**05 WEEKS**

1. Over View of the Pole and Function of ALM.
2. Tools (T&P).
3. Use of Hand Tools.
4. Material use in Line Construction.
5. Storing and Maintenance of Line Material.
6. Testing Equipment.
7. Volt Meter, Ammeter and Energy Meter.
8. Climbing of Pole / Structure.
9. Erection of the Pole / Structure.
10. Installation of Guys.
11. Line Configuration and Installation of Conductor.
12. Splicing of Conductor.
13. Installation of Earth System.
14. Service Installation (K.L.T).
15. Installation of Transformer.
16. Installation of Energy Meter.
17. Protection of Transformer.
18. Voltage Improvement Devices Capacitor.
19. Patrolling of Lines.
20. Tree Trimming and Cutting.
21. Location of Faults.

# **T-300**

## **TECHNICAL COURSE**

**PARTICIPANTS**  
**DURATION**

**LINEMAN**  
**07 WEEKS**

1. Introduction to the training program of Distribution Organization and System
2. Over View of the role and Function of the Lineman
3. Safety and Safety Equipment
4. Fire Fighting.
5. First Aid Skills and Practices
6. Tools (T&P)
7. Use and Hand Tools
8. Material use in Line Construction
9. Storing and Maintenance of Line Material
10. Testing Equipments
11. Volt Meter, Ammeter, and Energy Meter
12. Climbing of Pole / Structure
13. Erection of the Pole / Structure
14. Installation of Guys
15. Line Configuration and Installation of Conductor
16. Splicing of Conductor
17. Installation of Earth Systems
18. Service Installation (L.T)
19. Installation of Energy Meter
20. Transformer Description
21. Installation and protection of Transformers
22. Voltage Improvement Devices with capacitors and regulators.
23. Patrolling of Lines
24. Tree Trimming and Cutting
25. Location of Faults

# T-500

## TECHNICAL COURSE

**PARTICIPANTS**  
**DURATION**

**LINE UPERINTENDENT**  
**08 WEEKS**

### CONTENTS

1. Training program and Organization
2. Over view of the role and function of the LSs.
3. Basic Electricity concept and testing / measuring instrument and their uses
4. Selected WAPDA's Distribution System standards / specification
5. Material used in Line Construction
6. Use & care of T&P
7. Handling & Storage of Line Material
8. Distribution system planning
9. Erection of Poles / Structures
10. Guys and Installation of Guys
11. Line Configuration and Installation of Conductor
12. Splicing of Conductor
13. Installation of Earth System
14. Main Factors of Distribution System Operation
15. Transformers and Transformers Sub-Station and protection of T/F
16. Service Installation (L.T)
17. Energy Meter Installation
18. Voltage Improvement Devices Capacitor
19. Voltage Improvement Devices Voltage Regulators
20. Distribution System Maintenance
21. Patrolling of Lines
22. Tree Trimming and Tree Cutting
23. Location of Faults and Consumers Complaints
24. Voltage Drop calculation and power loss and L.T proposal preparation
25. Human Relationship
26. Rules of Management
27. Special Problems of WAPDA Distribution System
28. Distribution System Mapping
29. Documentation of records related to LS

# **COURSE OUTLINE FOR PROMOTION FROM LINEMANGRADE-I TO LINE SUPDPT-II (OPERATION SIDE) - 6 WEEKS**

1. Organizational structure and introduction of Distribution System
2. Role of Line Superintendent and his duties
3. The basic principles of Electricity and measurement
4. The specifications and standards of distribution system
5. The material used in the constructions of lines
6. Instruments and T&P
7. Handling and storage of line material
8. Planning of distribution system
9. Erection of poles /Structures
10. Guys and their installation
11. Construction of line and conductoring
12. Splitting of conductors
13. Installation of Earth System
14. The important requirements of running of distribution system
15. Transformer and its installation
16. Installation of service
17. Installation of Energy Meters, checking and testing
18. Equipment for voltage improvement with Capacitors and voltage regulators
19. Oil Circuit breakers
20. Maintenance of distribution system
21. Patrolling of lines
22. Tree Cutting/Trimming
23. Rectification of line faults
24. Attending consumer's complaints
25. Safety and Safety equipments
26. Fire fighting
- 27- First Aid and its practice
28. Particulars problems of electrical distribution system
29. Mapping of distribution system

# **COURSE OUTLINE (COMMERCIAL COURSES)**

1.	C-50	BILL DISTRIBUTOR	03 DAYS
2.	C-100	BILL DISTRIBUTOR	03 DAYS
3.	C-150	METER READERS	01 WEEK
4.	C-200	METER READERS	01 WEEK
5.	C-250	METER READERS	03 WEEKS
6.	C-300	GENERAL CLERK	03 WEEKS
7.	C-370	COMMERCIAL CLERK	02 WEEKS
8.	C-400	SR.CLERK TO ASSTT	02 WEEKS
9.	C-470	COMMERCIAL (ASSTT TO SUPDT)	03 WEEKS
10.	C-500	LS COMMERCIAL	02 WEEKS
11.	C-500+M-300	MS-II TO MS-I	04 WEEKS
12.	A-400	JR.SUPDT TO SR.SUPDT	3 WEEKS
13.	M-200	LS COMMERCIAL	02 WEEKS
14.	M-300	LS Management Course	02 WEEKS
15.	PROMOTION FROM	MS-I TO MRSS	01 WEEK
16.	PROMOTION FROM	SR. STORE(KEEPER TO SUPERVISOR)	01 WEEK
17.	PROMOTION FROM	JSK TO SSK	01 WEEK
18.	PROMOTION FROM	STORE CLERK TO JSK	03 WEEKS
19.	PROMOTION FROM	CIRCLE HDM TO CHIEF HDM	03 WEEKS
20.	PROMOTION FROM	DRAFTSMAN (II TO I)	03 WEEKS
21.	PROMOTION FROM	ADM TO DRAFTSMAN II	02 WEEKS
22.	PROMOTION FROM	TRACER TO ADM	02 WEEKS
23.	PROMOTION FROM	COMMERCIAL SUPDT TO R.O	01 WEEK
24.	PROMOTION FROM	TELEPHONIST	03 DAYS
25.	PROMOTION FROM	ONE WINDOW CLERK	03 DAYS

# A-400

## COMMERCIAL COURSE

### **PARTICIPANTS DURATION**

**ASTT/JRUPDT: TO SUPDT:  
03 WEEKS**

1. WAPDA Organizational Structures.
2. Techniques of Noting and Drafting.
3. Grammar & Spelling
4. Filing Method.
5. Inspection and Audit Notes.
6. Tender Documents & Tendering Procedure.
7. Personal Procedures and Incumbency Register.
8. Stationery & Contingency Stores
9. Office Tools & Plants.
10. Traveling Allowance Rules.
11. WWF, CPF, Pension and GLI Rules.
12. Services Cases under WAPDA E«&D Rules.
13. Medical Reimbursement
14. WAPDA Leave Rules.
15. Administrative and Financial Powers.
16. Responsibility for Loss Sustained by the Authority through Fraud and Negligence.
17. Labour Problems & Welfare.
18. Human Relation.
19. Office Safety.
20. Legal Cases.
21. Sr. # 14 word non residential may also be included.
22. Processing for Telephone Connection.
23. Retention of Accommodation.
24. Staff Supervision and Coordination.
25. Destruction of Un wanted and old Record.
26. Budgeting.
27. WAPDA Act
28. Promotion Policy.
29. Deputation Policy.
30. Date of Birth Rules.
31. Guide Lines for Writing ACRs.
32. Services and Estates.
33. Preparation of Item Note for Authority/ BOD.

# COURSE OUTLINE FOR PROMOTION FROM JUNIOR SUPDT:/SELECTION GRADE ASSISTANT TO SENIOR SUPERINTENDENT - 3 WEEKS AT RTC LESCO.

1. Wapda Organizational Structure.
2. Organization Structure of DISCOs.
3. Organization Structure of Circles
4. Common and Control over his subordinates.
5. Division of work amongst his subordinates/Charter of duties.
6. Filing.
7. Human relations.
8. Personality and Behavior.
9. Division of Office Staff/Management.
10. Introduction of WAPDA Rules and Regulations including WWF, GPF, Pension and GLI Rules.
11. Admn: control over his subordinate staff.
12. Disciplinary cases. Inquiries under (E&D) Rules.
13. Admn: and Financial Powers.
14. Pay and Allowances of Employees.
15. Organize office/Trained his subordinate staff.
16. Posting/Transfers.
17. P rom otion/Dern otion.
18. Release/Retirement

# **M-200**

## **COMMERCIAL COURSE**

### **PARTICIPANTS DURATION**

**L.S (BASIC SUPERVISION)  
02 WEEKS**

1. An Introduction to the Course.
2. The Supervisor and WAPDA.
3. Introduction to the Supervisors Job.
4. The Importance of Knowing your Staff.
5. Personality.
6. Motivation and the Supervisor.
7. The Supervisor and the Work Group.
8. Communication Skills.
9. Customers Relations.
10. Leadership and Supervisor.
11. Power and Influence.
12. Co-Operations.
13. Labour Relations.
14. The Planning Prospers.
15. Training your Staff.
16. Job Briefing.
17. Closing Session.

# **M-300** **LS MANAGEMENT COURSE**

**Participants  
Management)**

**L.S (Fundamental of**

**Duration  
Weeks**

**02**

1. Introduction to the Course.
2. Organizational Structure and Objective of WAPDA.
3. The Process and Principles of Organization and Management.
4. Importance of Human Relations.
5. Group Behavior and informal Organization.
6. Group Approach to Problem solving.
7. Leadership qualities for Managers.
8. Improving Employees Morale and Job Satisfaction.
9. Maintaining Discipline, use of Influence and Authority.
10. Resolving Conflicts among Employees.
11. Responsibility Accountability and Work Ethics.
12. Improving Communication Skills.
13. Role of Unions in WAPDA.
14. Improving the Public Image of WAPDA.
15. WAPDA Working Procedure.
16. Using Management Techniques to Simplify and Improve Work.
17. Concluding Session.
18. Line Superintendents Role in Safety.

# **COMMERCIAL COURSE**

**PARTICIPANTS  
DURATION**

**ONE WINDOW CLERK:  
03 DAYS**

1. Structure Of LESCO
2. Communication And Communication Skills
3. Types & Nature Of Complaints
4. Duties & Responsibilities of One Window Clerk.
5. Procedure of One Window Operation.

# **COMMERCIAL COURSE**

**PARTICIPANTS  
DURATION**

**TELEPHONIST COURSE:  
03 DAYS**

**STRUCTURE OF LESCO**

**COMMUNICATION AND COMMUNICATION SKILLS**

**DUTIES AND RESPONSIBILITIES OF TELEPHONIST**

**C-50**  
**COMMERCIAL COURSE**

**PARTICIPANTS**  
**DURATION**

**BILL DISTRIBUTOR (PRE-INDUC)**  
**03 DAYS**

1. **Structure / Function of S.E, XEN, SDO and R.O Officer.**
2. **Over View of Role and Function of the Bill Distributors.**
3. **Receiving Customer Bill for Distribution.**
4. **Bill Delivery to Customers.**
5. **Customer Relations, Ethics and Safety.**

# **C-100**

## **COMMERCIAL COURSE**

### **PARTICIPANTS DURATION**

### **BILL DISTRIBUTOR 03 DAYS**

1. Structure / Function of S.E, XEN, SDO and R.O Officer.
2. Over View of Role and Function of the Bill Distributors.
3. Receiving Customer Bill for Distribution.
4. Bill Delivery to Customers.
5. Customer Relations, Ethics and Safety.

# **C-150**

## **COMMERCIAL COURSE**

### **PARTICIPANTS DURATION**

### **METER READERS (PRE-IND) 01 WEEK**

1. Organizational Structures.
2. Meter Reading Functions and Reading Various Electrical Meters.
3. Physical Defects / Faults in KWH Meters.
4. Basic Mathematical Review.
5. Routification and Reroutification and Allotment of Reference Numbers.
6. Recording Meter Readings on the Meter Reading Records (Kalamazoo Card).
7. Recording Meter Readings on the Meter Reading at Consumers.
8. Customer Relations / Ethics and Safety.
9. Improving Communication Skills.
10. Maintaining Discipline and use of Influence and Authority.
11. Personality.

# **C-200**

## **COMMERCIAL COURSE**

### **PARTICIPANTS DURATION**

**METER READERS  
01 WEEK**

1. Organizational Structures.
2. Meter Reading Functions and Reading Various Electrical Meters.
3. Physical Defects / Faults in KWH Meters.
4. Basic Mathematical Review.
5. Routification and Rcroutiication and Allotment of Reference Numbers.
6. Recording Meter Readings on the Meter Reading Records (Kalamazoo Card).
7. Recording Meter Readings on the Meter Reading at Consumers.
8. Customer Relations / Ethics and Safety.
9. Improving Communication Skills.
10. Maintaining Discipline and use of Influence and Authority.
11. Personality.

# C-250

## **COMMERCIAL COURSE**

**PARTICIPANTS**  
**DURATION**

**METER SUPERVISOR CLASS**  
**03 WEEKS**

1. Organizational Structures.
2. Meter Reading Functions and Reading Various Electrical Meters.
3. Physical Defects / Faults in KWH Meters.
4. Basic Mathematical Review.
5. Routification and Reroutification and Allotment of Reference Numbers.
6. Recording Meter Readings on the Meter Reading Records (Kalamazoo Card).
7. Recording Meter Readings on the Meter Reading at Consumers.
8. Customer Relations / Ethics and Safety.
9. Improving Communication Skills.
10. Maintaining Discipline and use of Influence and Authority.
11. Personality.
12. Labour Problems and welfare.
13. Checking Installed Load and Energy Meters.
14. Electricity Act.
15. Deduction Bill Preparation.
16. Consumer Inquiries and Complaints.
17. Consumer Statistics and Line Losses.
18. Meter Reading Programme.
19. Introduction to Supervisor job.
20. General WAPDA rules.
21. Financial Power.

**C-300**  
**COMMERCIAL COURSE**

**PARTICIPANTS**  
**DURATION**

**GENERAL CLERK**  
**03 WEEKS**

1. WAPDA Organizational Structure.
2. Review of Basic English Grammar.
3. Spelling and Grammar.
4. Punctuation and Capitalization.
5. Precise Writing.
6. Techniques of Noting and Drafting.
7. Different Forms of written Communication.
8. Filing Method.
9. Diary and Dispatch.
10. Review of Basic Mathematics.
11. Stationery and Contingency Stores.
12. Preparation and Maintenance of Service Book, Attendance. Register and Identity Card Register.
13. Preparation of CL and Vehicle Registers and Statement
14. Inspection and Audit Notes.
15. Human Relations.
16. Office Safety.
17. Processing Accident Cases.
18. Traveling Allowance Rules.
19. WWF, GPF, Pension and GLI Rules.
20. Services Cases under WAPDA E&D Rules.
21. Medical Reimbursement
22. Acquisition of Residential Accommodation.
23. WAPDA Leave Rules.
24. Administrative and Financial Powers.
25. Preparation and Maintenance of Recovery Notice and Recovery Register.
26. Preparation of Pay Bills.
27. Maintaining Imprest Cash.
28. Tender Documents.
29. Office Tools and Plant
30. Personal Procedures and Incumbency Register.
31. Monthly Returns / Statements.

# C-370

## COMMERCIAL COURS

### **PARTICIPANTS DURATION**

### **COMMERCIAL CLERK 02 WEEKS**

1. WAPDA Organizational Structure.
2. Review of Basic English Grammar.
3. Spelling and Grammar.
4. Punctuation and Capitalization.
5. Precise Writing.
6. Techniques of Noting and Drafting.
7. Different Forms of Written Communication.
8. Filing Methods.
9. Diary and Dispatch.
10. Review of Basic Mathematic.
11. Stationery and Contingency Stores.
12. Preparation and Maintenance of Service Book, Attendance Register and Identity Card, Register.
13. Preparation of CL and Vehicle Register and Statement of Legal Cases.
14. Inspection and Audit Notes.
15. Human Relations.
16. Office Safety.
17. Recording, Checking and Dispatch of Meter Reading List.
18. Preparation of Bills / Notices for Dispatch lo Customers.
19. Checking of Heavy / Credit Balance, Estimated and same to Same Billing.
20. Collection of Bills.
21. Accounting for Collections and Remittances.
22. Bank Reconciliation Statement.
23. Debtors Control.
24. Completion of Application Register and Consumers Card.
25. Preparation of Computer Input for New Connections and Meter Change.
26. Customer Complaints.
27. Temporary / Permanent Disconnections.
28. WAPDA Employees Free Electricity.

# **C-400**

## **COMMERCIAL COURSE**

**PARTICIPANTS**  
**ASSTT:**  
**DURATION**  
**WEEKS**

**SENIOR CLERK TO**  
**02**

1. WAPDA Organizational Structures.
2. Techniques of Noting and Drafting.
3. Different Forms of Written Communication.
4. Filing Method.
5. Inspection and Audit Notes.
6. Human Relations.
7. Personality and Behavior.
8. Office Safety.
9. Traveling Allowance Rules.
10. WWF, GPF, Pension and GLI Rules.
11. Services Cases under WAPDA E&D Rules.
12. Medical Reimbursement.
13. WAPDA Leave Rules.
14. Administrative and Financial Powers.
15. Preparation of Pay Bills.
16. Maintenance of Impress Cash.
17. Tender Documents & Tendering Procedure.
18. Personal Procedures and Incumbency Register.
19. Responsibility for Loss Sustained by the Authority through Fraud and Negligence.

**C-470**  
**COMMERCIAL COURSE**

**PARTICIPANTS**  
**DURATION**

**COMMERCIAL ASSISTANTS**  
**02 WEEKS**

1. WAPDA Organizational Structure.
2. Introduction to Supervisors Job.
3. New Connections Augmentation and other Changes.
4. Billing Control.
5. Preparation of Divisional Cash Analysis Summary (CP-108)
6. Debtors Control.
7. Debtors Control As arrear Analysis,
8. Application of Tariffs and Bill Adjustment General.
9. Bill Adjustment Others.
10. WAPDA Personal Service Rules.
11. Office Safety.

# **COURSE OUTLINE FOR PROMOTION FROM COMMERCIAL ASSISTANT TO COMMERCIAL SUPERINTENDENT (C-470) - 3 WEEKS INCLUDING ONE WEEK COMPUTER TRAINING BY RTC.**

1. New Connections, change of name, change of Tariff, meter . changes and augmentation/reduction of load
2. Billing control
3. MDI Control
4. MDI control consumers billing.
5. Debtors Control and arrears analysis.
6. Division Cash Analysis.
7. Application of Tariff and bill adjustments (General and others).
8. Reconections.
9. Pakistan Wapda (E&D) Rules, 1978
10. Delegation of Financial Powers Section XII (Revised upto date).

# **C-500**

## **COMMERCIAL COURSE**

**PARTICIPANTS**  
**DURATION**

**L.S (COMMERCIAL)**  
**02WEEKS**

1. LESCO / WAPDA Organizational Structure.
2. Yardstick in the Sub-Division and Line Superintendent
3. Job Descriptions.
4. Application and Abridged Conditions of Supply (CP-Form 02).
5. New Connection Procedure.
6. Extension and Reduction of Load.
7. Reconnection.
8. Disconnection.
9. Meter Reading Programme.
10. Change of Meter.
11. Coding of 11 kv Feeder and Routification.
12. Customer Statistics and Line Losses.
13. Customers Enquiries and Complaints.
14. Electricity Act 1910 with rules 1937 and Amendment Ordinance 1979.
15. Audit
16. Checking Installed Load and Energy Meters.
17. Labour Problems and Welfare.
18. Human Relations.
19. Safety.

# COURSE OUTLINE FOR PROMOTION FROM METER SUPERVISOR GRADE-II TO METER SUPERVISOR GRADE-1 AND MS-I TO MRSS, C-500+M300+S100+C100 - 4 WEEKS INCLUDING 1-WEEK COMPUTER TRAINING

1. Organization structure and duties of SE, XEN, SDO, RO
2. Different types of single phase and 3/Phase meters, their readings and calculation of accuracy of the meter.
3. Difference methods of defects in the meter billing of defective and locked premises.
4. Various methods of stealing premises and their detection, method of charging for the misuse of electrical energy.
5. Knowledge of connected load of various appliances, Power Factor, Load Factor, M.F. Tariff calculation of connected load and units consumed.
6. Recording of reading in the meter reading record, follow up, filling up of forwarded list CP-21-C.
7. MCO, RCO, ERO record.
8. Allotment of Accounts Nos. Routification, Re-routification.
9. Attendance of complaints of consumers regarding wrong reading, billing defective meters, detection etc.
10. Preparation of losses statement.
11. Safety course S-100.
12. Leader, his qualities and duties.
13. Knowledge about his subordinates.
14. Relation with consumers.
15. Relation with labour.
16. Training of subordinates.

# **COURSE OUTLINE FOR PROMOTION FROM METER SUPERVISOR GRADE-1 TO METER READING SECTION SUPERVISOR (MRSS) 4-WEEKS INCLUDING 1 WEEK COMPUTER TRAINING**

1. Organization structure and duties of C.EX, SE, XEN, SDO & RO.
2. Knowledge of different kinds of connections, tariff, billing procedure.
3. Different types of Single Phase and 3/Phase energy meters, KVARH meters, their reading.
4. Calculation of connected load of different types of connections upto tariff B-1, calculation of load factor, power factor, Multiplying factors.
5. Types of stealing and their detection. Calculation and preparation of detection bills.
6. Calculation of accuracy of meters.
7. Knowledge of commercial procedure, knowledge of Wapda Rules.
8. Allotment of Accounts Nos. routification and re-routification.
9. Preparation of Line losses.
10. Relations with customers, attending their complaints.
11. Improvement of WAPDA's image in the eyes of public.
12. Labour relations.
13. Training of subordinates.
14. Management Course M-300.
15. Safety Course S-100.

# COURSE OUTLINE FOR PROMOTION FROM COMMERCIAL SUPDPT: TO REVENUE OFFICER - 4 WEEKS INCLUDING ONE WEEK COMPUTER TRAINING

1. Commercial procedures (Computer Billing) R.O. Side as amended upto date.
2. Audit and Inspection Reports.
3. Schedule of Tariff as amended upto date.
4. Electricity Act 1910 (Section 2,20,21,24,26,24A, 39,39A, 44.54A, B.C, Clause VI).
5. Pakistan Wapda Act 1958 as amended upto date.
6. Delegation of Financial Powers (Sections VII, X, XII, XIII, XVI, XVII and XVIII).
7. Pakistan Wapda Employees (E&D) Rules, 1978 as amended upto date.
8. Pakistan Wapda Employee Leave Rules, 1978.
9. Travelling Allowance Rules 1982 for Wapda employees as amended upto Date.
10. Pakistan Wapda Pension Rules 1977 as amended upto date.
11. Pakistan Wapda Employees Conduct Rules.

# **COURSE OUTLINE FOR PROMOTION FROM TRACER TO ASSTT: DRAFTSMAN -02 WEEKS**

1. Introduction with Drawing T&P Stationery, Tracing Stool, Drawing Board kind of lead pencils and lead pencils and selection suitable scales for preparation of maps.
2. Tracing of Maps on tracing cloth/tracing paper.
3. Preparation of Maps showing the existing/proposed electric system with symbols produce in the WAPDA Design Book.
4. Introduction with all kind of material theoretically and visually.
5. Evaluation of amount from a sketch for a work to be Executed
6. Consolidation of all kind of monthly returns
7. %age /break up of departmental Charges to be levied in the estimate
8. Map folding / opening manners as well as record keeping relates to Drawing Section.
9. Introduction of computer with a small course.
10. Preparation of staking sheet as well as familiar with basic data required from Operation S/Divisions for preparation of Renovation. Rehabilitation and Bifurcation Proposals for improvement of existing 11 KV and LT System

# **COURSE OUTLINE FOR PROMOTION FROM A.D.M TO DRAFTSMAN GRADE-B-2 WEEKS**

1. Preparation of Maps showing the existing/proposed electric system with symbols produced in the WAPDA Design Book.
2. Introduction with all kind of Line Material theoretically and visually.
3. Evaluation of amount from a sketch for a work to be executed
4. Consolidation of all kind of monthly returns.
5. %age/break up of departmental charges to be levied in the estimate.
6. Introduction of computer with small two or three course.
7. Preparation of staking sheet as well as familiar with basic data required from Operation S/Divisions for preparation of Renovation, Rehabilitation and Bifurcation Proposals for improvement of existing 11 KV and L.T System.
8. Preparation of all kind of Estimates
9. (HDM) Well familiar to all kind of Electric Connection
10. (HDM) Voltage drop Calculations
11. (HDM) To maintain the service register of consumer cases
12. (HDM) Wapda standard Design instructions and specifications
13. (HDM) Well conversant with the commercial procedure
14. (HDM) Letter writing
15. (HDM) Carrying capacity of all kind of aluminum and ACSR Conductors with variation of loading condition in summer and winter seasons with size definition
16. (HDM) Carrying capacity of all kind of 11 KV and LT PVC Cables with size Definition
17. (HDM) Benefit Cost Ratio Calculation
18. (HDM) Calculation of concrete foundation of all kind of HT/LT Steel structures
19. (HDM) Conversion of BHP to KW, KW to Amps and KVA to KW, to find the current, to find the voltage, power factor etc.
20. (HDM) Carrying capacity of each Transformer in Amps and KW on Red/Yellow and Blue phases on 25,50,100,200, 400 and 630 KVA Transformers.
21. (HDM) Selection of suitable CTs with capacity for the load to be connected for heavy electric connection.
22. (HDM) Size of LT Capacitors required in the estimate with regard to load applied by the consumer
23. (HDM) Familiarity with the 11-KV Capacitors and benefits to be gained after their insulation.

# **COURSE OUTLINE FOR PROMOTION FROM DRAFTSMAN GRADE-B TO DRAFTSMAN GRADE-A-3 WEEKS.**

1. Well Conversant with Book of Financial Power
2. Complete Familiarity with the Design Book
3. Well Familiar to all kind of Electric Connection
4. Voltage drop Calculations
5. To maintain the service register of consumer cases
6. Wapda Standard, Design instructions and specifications
7. Well conversant with the commercial procedure
8. Letter Writing
9. Carrying capacity of all kind of aluminum and ACSR Conductors with variation of loading condition in summer and winter season with size definition
10. Carrying capacity of all kind of 11 KV and LT PVC Cables with Size Definition.
11. Benefit Cost Ration Calculation
12. Calculation of concrete foundation of all kind of HT/LT Steel Structures
13. Conversion of BHP to KW, KW to Amps, KVA to KW, to find the current, to find the voltage, power fact etc.
14. Carrying capacity of each Transformer in Amps and KW on Read/Yellow/Blue phases on 25,50,100,200,400 and 630 KVA Transformer
15. Selection suitable CTs with capacity for the load to be connected for heavy electric connection
16. Size of LT Capacitors required tin the estimate with regard to load applied by the consumer
17. Familiarity with the 11-KV Capacitors and benefits to be gained after their installation.
18. Liaison with the lower and higher formations for the smooth working.

# **COURSE OUTLINE FOR PROMOTION FROM CIRCLE H.D.M TO CHIEF H.D.M-3 WEEKS**

1. Well Conversant with Book of Financial Power
2. Complete familiarity with the design book
3. Well familiar to all kind of electric connections
4. Voltage drop Calculations.
5. To maintain the service register of consumer cases.
6. Wapda Standard, Design instructions and specifications.
7. Well conversant with the commercial procedure.
8. Letter Writing.  
Carrying capacity of all of aluminum and ACSR Conductors
9. with variation of loading condition in summer and winter season with size definition.
10. Carrying capacity of all kind of 11 KV and LT PVC Cables with Size Definition.
11. Benefit Cost Ratio Calculation
12. Calculation of concrete foundation of all kind of HT/LT Steel Structures.
13. Conversion of BHP to KW, KW to Amps, KVA to KW to find the current, to find the voltage, power factor etc.  
Carrying capacity of each Transformer in Amps and KW on
14. Red/Yellow and Blue phases on 25,50,100, 200, 400 & 630 KVA Transformers.
15. Selection of suitable CTs with capacity for the load to be connected for heavy electric.
16. Size of LT Capacitors required in the estimate with regard to load applied by the consumer.
17. Familiarity with the 11-KV Capacitors and benefits to be gained after their installation.
18. Liaison with the lower and higher formations for the smooth working.

# **COURSE OUT LINE FOR PROMOTION FROM STORE/STOCK CLERK TO JSK 3-WEEKS**

- 1 WAPDA/LESCO/ IC Organization
- 2 Receipt of Material
- 3 Transfer of Material
- 4 Issue of Material to Sub Divisions.
- 5 Statement of Accounts with Sub Divisions
- 6 Emergency Stock Issues
- 7 Return of Serviceable Material
- 8 Return of Unserviceable Material
- 9 Transfer of Material from one Job to another
- 10 Transfer to Unserviceable /Scrap Material
- 11 Reconciliation Procedure
- 12 Stock Taking Procedure
- 13 Preparation of Monthly Stock Return /Reports
- 14 Procedure for Field Stores
- 15 Personal Procedure
- 16 Storing of Material
- 17 Office Safety
- 18 Human Relation

# COURSE OUTLINE FOR PROMOTION FROM JUNIOR STORE KEEPER TO SR STORE KEEPER - 3 WEEKS INCLUDING ONE WEEK COMPUTER COURSE BY RTC.

1. Receipt of Material.
2. Transfer of Material.
3. Issue of Material to Sub Divisions.
4. Statement of accounts with Divisions.
5. Emergency stock issues.
6. Return of serviceable material.
7. Return of unserviceable material.
8. Transfer of Material from one job to another.
9. Transfer to unserviceable /Scarp Material.
10. Reconciliation Procedure.
11. Stock taking Procedure.
12. Preparation of Monthly Stock returns/reports
13. Procedure for Field Stores.

# COURSE OUTLINE FOR PROMOTION FROM SR STORE KEEPER TO STORE SUPERVISOR/STOCK VERIFIER-4 WEEKS INCLUDING ONE WEEK COMPUTER COURSE BY RTC.

1. To check the documents regarding issue of material.
2. To check the documents regarding receipt of material.
3. To prepare the Log Sheet (Issue and Receipt).
4. To prepare the Daily Activity reports.
5. Valuation of Material Return Note (MRN).
6. Allotment of Stock codes.
7. Allotment of Location codes.
8. Compile the Balance with Stock Cards.
9. Feeding of Daily documents.
10. To prepare the Stock Adjustment Notes (S.A.N)
11. Clearance of Goods Transfer Notes Exception (GTN)
12. Data transmittal to the Computer Centre
13. Collection of reports from Computer Centre
14. Distribution of the reports to all fields.
15. Stores and O/O Chief Executive GEPCO detail of Print out of statements.
16. Stock adjustment reports.
17. Goods Receipt Note reports.
18. GTN Issue reports.
19. GTN Receipt Reports.
20. MRN Reports
21. Store Requisition Reports.
22. GTN Exception reports
23. Active reports
24. Condense comprehensive reports of AEB

# **COURSE OUT LINE MIS STAFF**

- 1. DATA CODER TO DATA CONTROL**
- 2. DATA ENTRY OPERATOR/DATA CODER TO COMPUTER OPERATOR**
- 3. COMPUTER OPERATOR TO RO**
- 4. PRE INDUCTION TRAINING OF GATE CLERK**

**SYLLABUS FOR DEPARTMENTAL  
UP GRADATION EXAMINATION  
FROM BPS-14 TO BPS-16**

1. Data Processing Concepts
2. WAPDA Application System

# **SYLLABUS OF PROMOTION EXAM FOR DATA ENTRY OPERATOR/DATA CODER (BPS-12) TO COMPUTER OPERATOR (BPS-14)**

1. Personal Computer Skills
2. Mainframe/Midrange Computer Skills
3. Input/output Reports (Cps), Name and Number of Each Cp-Form, Basic Data Control Checks, Flow of Jobs and Processing Steps for the Following Jobs.
4. Maintenance and Backup of Different Computer Files on Backup Media and Maintenance of Different Registers in Machine Room
5. Job Description of Data Coder, Data Entry Operator and Computer Operation.

**SYLLABUS OF PROMOTION EXAM FOR DATA  
CODER BPS-12 TO SUPERVISOR DATA CONTROL  
(BPS-14)**

- 1. Personal Computer Skills**
- 2. Input Forms (CPs), Name and number with checking procedure for the following jobs**
- 3. Record keeping and maintenance of different Control Registers**
- 4. Job Description Of Data Coder, Supervisor Data Control and Computer Operator**

# **COURSE OUT LINE FOR PRE INDUCTION TRAINING OF GATE CLERK (ONE WEEK)**

1. **WAPDA/LESCO/IC Organization**
2. **Transaction Documents**
3. **Gate Pass and Gate Register**
4. **Personal Procedures**
5. **Human Relation**
6. **Office Safety**

# **COURSE OUTLINE (M&T) & (P&I) STAFF**

- |   |                 |
|---|-----------------|
| <b>1. PROMOTION FROM ASSISTANT FOREMAN TO FOREMAN</b>           | <b>02 WEEKS</b> |
| <b>2. PROMOTION FROM METER RELAY MECHANIC TO LAB ASSISTANT</b>  | <b>04 WEEKS</b> |
| <b>3. PROMOTION FROM LAB ASSISTANT TO TEST INSPECTOR</b>        | <b>04 WEEKS</b> |
| <b>4. PROMOTION FROM HELPER TO FITTER</b>                       | <b>03 WEEKS</b> |
| <b>5. PROMOTION FROM HELPER TO METER RELAY MECHANIC</b>         | <b>03 WEEKS</b> |
| <b>6. PROMOTION FROM METER RELAY MECHANIC TO TEST INSPECTOR</b> | <b>03 WEEKS</b> |
| <b>7. PROMOTION FROM FITTER TO ASSISTANT FOREMAN</b>            | <b>02 WEEKS</b> |
| <b>8. PROMOTION FROM LAB ASSISTANT TO TEST INSPECTOR</b>        | <b>03 WEEKS</b> |
| <b>9. PROMOTION FROM ASA TO METER REPAIRER</b>                  | <b>02 WEEKS</b> |
| <b>10. PROMOTION FROM ASA TO LAB ASSISTANT</b>                  | <b>04 WEEKS</b> |

# **COURSE OUTLINE FOR PROMOTION FROM ASSA TO METER RELAY MECHANIC BY XEN CONCERNED 02-WEEKS**

1. Safety Principles.
2. Basic Electricity.
3. Direct and alternate current.
4. Single and 3-Phase current.
5. Instruments for measuring Current, Voltage, Power and Energy.
6. Types of Energy Meters (Single Phase, 3-Phase Energy Meters)
7. Parts to Single Phase and 3-Phase energy meters.
8. Connections of Single Phase, 3-Phase Energy meters.
9. Repair of defects of energy meters.
10. Checking and adjustment of S/Phase and 3/Phase Energy Meters.
11. Contact cleaning.
12. Adjustment and tension measurement of contacts.
13. Study of wiring and schematic drawings.
14. Introduction to testing equipment i.e. T.T.R, Primary and Secondary Injection.

# **COURSE OUTLINE FOR PROMOTION FROM ASSISTANT FOREMAN TO FOREMAN (M&T) - BY XEN CONCERNED & WEA- FAISALABAD - 02 WEEKS**

1. Advance principles of Electricity.
2. Knowledge of Safety Principles.
3. Transformer process.
4. Types of Transformers.
5. Method of checking and location of parts in the transformers.
6. Dis-Assembly and Assembly of Distribution Transformers.
7. Basic information of Transformer Oil.
8. Working of Dehydration plant, replacement of its different parts
9. Checking of filtration process of Dehydration Plant and replacement of Filters.
10. Use of Oven.
11. Checking of Transformers at site.

# **COURSE OUTLINE FOR PROMOTION FROM METER RELAY MECHANIC TO LAB ASSIST: BY HELP OF NTDC - 4 WEEKS**

1. Safety Principles.
2. Use of testing equipment.
3. Study and trouble shooting of wiring and schematic drawings.
4. Testing to transformer, timing record of circuit breaker.
5. Calibration of energy meters.
6. Testing of over current, differential, and E.F relays.

# **COURSE OUTLINE FOR PROMOTION FROM HELPER TO FITTER (M&T) - 3 WEEKS.**

1. Knowledge of safety principles
2. Basic Principle of Electricity
3. Direct and alternating current
4. Transformer process
5. Different types of Distribution Transformer.
6. Internal connections of Distribution Transformers.
7. Dis-Assembly and Assembly of difference internal parts of Transformers.
8. Care and handling of tools.

# **COURSE OUTLINE FOR PROMOTION FROM HELPER TO METER MECHANIC- 3 WEEKS**

1. Basic Electricity.
2. Direct and Alternate current.
3. Single and 3/Phase current.
4. Instruments for measuring Current, Voltage, Power and Energy.
5. Types of Energy Meters (S/Phase, 3/Phase Energy Meters)
6. Types of Energy Meters (S/Phase Energy Meters)
7. Parts of Single and 3/Phase Energy Meters.
8. Repair of defects of energy meters.
9. Checking and adjustment of S/Phase and 3/Phase Energy Meters.

# **COURSE OUTLINE FOR PROMOTION FROM METER MECHANIC TO TEST ASSISTANT 03 WEEKS.**

1. Advance Electricity.
2. Advance knowledge of S/Phase and 3/Phase Current.
3. Single Phase, 3/Phase and LT MDI meters principles and construction.
4. Parts and principles of working of Single Phase, 3/Phase and LT MDI meters.
5. Method for checking the accuracy of S/Phase, 3/Phase and LT MDI meters on Test Bench
6. Checking of accuracy of S/Phase, 3/Phase and LT MDI meters at site.
7. Testing of LT CTs.
8. Testing of HT ( CTs and PTs).
9. Installation of S/Phase, 3/Phase and LT MDI meters.

# **COURSE OUTLINE FOR PROMOTION FROM TEST ASSISTANT TO TEST INSPECTOR**

## **03 WEEKS**

1. Advance Electricity.
2. Single Phase, 3/Phase alternating currents.
3. Working principles of all type of HT/LT meters.
4. Installation of Electro Mechanical Meter at site.
5. Installat.ion of Solid-state meter at site.
6. Testing of Electro Mechanical Meter in Lab.
7. Testing of Solid state Meter in Lab.
8. Testing of Electro Mechanical Meter at site.
9. Testing of Solid State Meter at site.
10. Wiring of HT Metering and protection panel.
11. Location of HT Panel/metering parts and their removal.

# **COURSE OUTLINE FOR PROMOTION FROM FITTER TO ASSISTANT FOREMAN (M&T) 02 WEEKS BY XEN CONCERNED AND BY WEA- F/ABAD**

1. Basic principles of Electricity.
2. Transformation process
3. Dis-Assembly and Assembly of Transformers
4. Location of internal parts of Transformers
5. Removal of internal parts of Transformers
6. Dehydration process of Transformer Oil.
7. Different parts of Dehydration plant
8. Changing of Filters of Dehydration plan.

# COURSE OUTLINE FOR PROMOTION FROM LAB ASSISTANT TO TEST INSPECTOR BY HELP OF NTDC

## 4-WEEKS

1. Safety Principles.
2. Matching of differential relay.
3. Testing of all kinds of relays including distance relays.
4. Use of testing equipment i.e. C&DF, T.T.R, Primary and Secondary Injection.
5. Study and trouble shooting of wiring and schematic drawings.
6. Testing and trouble shooting of C.T and P.T. circuits.
7. Calibration of energy meters.
8. Gas analysis of transformer.

# **SYLLABUS FOR PROMOTION TRAINING GS-250**

## **FOR ASSA TO METER REPAIRER (P&I)**

1. Safety Principles.
2. Metering Instruments & System with their Circuits.
3. Use of AVO Meter.
4. Current Transformer (CT).
5. Potential Transformers (PT).
6. Over Current Protection.

# **SYLLABUS FOR PROMOTION EXAMINATION**

## **FROM ASSA (P&D) LAB ASSISTANT**

1. Safety and First Aid Principles
2. Reading and understanding of schematic and wiring diagrams
3. Metering instruments & System with their circuits
4. Current Transformer (C.Ts)
5. Potential Transformer
6. Over Current Protection
7. Earth Fault Protection
8. Transformer Mechanical Protection. Understanding & Testing
9. Differential Protection
10. Distance Protection
11. Ac & DC Auxiliary Schemes and its Testing
12. Annunciation
13. Use of Equipment

# **COURSE OUTLINE (GSO) STAFF**

- |   |                 |
|---|-----------------|
| <b>1. PROMOTION FROM HELPER TO FITTER</b>                                     | <b>04 WEEKS</b> |
| <b>2. PROMOTION FROM LM-I TO LS-II</b>  | <b>04 WEEKS</b> |
| <b>3. PROMOTION FROM AFM TO FM</b>  | <b>04 WEEKS</b> |
| <b>4. PROMOTION FROM FITTER TO ASSISTANT FOREMAN</b>                          | <b>04 WEEKS</b> |
| <b>5. PROMOTION FROM SSO-II TO SSO-I</b>                                      | <b>06 WEEKS</b> |
| <b>6. PROMOTION FROM SSA TO SSO-II</b>  | <b>03 WEEKS</b> |
| <b>7. PROMOTION FROM ASA TO SSA</b>   | <b>02 WEEKS</b> |
| <b>8. PROMOTION FROM ASA TO FITTER</b>  | <b>04 WEEKS</b> |
| <b>9. PROMOTION FROM FITTER TO AFM</b>  | <b>04 WEEKS</b> |
| <b>10. PROMOTION FROM FITTER-I/ELECTRICIAN/<br/>MACHINE ATTENDANT TO AFM.</b> | <b>04 WEEKS</b> |

# COURSE OUTLINE FOR PROMOTION FROM HELPER TO FITTER (SS&T) BY HELP OF NTDC - 4 WEEKS

1. Knowledge of Safety principles
2. Basic Principle of Electricity.
3. Direct and alternating current
4. Use of AVO meter
5. Study of wiring and schematic drawings
6. Introduction to D.C Batteries and rectifier.
7. Introduction to testing equipment i.e. megger, earth resistance set, oil testing.
8. Care and handling of tools.

# **COURSE OUTLINE FOR PROMOTION FROM FITTER TO ASSISTANT FOREMAN (SS&T) BY HELP OF NTDC - 4 WEEKS**

- 1. Knowledge of Safety Principles**
- 2. Temporary grounding**
- 3. Proper use of testing instruments**
- 4. Study of wiring and schematic diagram and trouble shooting**
- 5. Power transformer construction**
- 6. Maintenance of transformer**
- 7. Maintenance of CBs**
- 8. Maintenance of Batteries**
- 9. Maintenance of Rectifier**
- 10. Maintenance of Power Cables.**

**COURSE OUTLINE FOR PROMOTION FROM  
ASSISTANT FOREMAN TO FOREMAN (SS&T) BY  
HELP OF NTDC 4-WEEKS.**

1.	Basic principles of Electricity.
2.	Testing of transformer.
3.	Testing of CBs.
4.	Testing of D.C. Battery.
5.	Testing of Battery charger.
6.	Testing of Power L/A.
7.	Overhauling of Transformers, CBs, Batteries.
8.	Rigging Knowledge
9.	Testing equipment knowledge.
10.	Knowledge of wiring and schematic equipment

# COURSE OUTLINE FOR PROMOTION FROM LINEMAN GRADE-I TO LINE SUPDT-II (GSO SIDE) BY HELP OF NTDC 4 WEEK.

1.	Safety Principles.
2.	Basic knowledge of A.C.
3.	Introduction to rigging in line work.
4.	Principle of power hydraulic and hydraulic system.
5.	Line tool identification
6.	Safe climbing practices.
7.	Knowledge of rigging.
8.	Knowledge of knots, bends, and hitches, rope splices, sling
9.	Description, care and use of rope ladder.
10.	Guy against conductor tension.
11.	Practice of mid span joints,
12.	Adjustment of sags.
13.	Knowledge of line clearances
14.	Knowledge of WAPDA/Electricity Act.

# **SYLLABUS FOR PROMOTION EXAMINATION**

## **FROM SSA TO SSO-II**

- 1. Introduction to Elements of Power System.**
- 2. Introduction Grid Station Equipment.**
- 3. D.C Battery and Rectifier.**
- 4. Introduction to Control Relay Panel.**
- 5. Metering & Protection Relay and Annunciation.**
- 6. Safety and First Aid.**
- 7. Control Board.**
- 8. Recording of Daily Loading Data of Electrical Equipment.**
- 9. Types of Forms/Documents Used in Grid Station.**
- 10. Station Supply System.**
- 11. Switching of Power System. Execution under the Instructions of NPCC & Co-Ordination With SE GSO, XEN GSO NTDC.**
- 12. Permit to Work.**
- 13. Station Inspection of 11 KV Circuit Breakers, Power Transformers Isolations. Bus Bar, Cts, Pts, Lighting Arrester. Capacitor Banks. Rectifier and Batteries.**
- 14. Station Inspection Of Compressed Air System.**

# **SYLLABUS FOR PROMOTION EXAMINATION**

## **FROM ASSA TO SSA**

- 1. Knowledge of Safety Principles.**
- 2. Introduction to Grid Station Equipment.**
- 3. DC Battery and Rectifier.**
- 4. Basic Principles of Electricity.**
- 5. Use of AVO Meter and Tools Available in Control Room.**
- 6. Study of Wiring and Schematic Drawings.**
- 7. Recording of Daily Loading Data.**
- 8. Types of Forms Documents Used in Grid Station.**

# **BMAF-400 COURSE OUT LINE FOR PROMOTION OF BLACKSMITH (6 WEEKS)**

- 1. An Introduction to the Course.**
- 2. Introduction to the Organization & Organization Structure.**
- 3. The Role of Blacksmith Forman and His Duties.**
- 4. Safety and Safety Equipments.**
- 5. First Aid Skill & Fire Fighting.**
- 6. The Specifications and Standards of Transmission & Distribution Lines.**
- 7. Line Material (of Transmission And Distribution Lines) And Maintenance of Transmission.**
- 8. Instruments, Tools & Plants.**
- 9. The Role of Blacksmith Forman for Construction and Maintenance of Transmission Line.**
- 10. The Role of Blacksmith Forman for Construction and Maintenance of Distribution Lines.**

# **ORIENTATION PROGRAM FOR JR. ENGINEERS**

## **COURSE OUTLINE**

<b>Sr #.</b>	<b>Topic</b>
1	LESCO Organizational Structure
2	LESCO Distribution Company Jurisdiction and Responsibilities
3	Marketing & Commercial Procedure and New Connection Policy
4	LESCO Distribution/Operational System
5	Planning/Development & Overall Strategy
6	LESCO Material Management
7	LESCO Grid Station System
8	Finance Regulations & Tariff
9	Legal & Labour Affairs, Wafaqi Mohtasib Cell & Nepra Affairs
10	On Job Training/Visit to a LESCO Customer Services Center
11	Managerial Skills
12	Enhancement of Technical Skills

# **CONTENTS OF COURSE FOR SSO-II TO SSO-I**

## **DURATION 06 WEEKS**

1. Elements of Power System
2. Introduction to Grid Station Equipment
3. DC Battery & Rectifier
4. Metering
5. Protection/Relays
6. Safety & First Aid
7. Communication
8. Control Board
9. Recording of Daily Loading Data.
10. Types of Forms/Documents Used in Grid Station
11. Station Supply System
12. Lab/Practical Training at Wapda Engineering Academy Faisalabad  
for two Weeks.

# **SYLLABUS FOR PROMOTION EXAMINATION FROM FITTER-I/ELECTRICIAN/MACHINE ATTENDANT TO ASSISTANT FOREMAN**

1. Knowledge of the Safety Principal/First Aid.
2. Temporary Grounding
3. Proper use of Testing Instrument
4. Study of Wiring and Schematic Diagram and Trouble Shooting.
5. Power Transformer Construction
6. Maintenance of Transformer
7. Maintenance of Circuit Breakers.
8. Maintenance of Batteries
9. Maintenance of Rectifier
10. Maintenance of Power Cable
11. Maintenance of Isolators and Earthling.
12. Identification of Tools
13. Introduction to Testing Set I.E Mager / Earth Resistance/D.E.S/T.T.R/C &/Hi Pot/Vedar/Etc.
14. Dehydration Process of Transformer Oil. Changing Filter of Dehydration Plant.

# **CONTENTS OF COURSE FOR SSA TO SSO-II** **(DURATION 06 WEEKS)**

1. Introduction of Power System
2. Duties of SSO-II
3. Power Transformer
4. Communication
5. Circuit Breakers & Disconnecting Switch
6. Storage Battery & Battery Charger
7. Power System Protection
8. Earthing & PTW
9. Power Cable
10. Safety & First Aid
11. Lab/Practical at Wapda Engineering Academy Faisalabad for Ten Days.

# **COURSE CONTENTS FOR ASSA TO SSA**

1. Knowledge of Safety Principles
2. Introduction to Grid Station Equipment
3. Dc Battery and Rectifier
4. Basic Principles of Electricity.
5. Use Of AVO Meter and Tolls Available in Control Room
6. Study of Wring and Schematic Drawings
7. Recording of Daily Loading Data
8. Types of Forms Documents Used in Grid Station

# **SYLLABUS FOR PROMOTION EXAMINATION**

## **FROM SSO-II TO SS-I**

1. Introduction to Elements of Power System
2. Introduction to Grid Station Equipment
3. D.C Battery and Rectifier
4. Metering
5. Protection/Relays
6. Safety and First Aid
7. Control Board
8. Recording of Daily Loading Data
9. Types of forms documents used in grid station
10. Station supply system
11. Job Planning
12. Permit to Work
13. Station Inspection of HV Circuit Breaker, Power Transformers isolators, Bus bar, CTs, P.Ts Lighting Arrester and Capacitor Banks.
14. Station Inspection of Compressed Air Systems.
15. Monitoring of Annual maintenance of 11 KV Breaker Station Ground.
16. Earth Resistance and Station Battery.

# **SYLLABUS FOR PROMOTION EXAMINATION**

## **FROM ASSA TO FITTER**

1. Knowledge of safety principles
2. Basic principle of electricity
3. Direct and Alternating current
4. Use of AVO meter
5. Study of wiring and schematic drawings
6. Introduction to D.C Batteries and Rectifier
7. Introduction to testing equipment i.e Megger, Earth resistance set. Oil testing
8. Care and handling of tools.

# **SYLLABUS FOR PROMOTION EXAMINATION**

## **FROM FITTER TO ASSISTANT**

1. Knowledge of Safety Principles
2. Temporary grounding
3. Proper use of testing instruments
4. Study of wiring and schematic diagram and trouble shooting
5. Power transformer constructions
6. Maintenance of transformers
7. Maintenance of C.Bs
8. Maintenance of Batteries
9. Maintenance of Rectifiers
10. Maintenance of Power Cables
11. Maintenance of Isolators & Earthing
12. Dehydration process of Transformer oil, changing filter of Dehydration plant.

# **SYLLABUS FOR PROMOTION EXAMINATION**

## **FROM ASSA (P&D) LAB ASSISTANT**

1. Safety and First Aid Principles
2. Reading and understanding of schematic and wiring diagrams
3. Metering instruments & System with their circuits
4. Current Transformer (C.Ts)
5. Potential Transformer
6. Over Current Protection
7. Earth Fault Protection
8. Transformer Mechanical Protection. Understanding & Testing
9. Differential Protection
10. Distance Protection
11. Ac & DC Auxiliary Schemes and its Testing
12. Annunciation
13. Use of Equipment