TWO YEARS TRAINING PROGRAMME OF PROB. AEEs.

1.	Foundation Training at RTA/CTG.	18	Weeks.
2.	Training at BPATC/Savar/Dhaka	17	"
3.	Field Training:		
	a. At CEE/CRB & RJHI's office	8	"
	b. At Bholagonj Rope way at CTB	2	"
	c. Under DEE/CTG, DA, PXC & LMH	16	"
	d. At power house, GER Shop, TL Shop AC-Shop and Workshop Maintenance at PHT/SDP	12	"
	e. In Control office CTG/DA/PXC/LMH	4	"
	f. At Planning office	3	"
	g. At CCS/PHT office	6	"
	h. At COPS office	2	"
	i. At CCM office	1	"
	j. At CME's office	2	"
	k. At CMO's office	1	"
	l. At CSTE office	2	"
	m. At CE's offce	2	"
	n. At FA & CAO's office	2	"
4.	Final Training at RTA/CTG	6	"
		Total 104 Weeks = 2 Years.	

SYLLABUS OF PROB. AEE'S FOUNDATION/PROMOTION COURSE.

Duration – 18 Weeks

A: Electrical – 200 Marks.

(a) Paper- I (Power) : 100 Marks

1. Generating plant: Classification of Plants, Principle & function of their prime mover.
2. Transmission and distribution system.
3. Transformer: Principle & function, types of transformer in railway use and efficiency.
4. Sub-station: Site selection, Layout & choice of equipment.
5. O.H. & U.G equipment, types of U.G cable & their uses and localization of cable fault.
6. Layout of power station, type of power stations, concerning plants and equipments with control gears.
7. Measuring instruments, types of measuring instruments and their uses.
8. Utilization of power.
9. Electric pump: Principle and function, type of pumps, uses and maintenance.
10. Earthing : Classification of earthling and its purposes.
11. Railway act, Indian Electricity Act and Safe working rule.
12. Disposal of Elec. bills.
13. Procedure for crossing of Rly. tracks by O.H. line & U.G Cables.
14. Planning & Designing: Yard Lighting, platform lighting, pump installation, station electrification, Services & residential buildings electrification and workshop lighting.

(b) Paper-II (TL & AC): 100 Marks.

Train Lighting (TL)

1. Brief description of Elec. equipment such as alternate Dynamo/rectifier/diode, battery, over-voltage relay, overcharge relay, lamp resistance, lamp resistance relay, switch & fuse panel etc. and their function illustrating circuit diagram.
2. Wiring diagram.
3. Causes of lighting failure and their remedial.
4. General maintenance of TL equipment.
5. Safety in Train operation.

Air-Conditioning (AC):

1. Theory & practice of Air conditioning in Rolling stock.
2. Types of AC Coaches and their differences.
3. Wiring diagram.
4. Details of AC & Elec. equipment in AC Coaches.
5. Nature of defects arises in AC Coaches on run.
6. Air Cooler & Water cooler.
7. Refrigerator.

B: GENERAL PAPER -100 Marks.

See General Syllabus A, C, D, E, G, H, I, J, K, L.

C: Physical Training, First Aid & Civil Defence-100 Marks.

D: Viva – voice Test-100 Marks.

SYLLABUS FOR AEE's FINAL COURSE

Duration: 6 Weeks

A: Electrical - 1st paper - 100 marks.

Electrical – 400 Marks.

1. Generators & Motors- Principle of operation, Maintenance, common detects.

3. Transformer:
   a. Different Types of Transformers.
   b. Parallel operation of Transformers.
   c. Maintenance of Transformers.

3. Pumps:
   a Types of pumps,(Maintenance of different types of pumps).
   b. Trouble shooting.

4. Distribution of Electrical Energy:

   a. Overhead And Underground transmission
   b. Advantage and & disadvantages of different types of Transmission.
   d. Maintenance of Transmission lines.
   e. Trouble Shooting.

4. Power Stations & Sub-station Maintenance of Sub-Station equipment.

Electrical - 2nd paper - 100 marks

6. Train Lighting
   a) Conventional System
   b) MOG System & EOG System
   c) Operation & Maintenance of different types of Train lighting equipment.
   e) Trouble Shooting.

7. Air Conditioning & Refrigeration
   a) Familiarisation with different types of Air-conditioning system.
   b) Present air-Conditioning system in Railway Coaches.
   c) Maintenance & Repair of A.C Coaches.
   d) Water-Coolers & Refrigerations.

8. Duties & responsibilities of SAE, SSAE, AEE, DEE & CEE.

9. Revenue Expenditure- Idea about different heads of Revenue expenditure of Electrical Deptt.

10. Preparation of Estimates.

B: PROJECT PLANNING & MANAGEMENT – 100 Marks.

(a)

1) Project Planning concept, Objectives, elements, cycles with reference to Bangladesh.
2) Stage of project preparation.
3) Project financing and fund release
4) Project Pro-forma
5) Project Implementation and Evaluations
6) Cost Benefit Analysis.

(b) i) Management: Theory and Practice.
ii) Group and Inter personal skills development
iii) Personnel Management.
iv) Industrial Relation.
v) Functional areas of Management.
vi) Financial Management.

C: Viva-Voce Test – 100 Marks.

FOR PROB. SAE/SSAE ELEC. FOUNDATION/REFRESHER COURSE

Duration- Foundation- 18 Weeks
Refresher- 5 Weeks.

A: ELECTRICAL : – 200 Marks.

a. Paper-I (Power): 100 Marks.

1) Generating Plant: Classification, Principles & Function of each type, nature of common defects and remedies.
2) Transformers- Principle function use of different types of transformer/transformers loses and efficiency.
3) Sub-Station- Site selection, choice of equipment, layout drawing.
4) Transmission- Site selection system.
5) Lying of O.H line & U.G. Cables types of UG cables and uses including maintenance and periodical OVH.
6) Elec. Pump Principle and function of Each type of pump in use and selection of pump.
7) Earthing- Classification and purpose.
8) Indian Elec. Act. & Electrical safe working Rules.
9) Elec. machines (AC/DC motors & generator) – Principles and application.
10. Measuring instruments as used in Bangladesh Railway.
11. Illumination (Internal-I external-I) maintenance & periodical OVH
12. Crossing of Rly. Track by Elec. OH line UG Cable.
13. Disposal of Elec. bills.
14. Maintenance of Elec. Plants, machineries & equipment including periodical OVH.

b) Paper-II, (T.L. & A.C) 100 Marks.

Train Lighting:

1. Dynamo & alternator with their allied controlling switch/gears function, defects and remedies including daily maintenance and periodical OVH.
2. Maintenance and treatment of Acid Alkaline battery.
3. Wiring diagram of T.L system, installation of lamps and fans and their operation and maintenance.

Air Conditioning

1. Diagram of A C Units used in passenger coaches, function, defects of their equipments and remedies including daily maintenance and periodical OVH.
2. Refrigeration Cycle and its application in Air Cooler, water Cooler and Refrigerator including maintenance problems and remedies thereof.

B: GENERAL PAPER – 100 Marks.

C: General Syllabus A, B, C, D, E, G, H, I, J, K, L.

D: Physical Training, First Aid & Civil Defence – 100 Marks.

E: Viva- Voce - 100 Marks.

SYLLABUS FOR LINE ELECTRICIAN'S FOUNDATION COURSE

Duration : 7 Weeks

A: ELECTRICAL (Theory) -100 Marks

1. Electricity Kinds & uses
2. Idea about train Lighting
3. Provision of Lights & fans in Train
4. Five wire block & three Wire systems and their differences.
5. Axle pulley and its Alignment.
6. Dynamo belt with fastner
7. Suspension Link.
8. Generator (A.C & D.C)
9. Blocking Diode & rectifier.
10. Over voltage & over charge reliever
11. Battery and its fuse , maintenance and treatment.
12. Lamp resistance & lamp resistance relay.
13. Switch & fuse panel.
14. Slide lock fuse .
15. Wiring.
16. Couplers (Plug & Socket).
17. Light Fitting & Switch.
18. Fan with bracket , résistance & regulator.
19. Mid on Generator (MOG).
20. Duties of LE Mistry, SAE & SSAE.
21. Fire accident.
22. Daily & quarterly Examination.
23. LE & POH.
24. Marshalling of rake.
25. Idea about tools.
26. Idea about air-cooler, water -cooler, Refrigerators, Diesel Generator set, battery charging set, Switch gear and safety working rule.

B: Workshop attachment (train lighting) : practical -100 marks

C: Physical Training, First Aid & Civil Defence-100 Marks.

SYLLABUS FOR FA & SBA /POWER CAR DRIVER SPECIAL COURSE.

Duration: 5 Weeks.

A. Departmental paper (Theory) -100 Marks.

1. Diesel Engine-Types, function, maintenance.
2. Electricity - Type & uses.
3. Generator, Types, function, maintenance
4. Transformer - Function , maintenance, defects & remedies
5. Panel board and its parts, maintenance, defects & remedies.
6. Isolator, Circuit breaker, relay, main switch.
7. Preparation of log sheet.
8. Maintenance of Diary.
9. Elec. safe working Rules.
10. Measuring instruments.
11. Duty & responsibility of FA & SBA /Power car driver, Mistry , Lineman, SAE & SSAE.
12. Important works to be done before starting & after starting engine.
13. Action to be taken when Elec. accident occurs.
14. Earthing & its utility.
15. Idea about different Tools.
16. Battery - type ,maintenance, treatment, defects & remedies,

B. Workshop attachment (G.E.R shop) : Practical — 100 Marks

Physical Training, First Aid & civil Defence 1 - 100 Marks.

SYLLABUS FOR SSAE, SAE/WAY REFRESHER COURSE.

Duration-5 Works.

A: PERMANENT WAY -100 Marks

1. Knowledge on duty of wayman, Gate-keeper, Keyman Mate, Hd. Mate.
2. Duty And responsibility of SSAE/SAE (way) as per way & works manual Book.
3. Composition of track materials: Sleepers, Fish plates, F. Bolt, Compound fish plate, its use and maintenance.
4. Method of picking up slacks, thorough packing over-hauling in SWR & LWR and ordinary track, regaugings correction of foss laegel.
5. Points & Crossing its parts cross-over, maintenance.
6. Schedule of standard dimension M.G/B.G.
7. Temporary speed restriction indicators.
8. Points & Crossings its renewal, wear and tear resurfacing.
9. Cess and bank repairs.
10. Curves grades S, E.
11. Renewal compete and casual (sleepers & Rails).
12. Breaches and washouts.
13. Inspection of P.Way and bridges.
14. Diversion.
15. L.C. Gate & its maintenance and specification .etc
16. Ghat—high level and low leave & intermediate.

B: GENERAL PAPER : 100 Marks.

01. Establishment: 30 Marks.

(a) Loyal Rule (b) Govt. servant conduct rule (c) Pass rule (d) F & D Rule,
(e) Pension rule, (f) wages Act, (g) Workmen compensation Act.

02. Locomotive, Carriages & wagon-20 Marks.
a) Schedule of repair Locomotive, Carriage & Wagon, b) Defects of Locomotives, Carriages and Wagons, Wheels & Springs, c) Fuel economy, d) Vacuum brakes system.

03. Transportation- 20 Marks.
a) Classification of Station, b) Definitions such as station Limit, Station selection, Adequate distance, Block Section & others, c) Absolute Block system & its essentials, total interruption, d) Procedure for conducting enquiry in case of accident, e) Inspections f) Sectional capacity, g) Procedure for taking block for P.Way special works, g) Train works in abnormal circumstances i) Relief Train and Ballast Train working, j) Stock working.

04. Commercial- 10 Marks.
a) RMC Booking, b) Responsibility of Rly. As a Carrier of goods, c) Luggage booking
d) booking and rebooking.

05. Signaling & Interlocking- 20 Marks.
a) Kinds of Signals, b) Development of signaling and Interlocking c) Maintenance of signals and interlocking d) Securing of Points, e) Relay Interlocking, Power Interlocking, Mechanical Niter looking.

C: VIVA- VOCE -100 Marks.

SYLLABUS FOR SSAE, SAE/WORKS REFRESHER COURSE.

Duration- 5 Weeks.

A: WAY & WORKS: 100 Marks (Way-40, Works- 60 Marks)

1. Duties and responsibilities of SSAE & SAE/Works as per P.Way & Works Manual.
2. Knowledge on standard scheduled dimensions.
3. Knowledge on Survey works.
4. Preparation of Estimates, Tender works and Agreement.
5. Preparation of plan (as per scale) for Buildings, Bridges and P.Way.
6. Layout of Bridges, Buildings and Railway Track etc. in respect with bench Mark.
7. Inspection of works, Bridges, Steel structures and Buildings etc.
8. Difference of works on Service Buildings, Staff quarters, colony, Roads, Drains, Stations and Maintenance of Bridges etc.
9. Level crossing Gate – Classification, Grads, Speed Breaker & Their maintenance.
10. Preparation, Maintenance and use of M. Book, Muster sheet, Labour Pay sheet etc.
11. Platforms in station and station yards.
12. Completes Report on works.
13. Breaches during Monsoon, River, Polycione etc & protective Measures taken, protective measures taken in breaches of embankment.
14. Causes of Accidents, Enquiries and removable of obstructions.
15. Water source, supply and Maintenance of Pipe lines.
16. Schedule of standard Rate book, Contractors Agreement and Arbitration suit etc.
17. Stores- procurement, Maintenance accountable, receipt and issue, submission of Stores Returns, Disposal of scrap stores.
18. Annual Indent for Foams and stationary
19. Duties of SSAE & SAES at the time main line block due to accident, Survey for new lions, Bank of P.Way.
20. Knowledge on Rule for sate rerunning of Trains, Running of Motor trolley, Trolly, Lorries etc.
21. Working of ballast train during flood and Emergency works.
22. Rebuilding of Bridge and diversion of track etc.
23. Knowledge on Welding of track & precautionary measure to take emergency :

General Paper: -100 Marks.

See General Syllabus: A, B, C, D, E, F, G, H, I, J, K.

C: Viva- Voce Test -100 Marks.

SYLLABUS FOR WORK MISTRIES/WORKS MATE'S REFRESHER COURSE.

Duration: 5 Weeks.
100 Marks.

1. Duties and responsibilities of work Mate/Work Matrices.
2. Supervision of the woks of Contractors as per Agreement under order of SSAE/SAE (Works).
3. Knowledge on General Survey works.
4. Necessary arrangement for preparation of General Estimate for works.
5. Supervision of Maintenance and Repair works under SSAE/Works and Tools, Planet and Materials.
6. Knowledge on General Drawings as per scale such as Station yards, Buildings and Boundary works as per section book.
7. Programmed on tree plantation, cause, Management and Maintenance.
8. Loading and unloading of Materials on and from Material trolies.
9. Difference between Material trolly and lorries and their Working Rules.
10. L.C. Gate: classification, Tools and plants and their maintenance.
11. Dirking water: source, supply in service & Residential Buildings.
12. Railway Track and Bridge Erection, Renewal, Maintenance, Speed Indicator, Boards making and installation.
13. Actions taken during Monsoon: Survey Before monsoon and steps for protection with flood reserve Materials etc.
14. Maintenance of approach Roads to the Station and Colonies.
15. General knowledge on welding Track exist in B. Railway for precautionary measure to be taken etc.

SYLLABUS FOR MATE'S REFRESHER COURSE.

Duration: 4 Weeks.
100 Marks.

1. Knowledge on duty of Wayman, Keyman, Gate keeper & Mate.
2. Composition of track materials, Sleepers, fish plates, fish bolts, poundage of rail with section, compound fish plate, its use and maintenance. Name of tools required for a gang and checking of spirit level, level Board.

3. Method of:
   a) Picking up slacks.
   b) Thorough packing,
   c) Overhauling along with period when to be done.
   d) packing with tamping machine,

4. Spacing of sleepers.

5. Efficient drainage of Track when to be done.

6. Method of renewal of:
   a) Spl. Sleepers under points & Xing's.
   b) Bridge Timber.
   c) Ordinary sleepers.

7. Maintenance of points and Xing along with its renewal.

8. Maintenance of Curve, regaining, correction of super elevation boxing of track.

9. Maintenance of S--, SWR Track in comparison with ordinary track.

10. Some important dimensions connected to P.Way

11. Erection of temporary speed restriction Board.

12. Method of loading and unloading of P.Way materials.

13. Theoretical & Practical knowledge for maintenance of welding Track (LWR & SWR) as per P. Way & Works Manuals.

Field: 10 Days

14. Establishment
15. Traffic.
16. Signal.

BANGLADESH RAILPATH PRASHIKSHAN ACADEMY
HALISHAHAR, CHITTAGONG.

PROPOSED SYLLABUS
OF
CIVIL ENGINEERING DEPARTMENT.

TWO YEARS TRAINING PROGRAMME OF PROB. AENs

1. Foundation Training at RTA / CTG	: 18 Weeks.
2. Training at BPATC, Savar, Dhaka	: 17 "
3. Survey and Settlement Training	: 12 "
4. Field Training :	
a) With AENs for maintenance of Way & Works	: 16 "
b) With XEN, CTB	: 2 "
c) Maintenance of Bridges and Ghats	: 6 "
d) Survey and construction	: 6 "
e) In control Office	: 2 "
f) In Loco Shed	: 2 "
g) In Work Shop, Saidpur	: 2 "
h) In Bridge Work Shop, Kadamtali	: 4 "
i) In Signal Workshop, Chittagong	: 1 "
j) With Traffic Inspector/T	: 1 "
5. Training In HQ's Office	
a) At CE's Office	: 4 "
b) At CPLO's Office	: 1 "
c) At COPS's Office	: 1 "
d) At CCS/PHO's Office	: 1 "
e) FA & CAO's Office	: 1 "
f) In GM's Office	: 6 "
6. Final Training at RTA Chittagong	: 6 "
Total	104 Weeks.

109 weeks

TRAINING SYLLABUS OF PROB. AEN's FOUNDATION COURSE.

Duration : 18 Weeks.

A: CIVIL ENGINEERING SUBJECT

Permanent Way — 100 Marks.

1. Introduction
   a) Permanent Way
   b) Permanent way structure.
   c) Different gauges used in World Railway & Comparison.

2. Rails
   a) Functions
   b) Types of Rails
   c) Rail steel & composition
   d) Necessity of canted Rail seat.

3. Sleepers
   a) Functions of sleepers
   b) Conventional sleepers (Wooden & steel)
   c) Inspection & treatment of sleepers before & after use.

4. Fastenings
   a) Types of conventional Fastenings.
   b) Functions of different fastenings.
   c) Use of fasteners at various location of track.

5. Ballast
   a) Types
   b) Functions & Qualities required.
   c) Sources of supply
   d) Stacking, loading, unloading & measurement.

6. Formation
   a) X-Sections in different soil condition and also at various location.
   b) Bad formation & their treatment.
   c) Nature of failures of formation & their remedies.

7. Points & Crossings
   a) Functions
   b) Types
   c) Different parts of points & crossings.
   d) Laying, Maintenance & Inspection.

8. Curves
   a) Necessity
   b) Permissible degree, super elevation, transition curve & Gauges on curves.
   c) Laying, realignment, Maintenance.

9. Trollies /Lorries, their movement & control.

10. Maintenance & Inspection.

a) Inspection of fish plated track
b) Maintenance of fish plate track Daily & Periodical
c) Cause & affects of rail fractures, creep, buckling & remedies.
d) Defects of joints, causes, affects & remedies.
e) Gang Strength
f) Deep screeging
g) Action during monsoon, before & after monsoon, monsoon pay rolling.
h) Patrolling
i) P. Way tol.

11. Track Renewals.

a) Necessity
b) Policy in B. Railway for track renewal.
c) Track laying
d) Relaying.

12. Modern Track.

a) SWR, LWR necessity, merits & demerits, also problem in Bangladesh.
b) Welding Techniques.
c) Laying & maintenance of SWR & LWR track.
d) MSP, DTM
e) Necessity Concrete sleeper, merits/demerits over conventional sleepers, types of concrete sleeper used in World Railways & in Bangladesh also.
f) Elastic fasterings, necessity merits/demerits & types (also available in Bangladesh Railway).

13. Speed in Railway Track :

a) Sectional Speed
b) Booked Speed
c) Causes for imposition of speed restriction on tract & caution indications used in Railway.
d) Block

14. Breaches & Diversions.
15. Derailments for track defects.
16. Level crossing.
17. GIBR's Sanction.
18. Schedule of Dimension.
19. Maintenance of Stores.
20. Engagement & Control over temporary labour.
21. Movement & control over Ballast Train.
22. Responsibilities of DEN, AEN, SSAE, SAE, Kd. Mate, Mate, Keyman, Gateman.

WORKS AND BRIDGES 100 Marks.

Works : 60 Marks

1. Various fields of Railway works, Planning of works and works programme.
2. Estimates - types and preparation.
3. Surveying.
4. Preparation of drawings, plan
5. Introduction to schedule of rates of analysis of different items.
6. Rules for floating of Tenders, preparation of tender documents, execution of contract agreement.
7. Execution of works.
8. Measurement books and preparation of Contractor's bill.
9. Earth work in track formation.
10. Inspection & maintenance of building/structures.
11. Construction & maintenance of service & residential buildings, Roads, water supply & sanitary Engineering.
12. Responsibilities of JE, AE, SAE.

BRIDGES 40 Marks.

1. Types of Railway Bridges.
2. Foundation of Bridges - Shallow of deep.
3. Super-Structures (a) Steel fabrication & launching.
4. Bridge Inspection (field)
5. Repairs, maintenance & rehabilitation of bridges.
6. Painting of Bridges.
7. Action before & during monsoon, after monsoon.
8. Temporary arrangement.
9. Responsibilities of Bridge Branch.
10. Tools & equipments for bridges.

B: TRANSPORTATION : Theoretical & Practical 150 Marks.

1. G & S Rules Book.
   GR & SRs - 1, 2, 3-42, 45, 49, 50, 52, 54-58, 60-68, 70-74, 76, 81-84, 85-93, 99, 101-104, 105-113, 115, 116, 121-127, 129-130, 134, 135, 140, 142-144, 148-153, 154, 155, 157, 161-164, 167-184, 195-217, 222, 227-233, 234-257, 298-300, 301-304, 306, 309.
   Appendices - I, II, III A, III B, III C, IV, VI, VII.

2. Practical : Operation of Block Instruments, granting permission to approach and authority to proceed, abnormal working.

C: GENERAL PAPER 100 Marks.
See General Syllabus A, B, D, E, F, G, H, I, J, K & L.

D: PHYSICAL TRAINING 100 Marks.

E: FIRST AID, CIVIL DEFENCE - 100 Marks.

F: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS OF PROB. AENs FINAL COURSE.

Duration : 6 Weeks.

A: PERMANENT WAY 100 Marks.

1. Design of Railway Track:
   a) Standard Loading of Railway.
   b) Stress on Rails, Sleeper, Ballast & formation.
   c) Design of Line capacity.
   d) Yard design.

2. Concrete Sleeper :
   a) Design & manufacturing of Concrete sleeper.
   b) Laying & Maintenance of concrete sleeper.
   c) Fastenings for concrete sleeper.

3. Theory & Design of SWR & LWR Track including laying and maintenance.

4. Curves :
   a) Theory & Design
   b) Theory & practical consideration for realignment of curves.

5. Points & Crossings :
   a) Design
   b) Laying & maintenance.

6. Criteria for raising speed on track.
7. Track circuited area.
8. New Railway :
   a) Survey
   b) Preparation of estimates
   c) Construction.
   d) Opening.

9. Track renewals & Deep screening :
   a) Programming
   b) Preparation of estimates
   c) Calculation of manpower.

10. Review of track inspection & maintenance.
11. Derailments :
   a) Theoretical background.
   b) Investigation of derailments.
   c) Track & Rolling stock parameters.

12. Responsibilities of AEN in case of an accident.

WORKS AND BRIDGES 100 Marks.

Works - 60 Marks.

1. New Project :
   a) Preparation of a Project.
   b) Preparation of estimates.

2. Tenders :
   a) Floating of tenders.
   b) Preparation of documents.
   c) Preparation of tender
   d) Execution of contract agreement.
3. Contract & Arbitration
4. Delegation of financial power at different levels.
5. Execution of Works.
6. System in Bangladesh Railway for repairs, maintenance of all service & residential buildings, roads, water supply & sanitary system.
7. Water proofing of roofs.
8. Excess expenditure.
   a) Procedure to incur excess expenditure.
   b) Authority to sanction excess expenditure.
9. International procurement.
10. Flood reserve stock.

Bridges : 40 Marks.

1. Bridge Code, Bridge Rules, Steel Bridge Code.
2. Temporary arrangement.
3. River Training & protection works.
4. Inspection, repairs, maintenance & rehabilitation of bridges.
5. Design of piers, abutments & foundations.
6. Procedure for opening of a new bridge.

Planning & Management - 100 Marks.

A. (1) Project planning concept, objectives, elements, cycles with reference to Bangladesh.
   (2) Stages of Project Preparation.
   (3) Project Financing and Fund release.
   (4) Project Proforma.
   (5) Project Implementation and Evaluation.
   (6) Cost Benefit Analysis.

B. (1) Management : Theory and Practice.
   (2) Group and Inter-personal skills development
   (3) Personnel Management.
   (4) Industrial Relation.
   (5) Functional areas of Management.
   (6) Financial Management.

Viva - Voce Test : 100 Marks.

DETAILED SYLLABUS OF PROB. SAE/WAY's FOUNDATION COURSE.

Duration 18 Weeks.

A: CIVIL ENGINEERING 200 Marks.

Permanent Way

PART - I

1. Knowledge on duty of - Gangman, Keyman, Mate, Gate-keeper, Hd. Mate, SAE/Way, AEN, DEN.
2. Knowledge of rules on -
   a) Formation of Track
   b) Engg. Manual of B. Railway concerning P. Way.
   c) Schedule of standard dimensions concerning Track.
   d) Accountal of Stores, Statements and returns - Monthly, Half-yearly and yearly, preparation of Muster sheet & T.P Sheet.
   e) Trolly-light and materials.

3. a) Composition of Track materials - Sleepers, fish plates, fish bolts, poundage of rails and their section, compound fish plates, their manufacture, use, maintenance.
   b) Ballast, its size, use, source of supply and screening.
   c) Formation, soil, dimensions
   d) Annual overhauling of Track.
   e) Method of picking slack, thorough packing.
   f) Spacing of Sleepers.
   g) Drainage system in Track.

4. Points and crossing : Nomenclature of various components of points and crossings and its layouts namely - turn out, cross-over, Diamond crossing, Scissors cross-over etc.
5. Simple calculation on points and crossings.
6. Survey work (leveling).
7. Field work : Opening out of sleepers, packing under sleepers, Gauging, Correction of cross levels and boxing of track.
8. Name of tools and plants required for a Gang, its distribution and use.
9. general Knowledge on welding of Track LWR & SWR as per Manual.

PART - II

1. Knowledge of rules on -
   a) Engineering Manual of B. Railway concerning P. Way.
   b) Schedule of standard dimensions concerning track.
   c) Accidents, procedure for conducting inquiry into Accident.
   d) Upto - date circulars issued by CE concerning P. Way.
   e) Temporary speed restriction indicators.

2. Knowledge of various track materials in use with their dimensions, tools, and plants in use and when declared condemned after use.

3. Wearing out of track materials, conditions under which wooden sleepers are declared un-serviceable.

4. Lifting and repairing of track.

5. Renewals of Rails, points and crossings.

DETAILED SYLLABUS OF PROB. SAE/WAY's FOUNDATION COURSE.

Duration 18 Weeks.

A: CIVIL ENGINEERING 200 Marks.

Permanent Way

PART - I

1. Knowledge on duty of - Gangman, Keyman, Mate, Gate-keeper, Hd. Mate, SAE/Way, AEN, DEN.
2. Knowledge of rules on -
   a) Formation of Track
   b) Engg. Manual of B. Railway concerning P. Way.
   c) Schedule of standard dimensions concerning Track.
   d) Accountal of Stores, Statements and returns - Monthly, Half-yearly and yearly, preparation of Muster sheet & T.P Sheet.
   e) Trolly-light and materials.

3. a) Composition of Track materials - Sleepers, fish plates, fish bolts, poundage of rails and their section, compound fish plates, their manufacture, use, maintenance.
   b) Ballast, its size, use, source of supply and screening.
   c) Formation, soil, dimensions
   d) Annual overhauling of Track.
   e) Method of picking slack, thorough packing.
   f) Spacing of Sleepers.
   g) Drainage system in Track.

4. Points and crossing : Nomenclature of various components of points and crossings and its layouts namely - turn out, cross-over, Diamond crossing, Scissors cross-over etc.
5. Simple calculation on points and crossings.
6. Survey work (leveling).
7. Field work : Opening out of sleepers, packing under sleepers, Gauging, Correction of cross levels and boxing of track.
8. Name of tools and plants required for a Gang, its distribution and use.
9. general Knowledge on welding of Track LWR & SWR as per Manual.

PART - II

1. Knowledge of rules on -
   a) Engineering Manual of B. Railway concerning P. Way.
   b) Schedule of standard dimensions concerning track.
   c) Accidents, procedure for conducting inquiry into Accident.
   d) Upto - date circulars issued by CE concerning P. Way.
   e) Temporary speed restriction indicators.

2. Knowledge of various track materials in use with their dimensions, tools, and plants in use and when declared condemned after use.

3. Wearing out of track materials, conditions under which wooden sleepers are declared un-serviceable.

4. Lifting and repairing of track.

5. Renewals of Rails, points and crossings.

6. Creep, its causes, effects and remedy, pulling back of rails, oiling of fish bolts and greasing of fish plates, buckling.
7. Rails its wear and tear, life dimensions, spacing of sleepers and speed of trains.
8. Renewals complete, thorough and causal.
9. Relaying and re-sleepering.
10. Bridges, Maintenance of track, timbering, temporary arrangements for repairs to bridges- sleeper crib rail cluster, diversion etc.
11. Welding of Track & its maintenance specially for LWR as per directives in Track Maintenance (DTM) as in P. Way & Works Manual.
12. Level crossings - Standard, specifications, Gate, maintenance, lifting, equipment of Gate, Gate Rules in force.
13. Curve - Classes, Transition and non-transition, super elevation and its measurement, Degree of curvature, realignment, Negative and positive super elevation.
14. Gradients - Compensation of gradient on curves, Ruling gradient etc.

15. Field work -
    a) Method of checking sprit level board, S. F. Board, Rail gauge, gang chart etc.
    b) Laving out of curves on ground by string method.
    c) Practical layout of yards on ground.
    d) Method of loading and unloading heavy materials, like rails, points and crossings etc. from and on materials trolly and Ballast Trains.
    e) Theoretical training on Theodilite and its practice.
    f) P. Way Drawing - simple yard lay out with problems.
    g) Maintenance of LWR Track in hot and cold weather as per manual.

PART - III

1. Knowledge of rules on - (a) Engineering Manual of B. Railway concerning P. Way including breaches and washout ghat and ballast track etc. (b) Schedule of standard dimensions concerning P. Way.
2. Treatment of bad soil.
3. Flood : Effect on banks and bridges, vigilance of chowkiders, flood reserve of materials, preventive measure etc.
4. Ghat - kinds of ghats, conditions for working ghat, lay out of yards, ramp line, behavior of channel, shifting of ghat at high intermediate and law level etc.
5. Method of checking gang works, methods and utilities of advance allotment of work to gangs, Maintenance and utility of gang charts.
6. Points and crossings - calculations (simple and complex).
7. Field Work :
    (a) Practical work on track (b) Laying out of curves by string method (c) P. Way drawings (Yards remodeling with difficult problems).
8. Organisation - Labour supply of tools for different works and control of labour.
9. Construction of new lines, working of Ballast Trains, Carriage of materials and linking of track on straight, curves, bridges and layout of new yards.
10. General instructions on maintenance of track.
11. Theodilite (Theory and practice)
12. Safety first principles.

B: TRANSPORTATION (Theoretical) 100 Marks.

General and Subsidiary Rules Book.

1. Chapter- I : Definitions, Classification of Station.
2. Chapter - II, III, IV, V, VII, VIII, X.
3. Appendices - III A, III B, III C, VII of G & S Rule Book.
4. Joint signal failure Inspection, Joint Signal Inspection.
5. Inquiry into Railway Accidents.

C: GENERAL PAPER - 100 Marks.

1. See General Syllabus: A, B, D, E, F, G, H, I, J, K, L.

D: PHYSICAL TRAINING 100 Marks.

E: FIRST AID, CIVIL DEFENCE - 100 Marks.

F: VIVA - VOCE 100 Marks.

SYLLABUS OF PROB. SAE/WAY'S & WORKS FINAL COURSE.

Duration : 12 Weeks.

A: PERMANENT WAY : (Theory 100, Practical P.Way & Works 100)

1. Knowledge on duty of Wayman, Gateman, Mate, Hd. Mate, SAE/Way & P.Way tools.
2. Duty and responsibility of SAE/Way.
3. Composition of Track materials - Sleepers, Fish plates, Fish bolts, Rail and its poundage, compound fish plate & its use and maintenance, Elastic spikes, screw spikes etc.
4. Track maintenance - How and what portion of sleepers to be packed. Packing materials, picking up slacks, thorough packing, overhauling in case of ordinary track, SWR & LWR Track, creep and its remedy.
5. Curves, grades and compensation, super elevation setting by string linking method.
6. Construction of new lines.
7. Renewals - complete and casual etc.
8. Relaying.
9. Inspection of P. Way and bridges.
10. Diversion of Track and erection of speed restriction Indication including use of Audible & Hand Signal Flag/ Lamp.
11. Breaches and washouts.
12. Points & Xings- its nomenclature, maintenance, wear and tear, renewals resurfacing etc.
13. Level crossing gates : classification, maintenance, wear and tear, renewals resurfacing etc.
14. Ghat - its maintenance, high level and low level etc.
15. Maintenance of Muster sheet, Permanent and temporary staff, preparation of bills, checking of Muster sheet and TLRs Bill etc.
16. Engagement of substitutes and procedure to be adopted thereby.
17. Method of checking realising of work done by a Gang.
18. Procedure of Inspection of Track by Trolly and Engine.
19. Tools and plants when declared Unserviceable and procedure for getting new one.
20. Checking of spirit level and level Board.
21. Accountal of P. Way materials, Daily issue and renewals, kinds of monthly store returns, and its maintenance and submission to higher offices.
22. Annual Indent for forms and stationary.
23. Disposal for u/s materials.
24. Over all safety rules for Track, Train etc.
25. Welding of Track as per P. Way and Works Manual.
    (a) Welding of Track : LWR & SWR with theory as adopted in B. Railway
    (b) D.T.M (Direct Track maintenance in case of LWR).
    (c) Precautionary measures to be taken in case of LWR in hot and cold season.
    (d) Maintenance of LWR and action to be taken in fractured rails and buckling of Track etc.

WORKS:

1. Various fields of Railway works, Planning and programme works.
2. Knowledge on Surveying, scale of drawings and Plans etc.
3. Types of the Railway Bridge, its maintenance and Inspection.
4. Preparation of Estimates as regards requirement of earth work for embankment of P. Way.
5. Actions to be taken in case of Flood and breaches, scour etc., use of Flood reserve materials.

B: MODEL ROOM PRACTICAL 50 Marks.

C: Viva-Voce 100 Marks.

BANGLADESH RAILWAY TRAINING ACADEMY.
HALISHAHAR, CHITTAGONG.

SYLLABUS OF
SIGNAL & TELECOMMUNICATION DEPARTMENT

TWO YEARS TRAINING PROGRAMME OF PROB. ASTEs

1. Foundation Training in RTA/CTG	18 Weeks
2. Training in BPATC/Savar/DA	17 Weeks
3. Training in CSTE/CRB'S Office	4 Weeks
4. Fields Training:	16 Weeks

A. Attached to Divisional office:

I. Under DRM, DSTE/CTG, DA

a) Organizational setup of DRM/DSTE's Office, Functions.
Operational Training with ASM/CSM/PSM and Problems thereto.
b) Duties of ASTE, SSAE, MS, Diesel Mechanic and chargemen (Diesel)
c) Attending signalling & Interlocking failures, Accidents, Joints inspections and enquiries.
d) Study of Relay Interlocking & Block working at stations and yards at CTG, LKM, AKA, BCI, MYN, KRF.
e) Study of double wire Interlocking upper quadrant signals in section BCI-GRPM and TGI- MYN.
f) Study of train Control office and Maintenance of Tele communications.
g) At PHT Signal depots study of signaling Maintenance stores, their procurements, storage and disposal.

II UNDER DRM/DSTE/PXC. LMH:

a) Organizational set up of respective DRMs office, its functioning.
b) Attending signalling and interlocking failures, accidents, joint inspections and enquiries.
c) Duties of ASTE, SSAE, SAE & MS.
d) Study of signaling and Interlocking of stations and yard at ISD, PDB, STU, RB, PBT, PEY, SDP, KLN.
e) Study of signaling in RB-FDP, STU-BNRP and PDB-DSN sections.
f) At SDP Stores depot.

5. Attached to CSTE/CRB, RJHI's office	13	Weeks
6. Attached to PD/TC	8	Weeks
7. In Mechanical work shop	4	Weeks
8. With AEN for P-way Maintenance	2	Weeks
9. In control offices functions of control officials	2	Weeks
10. With SM/ASM/CSM	1	Weeks
11. Traveling on Engine foot plate	1	Weeks
12. Training in head Quarter offices		
a) In FA & CAO's office.	2	Weeks
b) In CCS/PHT's office	2	Weeks
c) IN COPS's office	2	Weeks
d) In CEE's office	2	Weeks
e) In CEE's office	2	Weeks
f) In GM & CPO's office	2	Weeks
13. Attached to construction works: (If construction goes on and programme be adjusted by CSTE accordingly)	2	Weeks
14. At RTA/CTG for Final Training.	4	Weeks
Total: 104 Weeks = 2 Years.		

TWO YEARS TRAINING PROGRAMME OF PROB. ASTE's

Duration-2 years.

1. Foundation training at RTA/CTG ..... 18 Weeks.
2. Training in BPATC, Saver ..... 17 Weeks.
3. Training under CSTE/E/CRB ..... 04 Weeks.
4. Field Training (To be chalked out by CSTE/E)- CRB ... 16 Weeks.

A: Attached to Divisional Office:

1. Under DRM/DSTE/CTG & DA

a) Organizational set up of the DRM/DSTE & SSAE's offices, Routine office works and correspondence.General Study of Technical, Establishment, Stores, Accounts Section, Accident and Enquiries. Study of Traffic operation in a large junction station, Working with ASM & YM to acquire knowledge of problems associated with Marshalling, Dispatch, Disposal of trains etc. Ashort period should be sent in the running shed, for study of General working including the disposal, preparation and listing of Engines.

b) Duties of ASTE, SSAE, SAE, M.S, Diesel Mechanic and Chargeman (Desel).

c) Attending failures, Accidents, Joint and sub-Joint Inspections and Enquiries, Annual and Bi-Annual Inspections.

d) Study of Relay Interlocking and methods of Block working at different Yards-Viz, CTG, STK, LKM, AKA, BCI, DA, MYN and KRF. Detailed study of all types of circuits, Identification and tracing of circuits (Locking, Control, detection, Special etc.) Localizing faults by practical test and rectification, Study of Track and Signalling layout of the yard, testing and adjustments to Track circuits, Point Machine, Signals etc. Testing of cables.

e) Detailed study of Double wire upper quadrant installation on section BCI-GRPM & RGE-MYN Lever frame, Trailable and non-trainable levers, clutch levers, direct levers, wire compensations, broken wire lock mechanism, point mechanism, signal mechanism etc.

f) Study of control office and way side equipments, their operation, installation and maintenance, Study of overhead lines-Installation and maintenance, Study of overhead lines-Installation and maintenance, liaison with Transportation and other departmental officers.

g) Pahartali Signal Deptt.

Study of Signalling maintenance stores, their procurement, storage and disposal.

2) Under DRM, DSTE/PXC & LMH.

a) Organizational set up of the DRM, DSTE & SSAE's offices, Routine office works and correspondence, General study of technical, Establishment, Stores and Accounts sections, Accidents & Enquiry etc.

b) Attending failures, Accidents, Joint and sub-joint I section Enquiries, Annual and bi-Annual inspections.

c) Duties of ASTE, SSAE, SAE & MIC.

d) Study of signalling, interlocking of yards at ISD, PDB, RB, STU, PBPEY, SDP, PXC & KLN, Lever frames, lever locks, locking table, dog charts, interlocking between cabins etc. reverses, signal motors, diesel generator & points motor, facing points locks.

e) Study of signaling on RB-PKB, STU-BNRP & DSN sections.

f) SDP stores various sites in connection with the above.

3) Attached to the offices of CSTE/East & West.

i) Drawing office of CSTE/East & West.

a) Drawing office procedure, essential information required for preparation of signal Drawings, Size of drawing, system of numbering and filing drawings, Method of getting drawing approved and their despatch.

b) Study of symbols-German, American English and swidish systems.

c) Symbols and their use in Mechanical & Electrical Rly. Signaling. Drawings, Printing to p-way and station yards.

d) Simple station yard layouts, preparation of interlocked yard diagrams, working rule diagrams l locking tables, Dog charts, Station master's control frames and circuit diagrams, Method of key locking on points and signals.

e) Preparation and reading of mechanical drawing for manufacturing of signalling gear.

f) Study of General & Subsidiary rules and their application in signalling.

g) Visit to various sites in connection with the above.

h) Signal workshop/CTG.

a) General:

1) Workshop organization and layout.

2) Work orders, Materials how arranged and received, disposal of finished products.

3) Handling layout-Recruitment, Training, Promotion, Retirement and dismissal etc. Overtime workshop, Factory rules, Action to be taken in emergencies like fire, strikes etc. Amerities provided for the staff.

b) Black smith and foundry shop:

Detailed study of the manufacture methods of Electrical & Mechanical components, General study of various works done in the shop.

c) Machine shop:

Detailed study of all the machine and their uses. Detailed study of how different machines can be employed to manufacture signalling component parts which are imported from abroad.

d) Battery Shop:

Study of different types of primary cells and their characteristics, employment in different circuits comparative study of primary cells of different manufacturer from economic point of view, study of acid and alkaline accommodations of different types. Practical preparation of Nicd. Cells (Varta & Nife type). Changing electroyte, Charging and discharging of cells, Characteristic study of secondary cells, Repair, maintenance and overhauling of cells.

e) Visit to station to see the Battery maintenance practice. Wireless and Telecommunication:-

a) Elementary Principles for wireless communication and the use of thermionic tubes, as detectors, rectifiers, amplifiers oscillators etc. Block diagrams for receivers and transmitters, Practical setting up of a wireless station including connection up of sarocials to transmitters, establishing contact etc. simple routine maintenance of wireless, equipment, checking up of frequencies etc.

b) Visit to various station in connection with the above.

Visit to control office.

Detailed programme will be worked out in consultation with CSET/West, and also considering availability of accommodation at different place etc.

5. Attached to project Director Telecommunication: 8 Weeks.
   a. Study of the Railway Telecommunication project.
   b. Visit to various site in connection with the above.

6. Mechanical workshop:- 4 Weeks.

   Study of organisation and workshop practice at PHT, SDP, including Diesel workshop at DA & PBT.

7 With AEN's for P-way maintenance: 2 Weeks.

   Visit to various sites in connection with the above.

8. Function of Control officers:- 2 Weeks.
   Visit to the control office at PHT, BCI, DA, MYN, SYT, FXC, PBT, LMH.

9. Performance of ASMs/PSMs/CSMs duties at Station Designed: 1 Weeks.

10. Traveling by Engine/Locomotive function running sheds etc.

11. 12 Weeks training in advance signaling either in training school, Labour of or staff college, barode of sccundrabad, Indian consultation with the Ministry.

    b) If the above arrangement does not materials the probationers shall undergo the following training in the head quarter offices of East ones:

FA & CAC office-	2
CCS office	2
CPO office	2
COPS office	2
CEE office	2
CE office	2
	12 Weeks.

12 Weeks.

12. *Attached to construction works:*
    i) Detailed study at site of installation of electrical signaling.
    a) Cable laying, Cable numbering, Cable termination (Both main &)
    b) Point machine installation and adjustment
    c) Track circuits (Series, Parallel)
    d) Wiring of relay rack control panel, power board and power supply equipments.
    ii) Detailed study at site of installation of D.W. upper quadrant signaling.
    a) Wire run b) Fixing signal mechanics c) Installing & adjusting point mechanism d) Fixing economical facing points lock, electing the lever frame and testing levers and looking. E) S.Ms Control.
5. AT RTA/CTG Final Course: -6 Weeks.

-104 Weeks.
=2 Years.

SYLLABUS FOR PROB. ASTE's FOUNDATION COURSE.

A: SIGNALING INTERLOCKING & TELECOMMUNICATION - 200 marks.

1. Signals: Types and kinds of signals, Provision of signal, A Working of Mechanical and Electrical signaling apparatus. Various types of signal levers, switches, Electrical power frames and relay panel, Isolation, point Indicator, Trap Indicator, Securing of points, Operation of signals, Points and level crossing gate, Securing of level crossing gates.

2. Interlocking:
Kinds of Interlocking Principles of Interlocking, Standards of Interlocking, Requirements of different standards of Interlocking, Maintenance of different gears and equipment of Interlocking. Simple track circuit, Detectors, Point machines, reversers, relays, repeaters, slots, Block Instrument, Train wires, cable laying, lever locks, HP key locks, SLMs, EFPL & FPLs Double wire signal and point mechanisms. KT; Aarm and light repeater; LVT; OT.

3. Development of signalling & Interlocking.
4. Maintenance and operation of Diesel generating set.
5. Maintenance of different gears and equipments of signals & Interlocking.
6. Construction and installation of signal and interlocking equipments, Block instruments, Block panels and Block phones.
7. Procurement and Accountal of stores.
8. Visit to signal workshop, open line stations provided with different types of interlocked, Signal, interlocked L/C Gates.
9. Telecommunication: Telecommunication system in B. Rly. Wire and wireless communication, Telephone exchange, control system and their maintenance, Inter communication system, Public Address system,
Development of Telecommunication system.

B: TRANSPORATION - 100 Marks.

1. G & S Rules Book, Part-1 to VI, VII (Rules 203 to 204, 205, 207 to 213 & 215-221), Chapter-VIII to X, XV-XVIII with appendices I-IX to part I and part-II.
2. Reading of Station diagram, Framing of station working rules, Different forms and their uses, Sectional capacity.
3. Transportation Practical:

a) Method of signaling trains with correct operation of single and double line Instruments.
b) Method of preparation different forms used in connection with train passing.
c) Demonstration of the methods of working trains at different classes of station.
d) Demonstration of the methods of working trains under the following abnormal conditions:
i) Single line working on double line.
ii) Total failure of communication on the double line and single lines.
iii) Failure of Electric Block and speaking instruments.
iv) Trains disabled, Train parted and divided.
v) Occasion for taking different release and their failures.
vi) Shunting at different classes of stations.

C: GENERAL PAPER –100 marks.
See General syllabus- A, B, C, E, F, G, H, I, J, K, L.

D: Physical Training: -100 Marks

E: First Aid and civil Defence- -100 Marks.

F: VIVA-VOCE -100 Marks.

SYLLABUS FOR PROB. ASTE's (FINAL COURSE)

Duration : 6 Weeks.

A: SIGNALLING, INTERLOCKING & TELECOMMUNICATION Marks - 200

1. Principle of Relay Interlocking, Types of Relay Interlocking:
   i) Individual.
   ii) N-X and
   iii) Route Relay Types.

Basic circuit approach for each system, geographical circuitry and its design approach, determination of route and control tables, principles of sectional route release, approach locking system, approach lighting system, block actuated approach lighting, integration of station relay interlocking system with token less working system.

2. Block working methods, (i) table/token system, methods of working, circuit design and fail-safe features of tablet/token system, (ii) Token less methods of block working, siemens token less type, Circuit Analysis, fails-safe features, token less working by FDM reed methods, Basic principles of the system and circuit analysis token less block by frequency transmission methods, principles of working, system design approach, fail-safe feature of the system. (iii) Double line lock and block method of token less working, principle of working, circuit analysis.
3. i) Relays,
   ii) Signals and
   iii) Point Machines.

Types of Relays, DC Track Relays, Neutral line Relays, Slow acting relays, Latching relays, Air-Contactor Relays, Lamp Proving relays etc. and their Characteristics.

Electrical point Machines, Principles of operation, Control, Locking and detention principles.

Main Signals, Subsidiary Signals, Position Light Shunt Signals, Types of Lamp used in each case, nominal rated voltage in each case, Consideration of such voltages.

4. Track Circuit Principles and Equipment:
   Lay-out of simple DC Track Circuit, Material estimate for such track Circuit, Calculation of different parameters of track circuit performances, such as Pick-up voltage, drop-way voltage, minimum ballast resistance etc.

5. Power supply equipment for relay interlocking, Types of battery used. charging equipment and their control circuit, static inverters, rotary converters etc.

   Types and characteristics of secondary cells used.

6. Installation of signals and interlocking equipment at station's and level crossing gates, determination of optimum equipment of signals and interlocking at different types of yards.
7. Signaling Rule Diagrams: Equipment of double wire mechanical upper quadrant type interlocking station, locking table, dog-chart for standard-I, II & III, Types of interlocking, Estimate of materials in each case.
8. Electro-mechanical methods of interlocking, inter-sloting, SM's Control, Circuit principles, signaling layout for "A" Class standard-III Double line station.
9. Principle of transmission thorough optical fibres, optical fibre transmition and reception equipment.

10. Principles of pulse code modulation and time division multiple system, Heireochy of PCM Analogue to Digital conversion and vice-verse re-generators.
11. Digital transmission over Radio, Principles and equipment.
12. Digital telephone exchanges, Principles of Working, Principles of signalling, trunking, Principles of local networks.
13. VHF/UHF transmission methods, system planning, Frequency Selection, Repeater working, Hand and Base stations working on VHF, Modulation Techniques, Basic Working principles etc.
14. Train control system, STC Type, Train control system new digital type, Principles of working, system of signaling and methods of transmission etc.
15. Maintenance procedure for all the above signaling and telecom equipment. Principles of working, system of signaling and methods of transmission etc.
16. Schedule of inspection and charter of duties of SAE, SSAE ASTE, DSTE AND TCE etc.

B- PLANNING MANAGEMENT – 100 Marks.

1.1 Project planning concept, objectives, element and prefect cycles with reference to Bangladesh.
1.2 Stages of project preparation.
1.3 Project Financing and fund release.
1.4 Project implementation and Evaluation.
2.1 Management: Theory and practice.
2.2 Group and interpersonal skills development.
2.3 Personnel Management.
2.4 Industrial Relation.
2.5 Functional areas of Management.
2.6 Financial Management.

C- Viva – Voce -100 Marks.

Duration : Foundation : 18 We
Refresher 5 We

A: SIGNALLING & INTERLOCKING 200 Marks.

1) G & S Rule Book: Chapter – 1 & II, 2) Appendix- I, II, III A, III B, IIIC, 3) Signaling Hand Book Signalling Blue Book, 5) Different Instructions issued by Heads of dept., 6) Different types of forms their uses 7) Different circuits, Dog. Chart 8) Interlocking & Principles of Interlocking, Essentials different standards of Interlocking, Different types of interlocking 9) Maintenance of signaling Interlocking Equipment and Maintenance of block Instruments, Batteries 10) Telecommunication syst on B. Rly. Wire and wireless communication, Control system, P. A system, Inter communication Maintenance of Telecommunication Equipments.

B- TRANSPORTATION- 100 MARKS.

1. G & S Rule book: Chapter- VI, VII-- 203 to 204, 205, 207-213, 215-221). Chapter-VIII-X, X XVIII with appendices-I-IX.

2. Reading of station diagram, Framing of station working rules, different forms and their us Sectional capacity.

3. Transportation Practical:

   a. Method of signaling trains with correct operation of single and double line blc Instruments.
   b. Demonstration of the methods of working trains at different classes of stations.
   c. Demonstration of the methods of working trains under the following abnorr conditions:
      i. Single line working on double line.
      ii. Total failure of Tele-communications on the double line and single lines.
      iii. Failure of electric block and speaking Instruments.
      iv. Trains stabled, Train parted and divided.
      v. Occasion for taking different releases & their failure.
      vi. Shunting at different classes of stations.

C: GENERAL PAPER -100 Marks.

See General Syllabus- A, B, C, E, F, G, H, I, J, K, L.

D: Physical Training, First aid & Civil Defence - 100 Marks.

E: VIVA – VOCE -100 Marks.

TRAINING SYLLABUS FOR MAINTAINER SIGNAL/MAINTAINTER-IN-CHARGE.

Duration : Foundation - 18 Weeks.
Promotion - 6 Weeks.
Refresher - 5 weeks.

A: SIGNALLING & INTERLOCKING 200 Marks.

1. G&S Rule Book : Chapter - II, Appendix - I, II, IIIA, IIIB, IIIC.
2. Signalling Hand Book.
3. Different Types of Forms and their uses.
4. Signalling Blue Book.
5. Electric Circuits, Track Circuit, Train Wire Circuit, K.T. Circuits, Arm and light Repeater Circuits.
6. Interlocking : Principles of Interlocking, Various types of Interlocking.

B: TRANSPORTATION 100 Marks.

1. G & S Rule Book : Chapter - I - VI, VII (rules 203 to 204, 205, 207-213, 215-221), Chapter - VIII - X, XV - XVIII with appendices I - IV.
2. Transportation Practical :
   a) Method of Signalling Trains with correct operation of Single and double line Block Instruments.
   b) Method of Preparation of different forms used in connection with train passing.
   c) Demonstration of the methods of working trains of different classes of Stations.

C: GENERAL PAPER. 100 Marks.

ESTABLISHMENT :

Govt. Servant Conduct Rule, Railway Organisation, E&D Rules, Leave Rule, Pass Rule, T.A.Rules, Railway Acts; Wages Act; Pension Rule, Hours of employment regulation.

P.Way :

General study on formation of Track, Curvatures, grades, Super-elevation, Points & Crossing, Defects in permanent way which may cause accidents.

LOCOMOTIVES :

Carriages and Wagons, repairs and maintenance of locomotives, Carriages and Wagons, Defects in Locomotives, Carriages and Wagons which may cause accidents.

ACCOUNTS :

Financial Management, Canons of financial Property, Receipt and Accountal disposal of Stores.

D: Physical Training, First aid & Civil Defence - 100 Marks.

E: VIVA – VOCE -100 Marks.

SYLLABUS OF LDA - CUM-TYPIST OF STORE DEPARTMENT FOUNDATION COURSE

Duration- 4 Weeks.

A. Subject concerning Stores

1. (a) Receipt of letters from different offices and make entry in the registers.
   (b) Timely placement before the competent authority making of list distribution and acknowledgement.
   (c) To opening the files, procedure for placement of letters, marking the PP and importance of serial number.
   (d) Printing works.

2. (a) Receipt of Indents from different deptts, and after marking preparation of list and distributions.
   (b) Procedure from preparation of different Issue notes, enlistment and distribution in time.
   (c) Preparation of F/memos, receipt of letters, registrations and placement before the authority.
   (d) Issue of gate passes.

3. (a) Preparation of NDS, LDC, C/Memo, A/memo and distribution with the materials, preparation of gate passes.
   (b) Preparation of list of materials.

4. (a) Preparation of C/memo, A/memo, R/Note, F/memo, preparation of list and timely distribution the materials.

5. Govt. Servant Conduct Rule, E & D Rule 1961, Leave Rule, Pass Rule, Pension Rule.

B. Physical Training:- First Aid & Civil Defence-100 Marks.

C. Viva-voce- 100 Marks.

TRAINING PROGRAMME FOR PROB/ASSISTANT CONTROLLER OF STORES.

Duration :- 2 Years - 104 Weeks

1.	Foundation Training at RPA/CTG	18 Weeks
2.	Training at BPATC/Saver	~~17~~ " 26
3.	Field Training :-	
(a)	(i) In COS/General/PHT's office	4 "
	(ii) In COS/Purchase/PHT's office	8 "
(b)	(i) In DCOS/D/SDP's office	4 "
	(ii) In LMH Stores Depot	2 "
(c)	(i) In Mechanical Stores Depot/PHT	2 "
(d)	In Mechanical Stores Depot/ISD	2 "
(e)	In Diesel Stores Depot/DA	2 "
(f)	In Mechanical Stores Depot/DA	3 "
(g)	In DCOS/Shipping office/PHT	3 "
	(ii) In DCOS/Shipping (Port) office	3 "
(h)	In DCOS/Printing/PHT's office	3 "
(i)	(i)In DCOS/Printing/PHT's office	2 "
	(ii) In DCOS/General/PHT's office so(MNS)	3 "
(j)	(i) In New Stores Depot/PHT	3 "
	(ii) In Diesel Stores Depot/PHT	3 "
	(iii) In Kanchan Nogar Stores/Depot	2 "
4.	In Head Quarter's office:	
(a)	In the office of Project Director (Purchase)	2 "
(b)	In COS/CRB/RJHI's office	4 "
(c)	In CPO/CRB/RJHI's office	2 "
(d)	In CME/CRB/RJHI's office	2 "
(e)	In CE/CRB/RJHI's office	2 "
(f)	In CSS/CRB's office	2 "
5.	Final Course at RTA/CTG for End Final Examination.	6 "

Total = 104 Weeks
= 2 Years

SYLLABUS ON MATERIAL MANAGEMENT FOR ACOS
PROBATIONAR UNDER BCS RAILWAY ENGG. CADRE.

Duration- 18 Weeks
200 Marks

Chapter-1 MATERIAL MANAGEMENT :

1.1 Introduction.
1.2 Importance & purpose of Material Management
1.3 Responsibilities & duties of Material Management Department in Bangladesh Railway.
1.4 Organisational Structure of Material Management Department of Bangladesh Railway.
1.5 Merits & Demerits of centralised and decentralised material management system.
1.6 Personal relationship between the officers of material management and those of other user Deptts.

Chapter-2 CLASSIFICATION OF STORES & THEIR CATALOGUE.

2.1 Definition of Catalogue and its importance.
2.2 Recoupment Policy : Value analysis, Mate or Buy.
2.3 Shop made items : System of preservation of Raw material and placing work order.
2.4 Stock & Non-stock items.
2.5 System of submitting Stocking application for Non-stock items : Stocking application, Sanction Memo.
2.6 Classification of Stock items :
Ordinary Stores.
Emergent Stores.
Custody Stores.
Imprest Stores.

Chapter-3 INVENTORY CONTROL :

3.1 What is Inventory control ?
3.2 Importance & Technique to keep Inventory at minimum level.
3.3 Stock Control & Material control.
3.4 Role of Computer in Inventory control.

Chapter-4 DEPOT ADMINISTRATION AND ITS MANAGEMENT :

4.1 Depot officer & his responsibility.
4.2 Organisation structure of Depot.
4.3 Sources of materials, documentation and accounting system of the materials receipt by the depot.
R/Note, Forwarding Memo, M.D.M., Advice Note, Adjustment stock sheet, Numerical Ledmer Card, D.T.I.
4.4 Maintenance & Preservation system :
Preservation of Iron & Steel, Wooden, Rubber, Clothing and painting materials, FIFO, LIFO.
4.5 Security : Theft, Pilforage & Fire.
4.6 Issue, Supply and distribution system.
4.7 Requisition and its classification :
Ordinary requisition, Workshop requisition, Imprest requisition.

4.8 Security of requisition & Authority to issue.

4.9 Issue Note : Distribution & its significance, Gate pass Distribution & Transportation.

4.10 Recoupment system : ACST Maxima, Minima, Lead/Lag time, outstanding dues, pending demand, safe/buffer stock, Annual consumption, average consumption, merits & demerits of ACST system.

4.11 Difference in recoupment Policy of ordinary stores and Emergent stores & its significance.

4.12 System of initial recoupment of new stock items and its significance.

4.13 Re-order-point system : R.O.L. (Re-order level), A.M.C. (Average monthly consumption), R.O.Q.(Re-order quantity), merits & demerits of Re-order-point system. (E.O.Q. Economic order quantity).

4.14 Stock verification system : Accounts verification and system of adjustment of difference between the Card balance and Ground balance, Adjustment stock sheet, BTR (Book Transfer).

4.15 Surplus stock & its classification :
Reasons for surplus & how to overcome it, Fore issue, substitute issue, advance intimation to the users about apprehension of surplus.

4.16 Survey of unserviceable stores and their sale procedure.

Chapter-5 : PURCHASE DEMAND :

5.1 Definition & its classification.

5.2 Scrutiny of purchase requisition.

5.3 Adjustment of stock of different indentors (depots) and preparation of consolidated indent in centralised purchase system, ACST, Extract, MTI.

5.4 Consideration of "sources" of materials and their market in determining quantity to be procured.

Chapter-6 : PURCHASE BUDGET:

6.1 Scrutiny of Budget and clearance for purchase against direct requisition of the users.

6.2 Purpose of Suspense Buget for purchase of stock items and its Accounting system .

6.3 Preparation of Suspense Budget.

6.4 Consideration of source & market factors for preparation of purchase budget.

6.5 Control of Suspense Budget:
ABC analysis, VED analysis, variety reduction, standardisation.

Chapter-7 : PURCHASE TECHNIQUE:

7.1 Definition of "Purchasing".
7.2 Right quality : Its necessity and ways to ensure quality.
7.3 Right quantity : Effect of excess/over or shortage to the right quantity.
7.4 Right time : Its necessity and ways to ensure right time.
7.5 Right source : Its necessity and ways to ascertain the right source.
7.6 Right price : Effect of paying lower & higher prices, Method for assessment of right price.

Chapter-8 : PURCHASE PROCEDURE:

8.1 Reviewing of dues particulars of the material to be purchases.
8.2 Reviewing of the 'quantity' to be procured and determination of Delivery time after examining probability of getting materials against outstanding orders & present stock of the item.
8.3 Documentation.

Chapter-9 : TENDER:

9.1 Definition of Tendering and essential requirements.
9.2 Earnest Money & its purpose.
9.3 Classification of Tenders.
9.4 Proforma Invoice.
9.5 Scrutiny of quotations and their evaluation :
FOB value, Freight, commission, C&F, CIFC, FAS, F.Q.R, import value, Landed cost, Custom Duty, Sale Tax, Free Delivery value.

Chapter-10 : TENDER COMMITTEE:

10.1 Tender Committee at different level, Criteria to nominate members other than Purchase Department.
10.2 Responsibilities of Tender Committee.

Chapter-11 : CONTRACT / PURCHASE ORDER:

11.1 Definition and its Terms & Conditions.
11.2 Security Money and its purpose.
11.3 Classification of Contract.
11.4 L/C (Letter of Credit) and its international Terms and Conditions.

Chapter-12 : QUALITY CONTROL & MATERIALS INSPECTION:

12.1 What is quality ?
12.2 Requirements to ensure correct quality.
12.3 Specification.
12.4 System & Technique of inspection of materials.
12.5 Chemical analysis.
12.6 Mechanical analysis.
12.7 Metallurgical analysis.
12.8 Physical Examination.

12.8 Heat Treatment
12.9 Sampling
12.10 Receipt Note : Preparation, distribution and its significance.
12.11 Rejection Memo: Limit for withdrawal of Rejected materials, Ground Rent.
12.12 System of payment of Test charges (for acceptable & rejection materials.
12.13 C/Memo, approval Memo, Forwarding Memo, Challan, Gate journal.
12.14 System of Despatch & Transportation of accepted materials : Effect of Transportation system on Lead time.

Chapter-13 : PRE-SHIPMENT INSPECTION :

13.1 Procedure for preparation of contact.
13.2 Procedure for payment of Inspection Fees.
13.3 Clearance of Materials :
Bill of Lading, Invoice, Inspection certificate, work Test certificate, Packing list, I.G.M.(Import General Manifesto),
Bill of Entry, Revolving Account, FCL, LCL, Nil Mark, Wrong Mark, Survey, D.O.

Chapter-14 : SYSTEM OF PRINTING & SUPPLY OF MONEY VALUE FORM & TICKETS :

14.1 Organisational structure of B.Rly. Printing press and its working procedure.
14.2 What is Money value form ? Importance of security for its printing & distribution. Ways of ensuring security.
14.3 submitting demand for Tickets by the Commercial Deptt.
14.4 Programming for printing of Tickets.
14.5 Importance of security for printing of tickets and their distribution.

B. General Paper-100 Marks.
See General Syllabus- A, B, C, D, E, F, G, H, I, J, K, L.

C. Physical Training:- First Aid & Civil Defence-100 Marks.

D. Viva-voce- 100 Marks.

SYLLABUS FOR SSAE (STORES) REFRESHER COURSE

Duration- 4 Weeks.

A. Subject concerning Stores - 100 Marks.

1. (a) Role of Stores organization & functions..
   (b) Duties & responsibilities of SSAE (Stores)
   (c) Yearly Indent for procurement of stores and other indents.
   (d) Classification of stores & preparation of P.L. Books.

2. (a) Storage, Inspection & scientific maintenance of stores.
   (b) Preparation of class wise ACST, finding at all recipients and placements.
   (c) All correspondences for recipients.
   (d) Custody of stock, maintenance and sorting.
   (e) Control & utilization of returned stores, surplus stores and excess stores.
   (f) Maintenance of Inventory dead stock registers, yearly verifications and etc.
   (g) Survey of scrap materials and classifications.
   (h) Preparation of Indent paper as per "REOPT".

3. (a) Function of shipping branch.
   (b) Receipt of documents from custom authority for clearance of materials.
   (c) Procedure for taking delivery of materials from Port Authority and handing over to Indenters.
   (d) Assessment of damaged consignments, time and classifications.
   (e) Clearance of Airlift materials.

4. (a) Section wise function of Inspection branch.
   (b) Receipt of stores , Inspection and distribution.
   (c) Maintenance and classifications of scrap materials.
   (d) Local procurement of stores and its distribution.

B. General Paper-100 Marks.
   See General Syllabus- A, B, C, D, E, F, G, H, I, J, K, L.

C. Physical Training:- First Aid & Civil Defence-100 Marks.

D. Viva-voce- 100 Marks.

SYLLABUS FOR PROMOTION TO THE CATEGORY OF SSAE(STORES)

Duration- 4 Weeks.

A. Subject concerning Stores - 200 Marks.

1. (a) Role of Stores organization & functions..
   (b) Duties & responsibilities of SSAE (Stores)
   (c) Yearly Indent for procurement of stores and other indents, its examinations and assessment.
   (d) Classification of stores & preparation of P.L. Books.

2. (a) Storage, Inspection & scientific maintenance of stores.
   (b) Preparation of class wise ACST, finding at all recipients and placements.
   (c) All correspondences for recipients.
   (d) Custody of stock, maintenance and sorting.
   (e) Control & utilization of returned stores, surplus stores and excess stores.
   (f) Maintenance of Inventory dead stock registers, yearly verifications and etc.
   (g) Survey of scrap materials and classifications.
   (h) Preparation of Indent paper as per "REOPT".

3. (a) Function of shipping branch.
   (b) Receipt of documents from custom authority for clearance of materials.
   (c) Procedure for taking delivery of materials from Port Authority and handing over to Indenters.
   (d) Assessment of damaged consignments, time and classifications.
   (e) Clearance of Airlift materials.

4. (a) Section wise function of Inspection branch.
   (b) Receipt of stores , Inspection and distribution.
   (c) Maintenance and classifications of scrap materials.
   (d) Local procurement of stores and its distribution.

B. General Paper-100 Marks.
See General Syllabus- A, B, C, D, E, F, G, H, I, J, K, L.

C. Physical Training:- First Aid & Civil Defence-100 Marks.

D. Viva-voce- 100 Marks.

SYLLABUS FOR SAE (STORES) FOUNDATION COURSE

Duration- 18 Weeks.

A. Subject concerning Stores - 200 Marks.

1. (a) Role of Stores organization & functions..
   (b) Duties & responsibilities of SAE (Stores)
   (c) Yearly Indent for procurement of stores and other indents.
   (d) Classification of stores & preparation of P.L. Books.

2. (a) Receipt of requisitions in depot, entry in Registers & its disposal.
   (b) Receipt & issue of stores & its maintenance.
   (c) Utilization of return stores, surplus stores & excess stores.
   (d) Recoupment policies.
   (e) Preparation of issue Notes and maintenance of Ledger cards.
   (f) Delivery of materials to consumers and its distribution.
   (g) Imprest stores, its list and its replaced stores.
   (h) Locking, sealing of wards and handing over the charges to RNB staff for security purpose.
   (i) Stock verification and preparation of reply of stock sheet.
   (j) Function of stores depot in respect of disposal of scrap materials.
   (k) To acquire experiences in depot function.

3. (a) Procedure for taking delivery of materials from Port Authority and handing over to Indenters.
   (b) Procedure for taking custom clearance.
   (c) Functions of R & I.
   (d) To acquire experience in different section of shipping branch.
   (e) Clearance of Airlift materials.

4. (a) Functions of Inspection branch.
   (b) Section wise functions of Inspection branch.
   (c) Procedure for maintenance of rejected materials.

B. General Paper-100 Marks.
   See General Syllabus- A, B, C, D, E, F, G, H, I, J, K, L.

C. Physical Training:- First Aid & Civil Defence-100 Marks.

D. Viva-voce- 100 Marks.

SYLLABUS FOR SAE (STORES) REFRESHER COURSE

Duration- 4 Weeks.

A. Subject concerning Stores - 100 Marks.

1. (a) Role of Stores organization & functions..
   (b) Duties & responsibilities of SAE (Stores)
   (c) Yearly Indent for procurement of stores and other indents.
   (d) Classification of stores & preparation of P.L. Books.

2. (a) Receipt of requisitions in depot, entry in Registers & its disposal sequence.
   (b) Receipt & issue & maintenance of stores.
   (c) Utilization of return excess & surplus stores.
   (d) Procedure of Recoupments.
   (e) Preparation of issue Notes and maintenance of Ledger cards.
   (f) Issue & delivery of the stores to consuming deptt.
   (g) Imprest stores, its list and its replaced stores.
   (h) Procedure of Locking, sealing system and handing over the charges to RNB staff and means of its security system.
   (i) Verification of stock and preparation of reply of stock sheet.
   (j) Function of stores depot in respect of disposal of scrap materials.
   (k) To acquire experiences in different function in depot.

3. (a) Function of shipping organization.
   (b) Clearing procudure of stores from Port authority at Jetty and its delivery to the Indentions.
   (c) Procedure of clearance of stores from custom authority.
   (d) Function of the R & I section.
   (e) To acquire experience in different sections of shipping organization.
   (f) Clearance of Airlift materials.

4. (a) Functions of Inspection Depot.
   (b) Procedure of section wise works of Inspection Depot.
   (c) Procedure of receipt, Inspection & Delivery system of Inspection Depot.
   (d) Maintenance of rejected stores.
   (e) Procedure of collection permanent stores.

B. General Paper-100 Marks.
   See General Syllabus- A, B, C, D, E, F, G, H, I, K, L.

C. Physical Training:- First Aid & Civil Defence-100 Marks.

D. Viva-voce- 100 Marks.

SYLLABUS FOR HEAD ASSTT. OF STORES DEPTT. PROMOTION COURSE

Duration- 4 Weeks.

A. Subject concerning Stores - 100 Marks.

1. (a) Stores organization, its functions, maxima, minima., canons of financial property, schedule of power.
   (b) Classification of stores & preparation of P.L. Books.
   (c) Purchase Policy, Different kinds of Tenders procedure and power of purchase.
   (d) Opening of L/C and Banking implications thereof.

2. (a) Functions of stores depots.
   (b) Classification of scraps.
   (c) Control of surplus stores and classifications.
   (d) Preparation of survey sheet and survey committee.

3. (a) Function of shipping Branch.
   (b) Shipping documents, Invoice, Inspection Bill of Entry.
   (c) C D S T Recipient policies.
   (d) Procedure of filling claims for compensation, Time limit, documents for claims, survey documents of damaged consignments.

4. (a) Functions of Inspection Branch.
   (b) Office Management.
   (c) Problem of Inspection Branch and solutions.

B. Physical Training:- First Aid & Civil Defence-100 Marks.

C. Viva-voce- 100 Marks.

SYLLABUS OF UDAs (STORES) PROMOTION COURSE

Duration- 4 Weeks.

A. STORES - 100 Marks.

1.1 E & D Rules, 1961.
1.2 S. B. F. Rules, Group Insurance, Education, Health Service and assistance, Welfare Trust.
1.3 Office procedures, Seniority Rules, Transfer, Posting, Promotion Rules

2.1 Railway Accounts : Classifications of Expenditures, Capital, Revenue and Store Accounts, Price list preparation and Renewals
2.2 Stores Budget and its preparation, Budget Grant, Demand for Grant, Appropriation.

3.1 Organization and Functions of Stores Deptt., Disposal of damaged and scrap materials, preparation of pay orders and schedule of powers.
3.2 Preparation and Renewal of P.L. Book.
3.3 Purchase policy- Difference of Tenders and schedule of power of purchase.

4.1 Functions of Depots.
4.2 Maintenance of Depot Ledger Card, and its order of posting.
4.3 Yellow and Red Signal.
4.4 Sorting of survey sheets and its sale procedure.
4.5 Preparation of ACST.

5.1 Functions of Shipping Branch.
5.2 Shipping document, Invoice, Inspection certificate, Bill of Entry, CD, ST and procedure of Recoupment.
5.3 Procedure for filling claim, Time limit, various documents of claims, survey documents of damaged consignments.

6.1 Functions of Inspection Branch.
6.2 Office Maintenance.
6.3 R/Note preparation and sorting.
6.4 Problems of Inspection Branch and its remedial measures.

B. Physical Training:- First Aid & Civil Defence-100 Marks.

C. Viva-voce- 100 Marks.

TRAINING SYLLABUS OF PROB. ATSs' FOUNDATION COURS.

Duration : 18 Week
Written : 200 Mark
Practical : 100 Mark

A: TRANSPORTATION – 2 Papers

1. Entire G & S Rules Book.
2. Traffic Manual Part- 1
3. Operation of Block Instruments, Panel Boards, Working on Single and Double line section
4. Management Information System.
5. Block overlap & Signal overlap.
6. Inland haulage of Containers.

B. COMMERCIAL : Coaching & Goods – 2 Papers Marks-200

Coaching – 100 Marks

(a) Tariffs, Codes & Manuals 50 Marks
- Coaching Tariff
- Military Tariff
- Government Tariff
- Traffic Manual Part-II
- Commercial Code

(b) Maintenance of Coaching Accounts, Preparation of Balance Sheet and Station Returns, Railway Acts. 30 Marks

(c) Marketing Passenger, Parcel Traffic 20 Marks

GOODS -100 Marks.

1) Goods Tariff, 2) Military Tariff, 3) Government Tariff, 4) Red Tariff, 5) Traffic Manual Part – II, Commercial Code, 7) Maintenance of Goods Accounts, Preparation of Balance Sheet and Goods Retu 8) Railway Acts.

MARKETING MULTIMODALISM - 100

1) Multimodal Transport, 2) Comparative Study of the different Modes of Transport, 3) Trans Containers 4) Classification of Containers, 5) Management of ICD/CFS, 6) Combined Transport Bi Lading, 7) Documentary Credits, 8) Customs Clearance of Export/Import Cargo, 9) System of Conta Booking, 10) Freight Forwarding, 11) Liability-HAGUE Rules-1924, HAGUE-Vis by Rules-1 HAMBURG: RULES-1978.

C: GENERAL PAPER: 100 Marks

See General Syllabus – A, C, D, E, F, G, H, I, J, K, L.

D: PHYSICAL TRAINING: 100 Marks.

E: FIRST AID CIVIL DEFENCE 100 Marks.

F: VIVA-VOCE TEST 100 Marks.

TRAINING SYLLABUS OF PROB. ATS's FINAL COURSE.

Duration : 6 Weeks

A: Transportation : 100 Marks.

1. Transport Policy
2. Line Capacity
3. Stock Working
4. Turn Round of Stock.
5. Preparation of Rake link, Power Link & Crew Link.
6. Procedure for conducting enquires into Accident Cases.
7. Preparation of Working Time Table and Station Working Rules.
8. Running of President's Special, Military Special & other Special Trains.
9. Transportation Inspections.
10. Control Working
11. Marshalling Yard Working.
12. Yard Remodeling
13. Interchange of Rolling Stock.
14. Operation and Management of Intercity Trains.

B: Commercial: 100 Marks.

1. Transport Economics
2. Traffic Costing
3. Railway Rating Structures
4. Opening of New Line, Sidings and Stations
5. Railway Act
6. Prevention of Claims
7. Liability of the Railway as a Carrier
8. Open and Assessment delivery
9. Commercial Inspection
10. Freight Marking

C: Planning & Management: 100 Marks.

(a)
1. Project Planning concept, objectives, elements, cycles with reference to Bangladesh.
2. Stages of Project Preparation.
3. Project Financing and Fund Release.
4. Project Proforma
5. Project Implementation and Evaluation.
6. Cost Benefit Analysis.

(b)
1. Management: Theory and Practice.
2. Group and Inter-Personal skills development.
3. Personnel Management.
4. Industrial relation.
5. Functional Areas of Management
6. Financial Management.

D: Physical Training : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

TRAINING SYLLABUS OF PROB. ATS's FINAL COURSE.

Duration : 6 Weeks

A: Transportation : 100 Marks.

1. Transport Policy
2. Line Capacity
3. Stock Working
4. Turn Round of Stock.
5. Preparation of Rake link, Power Link & Crew Link.
6. Procedure for conducting enquires into Accident Cases.
7. Preparation of Working Time Table and Station Working Rules.
8. Running of President's Special, Military Special & other Special Trains.
9. Transportation Inspections.
10. Control Working
11. Marshalling Yard Working.
12. Yard Remodeling
13. Interchange of Rolling Stock.
14. Operation and Management of Intercity Trains.

B: Commercial: 100 Marks.

1. Transport Economics
2. Traffic Costing
3. Railway Rating Structures
4. Opening of New Line, Sidings and Stations
5. Railway Act
6. Prevention of Claims
7. Liability of the Railway as a Carrier
8. Open and Assessment delivery
9. Commercial Inspection
10. Freight Marking

C: Planning & Management: 100 Marks.

(a)
1. Project Planning concept, objectives, elements, cycles with reference to Bangladesh.
2. Stages of Project Preparation.
3. Project Financing and Fund Release.
4. Project Proforma
5. Project Implementation and Evaluation.
6. Cost Benefit Analysis.

(b)
1. Management: Theory and Practice.
2. Group and Inter-Personal skills development.
3. Personnel Management.
4. Industrial relation.
5. Functional Areas of Management
6. Financial Management.

D: Physical Training : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

TWO YEARS TRAINING PROGRAMME OF PROB. ATSs.

1.	Foundation Training at RTA/CTG	18 Weeks
2.	Training at PATC/Savar	17 "
3.	Settlement & Survey Training	12 "
4.	Field Training.	
8		
	a) To work with the Guard	2 "
	b) To work with the Asstt. Station Master	3 "
	c) To work with the Station Master	2 "
	d) To work with Yard Master	2 "
	e) To work in the Trains Office	2 "
	f) To work in the Trans-shipment Office	4 "
	g) To work with Traffic Inspector, Inspector of Accounts in regard to maintenance of Station Accounts & preparation of Balance Sheet.	4 "
	h) To work with Loco Foreman	2 "
	i) To work with Carriages & Wagon Inspector	2 "
	j) To work with Permanent Way Inspector.	2 "
	k) To work with Signal Inspector.	2 "
	l) To work in Train Control Office	4 "
5.	Training in DRM's Office.	4 "
6.	Training in Head Qrs. Office.	
	a) In COPS's Office	4 "
	b) In CCM's Office	4 "
	c) In FA & CAO's Office	2 "
	d) In CPO's Office	1 "
	e) In CCS's Office	2 "
	f) In CPLO's Office	2 "
	g) In GM's Office	1 "
7.	In the Railway Training Academy, Chittagong, Final Training.	6 "

TRAINING SYLLABUS OF PROB. ATSs' FOUNDATION COURS.

Duration : 18 Weeks
Written : 200 Marks.
Practical : 100 Marks.

A: TRANSPORTATION – 2 Papers

1. Entire G & S Rules Book.
2. Traffic Manual Part- 1
3. Operation of Block Instruments, Panel Boards, Working on Single and Double line section.
4. Management Information System.
5. Block overlap & Signal overlap.
6. Inland haulage of Containers.

B. COMMERCIAL : Coaching & Goods – 2 Papers Marks-200

Coaching – 100 Marks

(a) Tariffs, Codes & Manuals 50 Marks
- Coaching Tariff
- Military Tariff
- Government Tariff
- Traffic Manual Part-II
- Commercial Code

(b) Maintenance of Coaching Accounts, Preparation of Balance Sheet and Station Returns, Railway Acts. 30 Marks

(c) Marketing Passenger, Parcel Traffic 20 Marks

GOODS -100 Marks.

1) Goods Tariff , 2) Military Tariff, 3) Government Tariff, 4) Red Tariff, 5) Traffic Manual Part – II, 6) Commercial Code, 7) Maintenance of Goods Accounts, Preparation of Balance Sheet and Goods Returns, 8) Railway Acts.

MARKETING MULTIMODALISM - 100

1) Multimodal Transport, 2) Comparative Study of the different Modes of Transport, 3) Transport Containers 4) Classification of Containers, 5) Management of ICD/CFS, 6) Combined Transport Bill of Lading, 7) Documentary Credits, 8) Customs Clearance of Export/Import Cargo, 9) System of Container Booking, 10) Freight Forwarding, 11) Liability-HAGUE Rules-1924, HAGUE-Vis by Rules-1968, HAMBURG: RULES-1978.

C: GENERAL PAPER: 100 Marks

See General Syllabus – A, C, D, E, F, G, H, I, J, K, L.

D: PHYSICAL TRAINING: 100 Marks.

E: FIRST AID CIVIL DEFENCE 100 Marks.

F: VIVA-VOCE TEST 100 Marks.

TRAINING SYLLABUS OF PROB. ATS's FINAL COURSE.

Duration : 6 Weeks

A: Transportation : 100 Marks.

1. Transport Policy
2. Line Capacity
3. Stock Working
4. Turn Round of Stock.
5. Preparation of Rake link, Power Link & Crew Link.
6. Procedure for conducting enquires into Accident Cases.
7. Preparation of Working Time Table and Station Working Rules.
8. Running of President's Special, Military Special & other Special Trains.
9. Transportation Inspections.
10. Control Working
11. Marshalling Yard Working.
12. Yard Remodeling
13. Interchange of Rolling Stock.
14. Operation and Management of Intercity Trains.

B: Commercial: 100 Marks.

1. Transport Economics
2. Traffic Costing
3. Railway Rating Structures
4. Opening of New Line, Sidings and Stations
5. Railway Acts
6. Prevention of Claims
7. Liability of the Railway as a Carrier
8. Open and Assessment delivery
9. Commercial Inspection
10. Freight Marking

C: Planning & Management: 100 Marks.

(a)
1. Project Planning concept, objectives, elements, cycles with reference to Bangladesh.
2. Stages of Project Preparation.
3. Project Financing and Fund Release.
4. Project Proforma
5. Project Implementation and Evaluation.
6. Cost Benefit Analysis.

(b)
1. Management: Theory and Practice.
2. Group and Inter-Personal skills development.
3. Personnel Management.
4. Industrial relation.
5. Functional Areas of Management
6. Financial Management.

D: Physical Training : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

SYLLABUS FOR TRAFFIC APPRENTICE'S FOUNDATION COURSE.

Duration : 18 Weeks

A: TRANSPORTATION – 300 Marks. Written – 200 Marks
Practical – 100 Marks.

1) Entire G & S Rule Book, 2) Traffic Manual Part-I, 3) Model Room practice- Normal and Abnormal Train working, 4) Block Overlap and Signal Overlap, 5) Working of Intercity Trains, 6) Operation of Container trains, 7) Type of Container, 9) Loading & Unloading of Container, 9) Air braking system newly introduced in B. Railway, 10) Operation of Tank Special, 11) Type of Tank Wagon, 12) Loading & Unloading of Tank Wagon, 13) Measurement of Oil Tank Wagon, 14) Formation of Goods Train.

B: COACHING – 200 Marks.

1) Coaching Tariff, 2) Military Tariff, 3) Government Tariff, 4) Traffic Manual Part-II, 5) Commercial Code, 6) Consultation of different reference Books, 7) Standing Circulars, 8) Procedure of booking passenger, Luggage, Parcels, Live stock and other Coaching Traffic, 9) Maintenance of Station Accounts and preparation of Station Returns and Balance Sheet.

C: GOODS – 200 Marks.

1) Coaching Tariff, 2) Military Tariff, 3) Government Tariff, 4) Red Tariff, 5) Traffic Manual Part-II, 6) Commercial Code, 7) Practical –Dealing with different Money value Books, Booking procedure of Goods Traffic, Consultation of reference Books, Standing Orders- Alphabetical list of stations, Freight chart, Distance Table, Maintenance of Station Accounts and preparation of goods returns and Balance sheet, Goods Index Register (Inward/Outward).

D: GENERAL PAPER – 100 Marks.

See General Syllabus A, C, D, E, F, G, H, I, J, K, L.

E:	PHYSICAL TRAINING	100 Marks.
F:	FIRST AID AND CIVIL DEFENCE	100 Marks.
G:	VIVA-VOCE TEST	100 Marks.

SYLLABUS FOR TRAFFIC APPRENTICE'S FINAL COURSE:

Duration : 12 Weeks

A: TRANSPORTATION 100 Marks.

1. G & S Rule Book.
2. Remodeling of Yards
3. Central Organisation, Stock Working, Turn Round of Goods Stock.
4. Line Capacity
5. Preparation of Rake link, Power link and Crew link
6. Procedure for conducting Enquiries into Accident case, Cause of Accidents and Remedial Measures.
7. Preparation of Working Time Table and Station Working Rule.
8. Running of President Special, Military Special and other Special Trains.
9. Transportation Inspections,
10. Inland haulage of Containers
11. Management Information System
12. Interchange of Rolling Stock
13. Preparation of Duty Roster.

B: COMMERCIAL - 100 Marks.

1. Railway Rating Structures
2. Transport Economics
3. Rules for Booking of Inter Country Traffic
4. Railway Acts.
5. Opening of New Stations and Sidings
6. Prevention of Claims, Liability of the Railway as Carrier.
7. Rules for giving open and Assessment deliveries.
8. Commercial Survey.
9. Commercial Inspections.
10. Freight Marking
11. Traffic Costing
12. Freight Forwarding
13. Multimodal Transport

C: VIVA-VOCE TEST 100 Marks.

SYLLABUS FOR PROMOTION COURSE TO JUNIOR TRAFFIC INSPECTORS.

Duration : 9 Weeks
Refresher : 2 Weeks.

A: TRANSPORTATION : 200 Marks.

1. G & S Rule Book.
2. Traffic Manual Part – I. 3. Remodeling of Yards.
4 Opening of New Stations and Sidings. 5. Enquiry into Railway Accidents.
6 Line Capacity. 7. Transportation Policies.
8. Rolling stock working and Turn Round of Stock.
9. Framing of Station Working Rules.
10. Framing of Working Time Table.
11. Procedure of granting Block for Engineering works in the Block Section.
12. Interchange of Rolling Stock.
13. Causes of Railway Accidents and remedial measures.
14. Punctual Running of Trains.
15. Transportation Inspection of Railway Stations/Level Crossing gates.
16. Joint Inspections.
17. Running of President special, Troop Trains and other special trains.
18. Preparation of Engine Links, Rake links and Crew link.
19. Intercity Trains Management.
20. Inland haulage of Containers.
21. MIS.

B: COMMERCIAL : 200 Marks.

1. Coaching Tariff, Goods Tariff, Military Tariff, Govt. Tariff, Red Tariff.
2. Rating Structures.
3. Leakage of Railway Revenue and its stoppage.,
4. Running Special Trains, Troops Trains and Reservation of seats and Berth.
5. Prevention of Claims
6. Liability of the Railway as a Carrier.
7. Commercial Code.
8. Reselling of Tickets and its stoppage.
9. Open and Assessment deliveries.
10. Commercial Inspections.
11. Railway Acts. 12. Station Accounts. 13. Traffic Manual Part-II
14. Enquiry into Claims cases and other Commercial matters.
15. Traffic Survey. 16. Ticket Indenting.
17. Management of Intercity Tickets, Freight marketing, Freight forwarding, multimodal Transport.

C: GENERAL PAPER : 100 Marks.
See General Syllabus : A, C, D, E, F, G, H, I, J, K, L.

D: Physical Training, First Aid & Civil Defence : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

SYLLABUS FOR SUPERVISORY STATION MASTERS.

Duration: Promotion Course - 7 Weeks
Refresher : 5 Weeks.

A: TRANSPORTATION : 200 Marks.

1. G & S Rule Book.
2. Traffic Manual Part – I. 3. Remodeling of Yards.
4. Opening of New Stations and Sidings. 5. Enquiry into Railway Accidents.
6. Line Capacity. 7. Preparation of Station Working Rules and Working Time Table.
8. Interchange Rules.
9. Causes of Railway Accidents and remedial measures.
10. Punctual Running of Trains. 11. Management of Stations.
12. Inspections. 13. Running of President special, Troop Trains and other special trains.
14. Concept of Rake link, Power Link and Crew Link.
15. Working of Intercity Trains.
16. MIS.

B: COMMERCIAL : 200 Marks.

1. Coaching Tariff, Goods Tariff, Military Tariff, Govt. Tariff, Red Tariff.
2. Railway Structures.
3. Leakage of Railway Revenue and its stoppage.
4. HOR, Reservation of Seats and breaths.
5. Prevention of Claims
6. Liability of the Railway as a Carrier.
7. Reselling of Tickets and its stoppage.
8. Open and Assessment deliveries.
9. Railway Acts.
10. Commercial Inspections.
11. Station Accounts.
12. Traffic Manual Part-II.
13. Commercial Code.
14. Regaining of diverted Traffic.
15. Ticket Indenting.
16. Issue of Intercity Tickets.
17. Freight Marketing.
18. Multimodal Transport.

C: GENERAL PAPER : 100 Marks.
See General Syllabus : A, C, D, E, F, G, H, I, J, K, L.

D: Physical Training, First Aid & Civil Defence : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

SYLLABUS FOR SUPERVISORY STATION MASTERS.

Duration: Promotion Course - 7 Weeks
Refresher : 5 Weeks.

A: TRANSPORTATION : 200 Marks.

1. G & S Rule Book.
2. Traffic Manual Part – I. 3. Remodeling of Yards.
4. Opening of New Stations and Sidings. 5. Enquiry into Railway Accidents.
6. Line Capacity. 7. Preparation of Station Working Rules and Working Time Table.
8. Interchange Rules.
9. Causes of Railway Accidents and remedial measures.
10. Punctual Running of Trains. 11. Management of Stations.
12. Inspections. 13. Running of President special, Troop Trains and other special trains.
14. Concept of Rake link, Power Link and Crew Link.
15. Working of Intercity Trains.
16. MIS.

B: COMMERCIAL : 200 Marks.

1. Coaching Tariff, Goods Tariff, Military Tariff, Govt. Tariff, Red Tariff.
2. Railway Structures.
3. Leakage of Railway Revenue and its stoppage.
4. HOR, Reservation of Seats and breaths.
5. Prevention of Claims
6. Liability of the Railway as a Carrier.
7. Reselling of Tickets and its stoppage.
8. Open and Assessment deliveries.
9. Railway Acts.
10. Commercial Inspections.
11. Station Accounts.
12. Traffic Manual Part-II.
13. Commercial Code.
14. Regaining of diverted Traffic.
15. Ticket Indenting.
16. Issue of Intercity Tickets.
17. Freight Marketing.
18. Multimodal Transport.

C: GENERAL PAPER : 100 Marks.
See General Syllabus : A, C, D, E, F, G, H, I, J, K, L.

D: Physical Training, First Aid & Civil Defence : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

SYLLABUS FOR TNL / DTNL / CTNL

Duration: Foundation – 18 Weeks.
Refresher – 4 Weeks.

A: TRANSPORTATION : 300 Marks (Theory 200, Practical 100)

1. Entire G & S Book and Appendices there etc.
2. Railway Acts.
3. Traffic Manual Part – I.
4. Framing of Working Time Table. 5. Framing of Station Working rules.
6. Study of layouts of all stations, yards, siding.
7. Passenger & Wagon Ferry workings and Transshipment works at break of gauge points.
8. Control organization & functions. 9. Duties of TNL, DTNL, CTNL.
10. Stock Working – collection of stock position, preparation of stock register, Train ordering, preparation of Turn-round statement, Maintenance of Inter-district and Inter-division, Inter-country interchange balances.
11. Preparation of Rake diagram, power link, crew link, running of Intercity trains.
12. Management Information System.
13. Duties in case of Accident – Relief Train Working, Ballast Train Working In land haulage of containers.

B: COMMERCIAL :
Coaching - 100 Marks.

1. Coaching Tariff, 2. Govt. Tariff, Military Tariff, 3. Red Tariff.
5. Traffic Manual Part – II, 5. Sealing, riveting and labeling of wagons, marking of outward packages.
6. Booking and maintenance of records, accountal and disposal of station earning, disposal of unclaimed articles and preparation of Balance sheet.

Goods : 100 Marks.

1. Goods Tariff. 2. Traffic Manual Part – II. 3. Red Tariff, Military Tariff.
4. Sealing, riveting and labeling of wagons.
5. Maintenance of Goods Accounts, remittance of goods cash, preparation of returns and balance sheets, disposal of unclaimed goods, Marketing, freight forwarding, Multimodalism.
6. Freight Marketing.

C: GENERAL PAPER : 100 Marks.

See General Syllabus : A, C, D, E, F, G, H, I, J, K, L.

D: Physical Training, First Aid & Civil Defence : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

SYLLABUS FOR TNL / DTNL / CTNL

Duration: Foundation – 18 Weeks.
Refresher – 4 Weeks.

A: TRANSPORTATION : 300 Marks (Theory 200, Practical 100)

1. Entire G & S Book and Appendices there etc.
2. Railway Acts.
3. Traffic Manual Part – I.
4. Framing of Working Time Table. 5. Framing of Station Working rules.
6. Study of layouts of all stations, yards, siding.
7. Passenger & Wagon Ferry workings and Transshipment works at break of gauge points.
8. Control organization & functions. 9. Duties of TNL, DTNL, CTNL.
10. Stock Working – collection of stock position, preparation of stock register, Train ordering, preparation of Turn-round statement, Maintenance of Inter-district and Inter-division, Inter-country interchange balances.
11. Preparation of Rake diagram, power link, crew link, running of Intercity trains.
12. Management Information System.
13. Duties in case of Accident – Relief Train Working, Ballast Train Working In land haulage of containers.

B: COMMERCIAL :
Coaching - 100 Marks.

1. Coaching Tariff, 2. Govt. Tariff, Military Tariff, 3. Red Tariff.
5. Traffic Manual Part – II, 5. Sealing, riveting and labeling of wagons, marking of outward packages.
6. Booking and maintenance of records, accountal and disposal of station earning, disposal of unclaimed articles and preparation of Balance sheet.

Goods : 100 Marks.

1. Goods Tariff. 2. Traffic Manual Part – II. 3. Red Tariff, Military Tariff.
4. Sealing, riveting and labeling of wagons.
5. Maintenance of Goods Accounts, remittance of goods cash, preparation of returns and balance sheets, disposal of unclaimed goods, Marketing, freight forwarding, Multimodalism.
6. Freight Marketing.

C: GENERAL PAPER : 100 Marks.

See General Syllabus : A, C, D, E, F, G, H, I, J, K, L.

D: Physical Training, First Aid & Civil Defence : 100 Marks.

E: VIVA-VOCE TEST 100 Marks.

TRAINING SYLLABUS FOR YARD MASTER REFRESHER COURSE.

Duration : 5 Weeks.

A: TRANSPORTATION : 200 Marks.

1. Route Map of Bangladesh showing (a) All Junctions stations (b) Important Yards (c) Break of Gauges (d) Transshipment Points (e) Wagon Ferry Points (f) Railway Headquarters Stations (g) Important River Ports, Industrial and Commercial Cities (h) Border Stations.

2. G & S rule Book – Chapter I : All Definitions
   Chapter II: All kinds of Signals and their use, securing of points and Vehicles, Interlocking points, Points Indicator, Trap Indicators, reception and dispatch of Trains.
3. Yard : Yard Organistaion, kinds of Yards and their layouts.
4. Responsibility of different categories of Yard staff..
5. Yard Masters / AYM's responsibilities
6. Yard operations, congestion of Yard and clearance.
7. Preparation of Yard Report, Stock sheet, Work done Statement etc.
8. Maintenance of different Registers and Records.
9. Maintenance of Diary, Checking of Diary.
10. Maintenance of Control orders and other office order.
11. Maintenance of Interchange Records with Divisions and Port Authorities.
12. Maintenance of Wagon placement and withdrawal Register-OPT-18.
13. Different kinds of Shunting operation, conditions for performing shunting within Station limits.
14. Management of Yard Staff, Duty Rosters and hours.
15. Rules for Transshipment and Maintenance of Records.
16. Rules for sealing, Riveting and Labeling.
17. (a) Marshalling of Passenger, Goods, Shunting Van Goods Trains.
    (b) Marshalling of Vehicles loaded with live-stock, Dangerous goods, Explosive and inflammable articles.
    (c) Marshalling of TP Vehicles.
18. Goods and Coaching stock census.
19. Different types of rolling stock and their codes.
20. Vacuum Brake System.
21. Dealing with booking documents, Trains papers.
22. Procedure for conducting Enquiry into Yard Accidents.
23. Preparation and disposal of Marshalling Yard Statistics.

B:	General Paper : See General Syllabus A, B, D, E, F, G, H, I, J, K, L.	100 Marks.
C:	Physical Training	100 Marks.
D:	First Aid and Civil Defence	100 Marks.
E:	Viva-Voce Test	100 Marks.

TRAINING SYLLABUS FOR ASSTT. STATION MASTERS (ASM):

Duration : Foundation – 26 Weeks.
Refresher – 4 Weeks.

A: TRANSPORTATION 300 Marks (Written- 200, Practical- 100)

1. Transpiration Rules:

(a) Chapter I to VI, VII (Rules 203 to 204, 205-207, 208-213, 215-221), Chapter VIII to X, XV to XVIII with Appendices I to IV and Part – II.
(b) Traffic Manual Part – I Chapter- I, II & III (Rules 10 to 16), IV and V, VII, XI, XIII, XV, XVII, XIX (Rule 1, 24), XXVI, XXVII and XXVIII.
(c) Reading of Station Diagram.
(d) Interlocking and its Principles and working.
(e) AVB System.
(f) Safety First Principles.

2. Transportation Practical :

(a) Methods of Signaling trains with correct operation of Single and Double line Block Instruments.
(b) Methods of preparation of different forms used in connection with Train Passing.
(c) Demonstration of the methods of working trains at different classes of Stations.
(d) Demonstration of the methods of working trains under the following abnormal conditions: i) Single line working on the Double Line (ii) Total failure of communications on the Double Line & Single Lines. (iii) Failure of Electric Block and speaking instruments. (iv) Trains disabled, train parted and train divided. (v) Occasion for taking different releases and their failures.
(e) Shunting at different Classes of stations.

B: COACHING: 200 Marks.

Coaching Rules :
1. Coaching Tariff, 2. Govt. Tariff, 3. Military Tariff, 4. Time Table and guide,
5. Railway Acts, 6. Traffic Manual Part – II, 7. Commercial Code.

Coaching Practical :

(a) Methods of Consulting different reference Books in connection with the booking of coaching traffic, viz; distance table, alphabetical list of Stations, Fare Table, Route Map of Bangladesh Railway.
(b) Actual calculation of booking of coaching traffic.
(c) Maintenance of Coaching Accounts.

C: GOODS : 200 Marks.

Goods Rules :

1. Goods Tariff
2. Military Tariff
3. Red Tariff
4. Rules for Booking Railway Materials consignments.
5. Railway Acts.
6. Traffic Manual Part-II
7. Commercial Code.

Goods Practical & Accounts :

(a) Methods of consulting different books and returns in connection with booking of goods Traffic, viz; Distance Table, Alphabetical list of Stations etc.
(b) Actual calculation of booking of goods traffic.
(c) Methods of preparation of different Books, Registers and Returns for preparation of Station of Balance Sheet.

D:	Physical Training:	100 Marks.
E:	First Aid and Civil Defence	100 Marks.
F:	GENERAL PAPER: See General Syllabus : A, C, D, E, F, G, H, I, J, K, L	100 Marks.
G:	VIVA VOCE TEST	100 Marks.

TRAINING SYLLABUS FOR SWITCHMAN

DURATION : Foundation - 7 Weeks.
Refresher - 3 Weeks.

A: TRANSPORTATION 100 Marks.

1. G & S Rules Part - I
   GR & SRs 2, 3, 4, 6, 8, 9 - 24, 28-40, 71-74, 143-153 & Appendices 1 (Rules 42) and VIII.

2. Traffic Manual Part - I Chapter IX
   (Rules 6, 7, 8, 10, 14, 27, 29, 30)

3. Safety first Principles.
4. Calculation of times.

B: TRANSPORTATION PRACTICAL - 100 Marks.

1. Locking of Facing points.
2. Painting of levers.
3. Method of Operating levers.
4. Sequence of taking off Signals.
5. Use of Hand Signals and their display.
6. Adjustment of Signal Wires.

B: GENERAL (DISCUSSIONS) 100 Marks

Establishment : E&D Rule, leave Rule, Pass Rule, Pension Rule, Rly. Acts. Conduct Rules of 1979.

P-Way : Formation of Track, Points & Crossings.

Signaling and Interlocking : Securing of points gate working various types of signals, their placement and Interlocking.

Locomotives, Carriages & Wagons : Various types of Locomotives, Carriages and Wagons.

Civility, Honesty, Discipline and ambition.

C: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

D: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR GUARD

Duration : Foundation -
Refresher -

A: TRANSPORTATION 200 Marks.

1. G & S Rule Book, Chapter - I, II, III, IV, IX, X, XVII, XVIII and the appendices there to.
2. Knowledge and use of the following forms :-
   OP/T-27, 36-45, 53, 54, 80, 248, 249, 275.
3. Traffic Manual Part - I (Transportation) Chapter I, II, VI, VII, XIV, XVII, XXI, XXIII, XXVI and XXVII.
4. A. V. B. System and its principles.
5. Duties of a Conductor Guard. Time Table Study, Different types of carriages and wagons.
6. Practical - Operation of Single line and Double Line Block Instruments, Preparation and submission of Trains Papers.

B: COMMERCIAL 100 Marks.

1. Railway Acts, Section 59-132.
2. Coaching Tariff & Good Tariff-
   (a) Procedure for booking passenger, Luggages, Parcels & Goods.
   (b) Preparation of guidance's, Clearance of Cash Bag from road side stations by T.C. Safe, Sealing, riveting and labeling of loaded Wagons, Rules for loading/ un loading packages, Guards certificates, Running Train theft.
   (c) Duties of a Conductor Guard.
3. Traffic Manual Part - II selected portion.

C: GENERAL PAPER - 100 Marks

Establishment - 25 Marks.

1. (a) Govt. Servant conduct rule (b) Railway organisation (c) Railway Acts (d) E & D Rule (e) Pass Rule (f) T. A. Rule (g) Pension Rule (h) Works men compensation Act. (i) Hours of employment Regulation.

Train Lighting - 25 Marks

1. Description of main equipments, Causes of lighting failure and remedies, Operation of lights and fans, safety in train operation.

Locomotives, Carriages & Wagons - 25 Marks.

1. (a) Description of main equipments of carriages and wagons, types of carriages & wagons.
   (b) A.V. System (c) Defects in Carriages and wagons which may cause accidents.

Permanent Way - 25 Marks.

1. Formation of Track, various Track components.
2. Points and crossings, curves, grades and super elevation.
3. Engineering signals and indicators.

D: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

E: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR POINT'S MEN

Duration : Foundation - 4
Refresher - 2

A: TRANSPORTATION 100 Marks.

1. G & S Rule Book - GR&SRS
Definitions - Station Master, Pointsmen, Facing point and trailing points, Guard, Driver, Obstruction, Fouling mark, Authority to proceed, Goods train, Passenger train, Mixed train, Adequate distance Board, Station working Rules, Permission to approach, to Block back, to Block Forward.

GR & SRS: 4, 5. 9, 43, 47 - 55, 58-67, 70, 74, 93, 130, 134, 135, 144, 146-157, 191 - 193, 225-233.

2. Use of Line Labels, Shunting, Kinds of Shunting, Shunting rules, rules for handing over authority to proceed, caution order - OP/T-80, OP/T- 27, OP/T-275, OP/T-53, 54 paper line clear Tickets, OP/T-248-249.

3. Interlocking, its essentials, direct and Indirect interlocking operation of points, Signals and gate levers, Siding Control Key, Slotting and Inter Slotting .

4. Marshalling of -
(a) Passenger and goods trains, Mixed trains.
(b) Marshalling from Electrical point of view.
(c) Marshalling of vehicles loaded with live stock, dangerous explosive and inflammable articles.
(d) Marshalling of T.P Vehicles.
(e) Pairing of vehicles for wagon ferry purpose.

5. Model room practice in chains, operation of points and signals.

6. Discussions on : Govt. Servant Conduct Rule, leave rule, pass rule, pension rule, courtesy, honesty and ambition.

B: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

D: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR MOTOR TROLLEY DRIVERS IN G&S RULES

Duration : Foundation - 7 Weeks
Refresher - 5 Weeks.

A: TRANSPORTATION : 100 Marks.

G & S Rule Book.

1. Definitions.
2. Classification of Stations.
3. Kinds of Types of Signals & their operation, Trap & point indicator, Back light, Defective Signal, Fog & Hand Signals and their uses.
4. Use of various form - OPT/27, 80, PLC tickets, Token & tables, OPT/248, 249, OPT/402
5. Speed restrictions.
6. Motor Trolley equipments.

B: GENERAL;

1. Discussion on govt. Servant Conduct rule, Discipline, civility, Honesty and Ambition.

C: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

D: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR COACHING ASSISTANTS /BOOKING ASSISTANTS:

Duration : Foundation - 7 Weeks
Refresher - 4 Weeks.

A: COACHING (Written) - 3 Papers :

Tariff: 100 Marks.

1. B. Railway Coaching Tariff.
2. Military Tariff.
3. Red Tariff.
4. Government Tariff.
5. Fundamental and subsidiary Rules regarding booking of Inter Country Traffic.
8. Traffic Manual Part - II
9. Standing orders and circulars.
10. Station Accounts Books.
11. Prevention of Claims.

COACHING PRACTICAL : 100 Marks.

(a) Consultation of relevant reference books in connection with the booking of coaching Traffic, distance Table, alphabetical list of stations, Ready reckoner, B. Railway Map.
(b) Actual calculation of booking of coaching traffic.

COACHING ACCOUNTS 100 Marks.

(i) Various coaching registers, preparation of different books and return.
(ii) Compilation of Station Balance Sheet.
(iii) Practical Exercises in preparation of various returns and balance sheet.

B: GENERAL : 100 Marks.

C: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

D: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR GOODS ASSISTANTS

A: GOODS (Written) - 3 Paper — 300 Marks.

Tariff : — 100 Marks.

1. B. Railway Goods Tariff.
2. Railway Acts.
3. Military Tariff
4. Red Tariff
5. Government Tariff.
6. Fundamental and subsidiary Rules, Booking of Inter Country Traffic.
7. Railway Materials stores consignment.
8. Traffic Manual Part-II.
9. Standing orders and circulars.
10. Prevention of Claims.

GOODS PRACTICAL: — 100 Marks.

i) Method of consulting different reference books in connection with booking of goods Traffic, Distance Table, Alphabetical list of stations, Ready Reckoner etc.
ii) Actual calculation and booking of goods consignments.

GOODS ACCOUNTS : — 100 Marks.

i) Station Accounts Books and its preparation.
ii) Method of preparation of different books and returns and preparation of goods balance sheet.

B: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - — 100 Marks.

C: VIVA - VOCE — 100 Marks.

TRAINING SYLLABUS FOR TC & TTE

Duration : Foundation - 5 Weeks
Refresher - 3 Weeks.

A: COACHING RULES — 100 Marks.

1. B. Railway Coaching Tariff (Selected portion)
2. B. Railway Military Tariff (Selected portion)
3. Time Table and guide.
4. Standing orders.
5. Important Sections of Railway Acts.
6. Traffic Manual part - II (Selected portion)
7. B. Railway route Map.
8. Preparation of Duty Roster.

B: COACHING PRACTICAL : — 100 Marks.

1. Method of consulting different reference books in connection with booking of coaching traffic, viz: Distance table, Alphabetical list of Stations, Calculated fare and freight table, Map of Bangladesh Railway.

2. Actual Calculation of booking of coaching traffic.

3. Station Accounts :

   a) Requisition of BPT & EFT and other forms etc.
   b) Posting of TC's Registers and submission of TC's Report.
   c) Excess fare returns.

C: GENERAL : — 100 Marks.

See General Syllabus - A, C, D, E, F, G, H, I, J, K, L.

D: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - — 100 Marks.

E: VIVA - VOCE — 100 Marks.

TRAINING SYLLABUS FOR TNT & TYC

Duration : Foundation - 5 Weeks
Refresher - 3 Weeks.

A: TRANSPORTATION & COMMERCIAL — 200 Marks.

1) G & S RULES : Definition - Acts. Adequate distance, Aspect of a Signal, Govt. Inspector, Train, Guard, Driver, Fouling Mark, Obstruction, Permission to Approach, Authority to proceed, Running line, Running train, Indication of a signal.

2) SIGNALS : Kinds of signals, Names of different signals and their use. Fog signals and their uses, Point and trap Indicators, Securing of points and vehicles, Isolation, Safety equipments.

3) WAGONS & CARRIAGES : Types of wagons and carriages, Brake system, Marshalling of passenger and goods trains, Marshalling of Vehicles loaded with dangerous, Inflammable and explosive articles, Marshalling of T-P Vehicles, Shunting Rules.

4) YARD, KINDS OF YARDS : Yard Organisation - Procedure for taking number of wagons, Carriages of incoming and outgoing trains, Maintenance of wagon registers, Wagon detention Registers, Preparation of vehicle guidance and other train papers. Procedure for issue of OPT-10, 18 and other forms, preparation of yard repost and stock sheet, Yard census, Maintenance of Interchange Registers, Inter division and Inter Country, Preparation of DJRS, Issue of correction slips, Maintenance of Transshipment Registers, Receipt and Disposal of Invoices and trains papers, Maintenance of train orders and other control order registers, Time Table, Code of Stations, Demurrage and wharf age charges, Preparation and disposal of Marshalling yard stations, Goods and coaching stock census.

5) Route map of Bangladesh Railway. Maintenance of stock demand register, Procedure for loading packages in wagons, Monsoon precautions, procedure for sealing of tank wagons, Maintenance of transshipment records, Marking of packages, Code of stations, Rules for giving delivery of Inward coaching and goods Traffic, Sealing, riveting and labelling of outward loaded wagons.

6) SERVICE RULES : Government servant Conduct Rule, Leave Rule, Pass Rule, T. A. Rule.

B: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

C: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR TNT & TYC

Duration : Foundation - 5 Weeks
Refresher - 3 Weeks.

A: TRANSPORTATION & COMMERCIAL — 200 Marks.

1) G & S RULES : Definition - Acts. Adequate distance, Aspect of a Signal, Govt. Inspector, Train, Guard, Driver, Fouling Mark, Obstruction, Permission to Approach, Authority to proceed, Running line, Running train, Indication of a signal.

2) SIGNALS : Kinds of signals, Names of different signals and their use. Fog signals and their uses, Point and trap Indicators, Securing of points and vehicles, Isolation, Safety equipments.

3) WAGONS & CARRIAGES : Types of wagons and carriages, Brake system, Marshalling of passenger and goods trains, Marshalling of Vehicles loaded with dangerous, Inflammable and explosive articles, Marshalling of T-P Vehicles, Shunting Rules.

4) YARD, KINDS OF YARDS : Yard Organisation - Procedure for taking number of wagons, Carriages of incoming and outgoing trains, Maintenance of wagon registers, Wagon detention Registers, Preparation of vehicle guidance and other train papers. Procedure for issue of OPT-10, 18 and other forms, preparation of yard repost and stock sheet, Yard census, Maintenance of Interchange Registers, Inter division and Inter Country, Preparation of DJRS, Issue of correction slips, Maintenance of Transshipment Registers, Receipt and Disposal of Invoices and trains papers, Maintenance of train orders and other control order registers, Time Table, Code of Stations, Demurrage and wharf age charges, Preparation and disposal of Marshalling yard stations, Goods and coaching stock census.

5) Route map of Bangladesh Railway. Maintenance of stock demand register, Procedure for loading packages in wagons, Monsoon precautions, procedure for sealing of tank wagons, Maintenance of transshipment records, Marking of packages, Code of stations, Rules for giving delivery of Inward coaching and goods Traffic, Sealing, riveting and labelling of outward loaded wagons.

6) SERVICE RULES : Government servant Conduct Rule, Leave Rule, Pass Rule, T. A. Rule.

B: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

C: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR MARKMAN

Duration : 5 weeks

Marks : 200

A:

1. Route Map of Bangladesh Railway.
2. Station Codes Section wise.
3. Rules for marking of outward packages, bags, bundles etc. of luggage, parcel, goods and live stock traffic.
4. Study of Forwarding Note, P.W. Bill, luggage ticket, TICKET, Fist Ticket, Railway Receipt, Invoices and RMCs.
5. Sealing riveting and labeling of wagons.
6. Station Codes and abbreviations used on Bangladesh Railway.

B:

1. Government servants conduct rule.
2. Discipline, civility, honesty & ambition.

C: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

D: VIVA - VOCE 100 Marks.

TRAINING SYLLABUS FOR MARKMAN

Duration : 5 weeks

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5. Sealing riveting and labeling of wagons.
6. Station Codes and abbreviations used on Bangladesh Railway.

B:

1. Government servants conduct rule.
2. Discipline, civility, honesty & ambition.

C: PHYSICAL TRAINING, FIRST AID, CIVIL DEFENCE - 100 Marks.

D: VIVA - VOCE 100 Marks.

SYLLABUS FOR LDA-CUM-TYPIST / UDA / HA OF TRAFFIC DEPT

Duration : Foundation - 7 Weeks.
Refresher - 4 Weeks.

A: TRANSPORTATION — 100 Marks.

1. Organisation and function of COPS/DTO Office.
2. Acountal of Rolling Stock, Calculation of Turn-Round and Procedures of Rolling stock utilization.
3. Preparation of Working Time Table.
4. Preparation of Station Working Rule.
5. Actions on Accident Reports.
6. GIBR's and other High Officials Inspections.
7. Control office activities of Maintenance of Information received from Control office.
8. Action against Train Guards, Station Masters and Yard staff etc. for violation of rules.
9. Matters relating to punctual running of Trains, Daily collection and maintenance of Rolling stock information, Train orders etc.
10. Preparation of MIS for Train running, Rolling stock, loading and accident etc.
11. Inter-zonal and Inter-country Rolling stock exchange.
12. Trains and other Special Trains.
13. Procurement of Stores items and their accountal.
14. Preparation of periodical Narrative report, Analysis and preparation of Statistics from LSR and yard reports received from Control and Stations.

B: COMMERCIAL — 100 Marks.

1. Organisation and functions of CCM/DCO office.
2. Collection of Indent from Stations, Printing of Tickets, Money value Books etc. and their supply.
3. Fixation of Station earning Target, Collection of Station Returns.
4. Fixation of Fare and freight rates, preparation of circulars and supply to concerned Agencies.
5. Action against non-arrival of Wagons, delayed arrival of Wagons at the destinations.
6. Rules relating to payment of Compensation claims, demurrage & warfare, Leasing out of Railway godowns.
7. See 56, 72, 77 of the Railway Act and See 151, 152, 161 of Indian Contract Act.
8. Disposal of Commercial Inspection Reports.
9. Catering services.
10. Disposal of Comp aint cases.
11. Disposal of Survey Report for opening of new station, sidings and new lines.
12. Preparation of Commercial Narrative report.

C: GENERAL PAPER - 100 Marks.

Establishment - 40 Marks.

1. Official correspondence and different types of letters.
2. Govt. Servant's Conduct Rules, 1979.
3. E & D Rule, 1961.
4. Leave Rule.
5. Pass Rule.
6. T. A. Rule.
7. Pension Rule.
8. Welfare Trust.
9. Allowances to Running Staff.
10. Office Management.

SYLLABUS FOR PROB. AME'S FOUNDATION COURSE.

Duration: 18 Weeks.

A: MECHANICAL SUBJECT – 200 MARKS.

Paper – I (Locomotives) - 100 Marks.

Introduction:

1) Mechanical Organization & its functions 2) Definition & Types of Rolling Stock 3) Types of Locomotives for Bangladesh Railway 4) Working Principals of Diesel Electric and Diesel Hydraulic Locomotives 5) Comparative study of Diesel Electric and Diesel Hydraulic Locomotives 6) Main components of different types of Diesel Hydraulic functions 7) General data of different classes of Diesel Locomotives 8) Diesel Engine components and working principles 11) Lubricating system 12) Cooling system 13) Air and Vacuum brake 17) Fuel Consumption 18) Examination of wheels 21) Engine failures and trouble shooting 22) Electrical Machines in a locomotive Main & Auxiliary 23) Electrical controls 24) Some definitions 25) Trailing load calculation.

Paper-II (CARRIAGES & WAGONS) – 100 Marks.

1. Responsibility and Duties of supervisors and officers; 2. Types of coaching stock and goods stock on Bangladesh Railway; 3. Maintenance of Coaching stock, 4. Automatic Vacuum Brakes; 5. Wheel Defects; 6. Under frame; 7. Carrying capacity, 8. Train Examination & Train passing. 9. Oiling and Repacking . 10. Interchange of Rolling Stock 11. Derailment of Rolling stock 12. Responsibilities of mechanical Deptt. Interchange of Intercity Trains. 13. Plants & Machineries in workshop/loco shed/Carriage & Wagon depot.

B: TRANSPORTATION (GENERAL AND SUBSIDIARY RULES) -100 Marks.

Chapter–I. All definitions classification of stations

GR & SRS

Chapter –II	GR &SRS	4-24,26-33,35-38,42-57,60-74,76-84
Chapter –III	GR & SRS	85-88,93-95,101,103-119,122-142, 146-152,154-156.
Chapter –IV	GR & SRS	161-169.
Chapter –V	GR & SRS	170-184.
Chapter –VI	GR & SRS	185-194.
Chapter –VII	GR & SRS	195-222.
Chapter –VIII	GR &	SRS 225-231.
Chapter –IX	GR &	SRS 234.
Chapter –X	GR &	SRS 235-259.
Chapter –XVI	GR &	SRS 298-300.
Chapter –XVII	GR &	SRS 303,304,306,341,348,352,360-362.

PART – I APPENDIX I, II, III, (A) II (B) II (C) APPENDIX-IV (Related portion).

Marshalling of Goods, passenger and Rvs Trains. Marshalling of vehicles loaded with dangerous explosive and inflammable articles. Various kinds of operational forms Rel of train working.

APPENDIX – VII

(a) Actions to be taken in the case of accidents, (b) Procedure for conducting inquiry into accidents

C: GENERAL PAPER - 100 Marks

See General Syllabus – A, B, C, D, F, G, H, I, J, K, L,

D: Physical Training, first Aid & Civil Defence -100 Marks

E: Via-Voce Test -100 Marks.

SYLLABUS FOR FROB: AME'S FINAL COURSE.

Duration-6 Weeks.

A: LOCOMOTIVE -100 Marks.

1. Schedules for repair and maintenance of Locomotives in sheds and shops, Rail Car Maintenance.
2. Trouble Shooting and running maintenance of Locomotive.
3. Preparation of power link and crew link and analysis of power turn-round.
4. Engine failure statistics.

a) Fuel economy- Carriage and Loco defects Responsible for high consumption of fuel. Fuel consumption in shed services and trip rationing. Fuel losses arising from train failures, detention and excessive other engine hour, Fuel rationing for yard working and department services, Fuel rationing for non-loco purposes.

b) Fuel Management procurement, Storage & distribution.

5. Distribution of locomotives to different Divisions & their utilization.
6. Defects in locomotives which may accidents.
7. Locomotive procurement programming.
8. Preparation of shopping programmes.
9. Function of Rly, Testing Laboratory.
10. Relief train- Class, composition & Inspection.
11. Standardization Cell (MECH).
12. Plant & Machinery.

B: CARRIAGE AND WAGONS 100 Marks.

1. Schedules for repair and maintenance of Carriage & Wagon in depots and shops.
2. Rake link preparation, Formation of Relief Train.
3. Requirement of coaching stock for a Division.
4. Defects in carriages and Wagons which may cause accidents.
5. Inspection of deferent Bogies- Buffer height, Axle Box clearance, Limiting wear of parts, Loading consignment & un-even loading, Hot box etc.
6. Interchange of rolling stock with Indian Railways – Basic structure of single and duel control, refection and penalty at interchange points-single, duel and neutral controls.

C: MARINE VESSELS - 40 Marks.

1. Introduction – General discussion on Railway Ferry Services.
2. Different types of Marine Vessels owned by Bangladesh Railway.
3. Operation of Passenger Ferry and Wagon Ferry.
4. Maintenance of Marine Vessels.
5. Facilities in Marine Workshops.
6. Fuel management in Ferry Operation.
7. Passenger Ferry pontoon and Wagon Ferry Pontoon.
8. Safety precautions during loading and unloading of Wagons on Barges.
9. Marine Yard Operation.
10. Navigating staff management and training.
11. Agrounding and salvation of Marine Vessels.
12. Riverine Route indicating system.
13. Radar, Echo sounder, Port and Star Board side, Shore Girder.
14. Hydrography.

D: PLANNING AND MANAGEMENT -100 Marks.

a) PLANNING :

1. Project planning concept, objectives, elements, Cycles with reference to Bangladesh.
2. Stages of project preparation.
3. Project financing and Fund release.
4. Project proforma.
5. Project Implementation and evaluation.
6. Cost Benefit analysis.

b) MANAGEMENT:

1. Management: Theory and Practice.
2. Group and Inter- Personal skills development.
3. Personnel Management.
4. Industrial Relation.
5. Functional areas of Management.
6. Financial Management.

E: Viva-Voce -10 Marks.

SYLLABUS FOR SAE, SAE/LR, LM, LI & PNL REFRESHER COURSE.

Duration – 3 Weeks.

Full Marks -100

Locomotives. -60 Marks.

1. Responsibility and duties of Supervisors.
2. Working of Diesel Electric Locomotives.
3. Fuel Injection System.
4. Lubricating System.
5. Cooling Water,
6. Air Brake and Vacuum Brake system.
7. Safety devices of Diesel Electric Locomotive.
8. Schedule of Locomotives and Trouble Shooting.
9. Working of Diesel Hydraulic Locomotives.
10. Lubricating Control Programme .
11. Safety rules of shed/Shop Wordings.
12. Accident – Definition, Classes etc.

Carriage and Wagon – 20

1. Different Types Carriage and Wagon and their brakes System.
2. Maintenance of coaching stock & their scheduling system.
3. Train Examining and train Passing.

Mechanical code - 20

1. Hours of works in factory.
2. Time office & Responsibility of head time keeper.
3. Opening closing of workshop gate.
4. Issue of Ticket and late attendance.
5. Attendance of Supervisors.
6. Work during meal hour and over time.
7. Statistics.

Viva – Voice 100 Marks

SYLLABUS FOR SAE/TXR,s FOUNDATION AND
SSAE, SAE (TXR, CWI)'s PROMOTION/REFRESHER COURSE

Duration:- Foundation:- 18 weeks
Refresh:- 5 weeks

A: Departmental Subjects – 100 Marks.

Carriage and wagon & Locomotives

1. Safety first principles.
2. Duties supervising staff at sick line, Train passing, pit line and at intermediate stations.
3. Washing and cleaning.
4. Examination of passenger, goods, Ballast, Boulder and special Trains.
5. Rejection of Axle boxes, Buffer Draw bar, Spring Tyres, Wheels and under frames.
6. Automatics Vacuums bracket and its principles.
7. Rules and procedures for loading oversized consignments.
8. Accident, definition, causes, classification & report by sub-ordinates.
9. Interchange, definition, procedure billing damages schedules.
10. Block rake, composition, shopping, utilization, Mechanical and traffic spare.
11. Maintenance of coaching stock.
12. Ceiling & Repacking method of axle box.
13. Maintenance of goods stock in depots & shops.
14. Wheel and axles examination, use of Tyre defect gauge.
15. Examination and repair of under frame.
16. Schedule of dimensions of various wagons.
17. Determination load line of various wagons.
18. Load distribution in bogie and four wheelers.
19. CME's standing circulars.
20. Supervision of the works of staff.

B: TRANSPORTATION –100 Marks.

G & S Rule book.

1. Definitions and Classification of station.
2. GR &SRs Nos. 24, 26, 57, 80, 88, 95, 101, 106, 109, 111, 115, 119, 122-142, 146, 152m 154-156, 163-185, 213, 234-256, 298-300, 303-206, 341-352, 360-362.
3. Appendix- I, II, III (A), III (B), III (C) (Related Portion).
4. Marshalling Trains and Vehicles.

C: GENERAL PAPER 100 Marks.
See General Syllabus- A, B, C, D, E, F, G, H, I, J, K.

D: First Aid Physical Training & Civil Defence.

E: Viva- Voce test 100 Marks.

SYLLABUS FOR LM, SLM AND ALM'S FOUNDATION, PROMOTION AND REFRESHER COURSE IN TRANSPORTATION.

Syllabus No.

Duration- Promo - 4 Weeks.
Foundation -12 Weeks.
Refreshes - 3 Weeks.

Transportation: (G & S Rules) Chapter.

1. Definitions- Adequate distance, Adequate distance Board, Aspect of a signal, authorized officer, authority to proceed, ballast train, block section, connection, Day, driver, facing and trailing points, fixed signal, fouling mark, full braking distances, gate, goods train, government Inspector, guard, In advance of a signal, in rear of a signal, Indication of a signal, last atop signal, Main signal, Main line, Mixed train, Multiple, Aspect signal, Night, Obstruction, ordinary Train, Passenger train, permission to approach, pointsmen, Running line, Running train, Special train, Special instruction, Station, Station limits, station Master, Station section, System of working, To block forward, Train, Two aspect signal.

2. Classification of Station: (Chapter-II)
GR & SRs: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 33, 34, 35, 36, 37, 38, 46, 47, 48, 49, 50, 54, 56, 57, 58, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 76, 77, 78, 79, 80, 81, 82, 83, 84.

Chapter- III

GR & SRs: 85, 86, 87, 88, 89, 90, 91, 92, 93, 95, 96, 97, 98, 99, 100, 101, 103, 104, 106, 107, 108, 109, 110, 111, 112, 115, 116, 117, 118, 119, 120, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 138, 140, 142, 143, 144, 146, 147, 149, 150, 151, 152, 154, 155, 156.

Chapter – IV

GR & SRs: 163 – 169.

Chapter-VI

GR & SRs: 170 – 184.

Chapter-VII

GR & SRs: 213.

Chapter-IX

GR & SRs: 234.

Chapter-X

GR & SRs: 235, 237, 238, 240, 241, 243, 244, 245, 247, 248, 249, 250, 251, 252, 254, 255, 256.

Chapter-X

GR & SRs: 298 – 300.

Chapter-XVII

GR & SRs: 303, 304, 306.

Chapter-XVIII.

GR & SRs: 341, 342, 343, 347, 348, 352, 360-362.

Part- I Appendix- I, II, III (A), III (B), III (C) (Related Portion).
Appendix- IV (Related portion).
Appendix- VII (Item No. 1-4)

General :

A. Carriage and Wagon: Types of Wagons.

AVB System, Minor repairing of C & W of running trains.

Establishment :

B. E & D rules of 1961, Government servant conduct rules, pass rules leave rules, pension rules, Rly. Organization.

C. Permanent Way: Formation of Railway Track, points and crossing Engineering speed restriction, Signals and Indicators, working of Ballast Trains.

SYLLABUS FOR ATXR AND TXR'S FOUNDATION, REFRESHER COURSE

Duration: 4 Weeks.

A: DEPARTMENTAL SUBJECT - 100 Marks.

Carriage and Wagons & Locomotives.

1. Safety first Principal.
2. Duties & Supervising staff at sick line, Train passing, pit line and at intermediate stations.
3. Washing and cleaning.
4. Examination of passenger, Goods, Ballast, Boulder and special Trains.
5. Refection of Axle boxes, Buffer Draw bar, Spring Tyres, Wheels and under frame.
6. Automatic Vacuums brake and its principles.
7. Rules and procedures for loading oversized Consignment.
8. Accident, Definition, Causes, Classification & Report by Sub-Ordinates.
9. Interchange, definition, procedure billing, damages, schedules.
10. Block rake, composition, shopping, utilization, Mechanical and Traffic spare.
11. Maintenance of coaching stock.
12. Oiling & Repacking method of Axle Box.
13. Maintenance of Goods stock in depots & shops.
14. Wheel and Axles Examination, use of tyre defect gauge.
15. Examination and repair of under frame.
16. Schedule of dimensions of various components.
17. Determination load line of various wagons.
18. Load distribution in Bogie and four wheelers.
19. CME's Standing circulars.
20. Supervision of the work of staff.

B: TRANSPIRATION FOR ATXR's PROMOTION COURSE.

G & S Rule Book.

1. Definitions and classification of station.
2. GR & SRs Nos. 4-24, 26-57, 60-84, 85-88, 93-101, 103, 106, 109, 111, 115-119, 122-142,146-152, 154-156, 163-183, 213-234-256, 298-300, 303-306, 341-352, 360-362.
3. Appendix: I, II, III (A), III (B), III (C), (Related portion).
4. Marshalling of Trains and Vehicles.

C: GENERAL PAPER - 100 Marks.

See General Syllabus- A, B, C, D, E, F, G, H, I, J.

D: FIRST AID, PHYSICAL TRAINING & CIVIL DEFENCE

E: Viva-Voce Test - 100 Marks.

SYLLABUS FOR CARRIAGE & WAGON DEPOT, MISTRY, FITTER & SS FITTERS REFRESHER COURSE.

Duration: 4 Weeks.

A: CARRIAGE & WAGONS.

1. Safety Rules.
2. Tools and Plants used for Cleaning, Washing, Assembling fittings and Examinations.
3. Wheel Tapping, Repacking, drilling, Smithing, carpentry etc.
4. A. V. B. System its filling, Maintenance and repair, Test.
5. Under gear, Buffing gear, Brake Gear, Wheel spring etc.
6. Rejection of wheel axle, axle box, Buffing gear, spring, brakes gear, wheel tyre, spring etc.
7. Procedure for Lashing & wiring of ever sized consignments.
8. Tools and plants required for attending accident cases.
9. Oiling and repacking of axle boxes, Hot boxes, Defective brass and Journals.
10. Schedule of examination- Pit line, sick line, relief train and at out stations.
11. Examination of under frame, assembling and fitting schedules of various dimensions.

B: FIRST AID, PHYSICAL TRAINING & CIVIL DEFENSES.

C. Viva- Voce Test 100 Marks.

Duration : 2 Weeks

TRAINING SYLLABUS FOR CARRIAGE ATTENDANT'S COURSE.

Duration – 2 Weeks.

A: CARRIAGES

1. Safety first principles.
2. Taking over charge of carriage- cleaning, Watering, Disinfectioning, checking of doors, windows and other fittings.
3. Automatic Vacuum & Air Brake system, Alarm chain, Clappet Valve, Brake, Binding and other vacuum fittings.
4. Passenger chart, arrangement of accommodation of passengers, dealing with passengers, give all sorts of assistance to them.
5. Assistance to conductor guard.
6. Use of fire extinguisher.
7. Carriages codes.
8. Log Book maintenance.

B: VIVA VOCE TEST -100 Marks.

SYLLABUS FOR THE OFFICE ASSISTANTS OF MECHANICAL DEPARTMENT.

Duration – 7 Weeks

First Paper- 100 Marks.

1. Organisation of Mechanical Department:
   Head Quarter of Chief Mechanical Engineer, Workshops, Running Division, Marine and Chemical Testing Laboratories.
2. Functions and Management:
   Workshops (Diesel, Carriage and Wagon, Marine), Loco Running sheds, Carriage and Wagon Depots and Marine Running.
3. Stores:
   Source of stores, procurement, Distribution and method of Material return, Method of preparing requisition vouchers of Imprest and other stores, Approved Uniform for all officials, Forms and stationeries and their use.
4. Fuel and Lubrication Management:
   Assessment of requirement and procurement storage, Distribution, Method of payment, Fuel survey and Accountal system.
5. Rolling stock:
   General knowledge on Rolling stock, Procurement of Rolling stock, Maintenance and Management programme, Allocation of Budget, Statistic of Rolling stock and its utility.
6. General knowledge on Interchange and functions.

Second paper - 100 Marks.

Group – A - 40 Marks.

1. Government Servants conduct rules.
2. Procedure of Receive and despatch of official letters and distribution, Opening and Maintenance of files.
3. Drafting and précis of letters, Correspondence with other departments, Office management.
4. Efficiency Rules.
5. Leave Rules.
6. Pass Rules.
7. General Provident Fund rules.
8. Pension Rules.
9. Traveling allowance Rules.
10. Medical Facility Rules.
11. Wagons Act.
12. Hours of Employment Regulations.
13. Workman's Compensation Act.
14. Staff Benefit Fund Rules.
15. Group Insurance and Welfare Act.
16. Factories Act.

Group – B ..... 60 Marks.

1.	Railway Budgets, Works and Budget of Mechanical Department and functions of workshop Accounts	20
2.	Transportation and Commercial	10
3.	Civil ----------	10
4.	Signal	10
5.	Electrical	10
		Total = 60

TRAINING SYLLABUS FOR PROMOTION TO JUNIOR PERSONNEL OFFICER/ASSTT.
PERSONNEL OFFIER, JUNIOR WELFARE OFFIER.

Duration- 8 Weeks.
100 Marks

(A) Establishment - Paper- 1

1. E & D Rules- 1961
2. Leave Rules (P.L.R- 1955 and State Railway Leave Rules
3. Pass Rules
4. Pension Rules
5. Provident Fund Rules
6. Gratuity Rules
7. Gazetted officers Recruitment Rules
8. Non-gazetted staff Recruitment Rules.
9. Rules Governing Promotion of Sub-ordinates.
10. Fixation of Pay Rules.
11. Traveling Allowances Rules.
12. General condition of services.
13. Govt. servant's conduct Rules-1979
14. Bifurcation of Railway 1962
15. Formation of Railway Board 1976
16. B.C.S. Recruitment Rules 1967 & 1981.
17. B.C.S. Cadre & Composition Rules 1980.
18. B.C.S. Seniority Rules 1985.
19. Management information system.

(B) Establishment Paper- II 100 Marks.

1. Power and function of GM's and other Heads of Deptt. and other officers.
2. Power and function of DRM's and other Divisional officers.
3. Medical attendance Rules.
4. Factory Act.
5. Payment of Wages Acts.
6. Workman's compensation Acts.
7. Staff Benefit Fund Rules (Kallyan Trust)
8. Group Insurance and Benevolent Fund Rules.- Welfare Trust.
9. Hours employment Regulation Rules.
10. Industrial Relations (Regulation Ordinance)
11. Definitions : Average Pay, compensatory allowances, competent authority, Duty, Fee, General Revenue, Joining Time, Honorarium leave on Average Pay (Leave Salary), Lien, Ministerial Servant, Officiating pay, Substantive pay of a post, Railway Servant, Special pay, Subsistence grant, substantive pay, Temporary post, Tenure post, Time Table, Traveling Allowances, Daily Allowances Rules, Time Scale, Identical, Dies-non, Condo nation of Breaking Service, Probationers, Apprentices, Family, Day.

(C) General Paper- 100 Marks.
See General Syllabus- A, B, C, D, E, F, G, H, I, J, K, L.

(D) Physical Training:- First Aid & Civil Defence- 100 Marks.

(E) Viva-voce- 100 Marks.

SYLLABUS FOR HEAD ASSISTANTS OF PERSONNEL BRANCH.

Duration: Orientation- 7 Weeks
Refresher- 5 Weeks
Marks- 100

A. ESTABLISHMENT (WRITTEN) PAPER- I :

1. Govt. servant's conduct Rules-1979.
2. General condition of services and cadres.
3. E & D Rules- 1961
4. Non-gazetted staff Recruitment Rules.
5. Gazetted officers Recruitment Rules
6. Rules Governing Promotion of Sub-ordinates.
7. Leave Rules.
8. Pass Rules
9. General Provident Fund and Special contribution Rules
10. Pension and Gratuity Rules.
11. Traveling Allowances Rules.
12. Definitions.
13. Fixation of Pay Rules.
14. Grant of Increment Rules.
15. Procedure of handling P. cases for Final settlement early.

B. ESTABLISHMENT (WRITTEN) PAPER- II : 100- Marks.

1. Power and function of GM's Addl. GM's and other Heads of Deptt.
2. Power and function of DRM's, Divisional / District and Asstt. officers holding independent charges.
3. Medical attendance Rules.
4. Payment of Wages Acts.
5. Hours employment Regulation.
6. Workman's compensation Acts.
7. Staff Benefit Fund Rules.
8. Group Insurance and Benevolent Fund Rules.- Welfare Trust.
9. Welfare Trust.
10. Factory At.
11. Industrial Relation (Regulation Ordinance)- 1969

C. General Paper- 100 Marks.
See General Syllabus- A, B, C, D, E, F, G, H, I, J, K, L.

D. Physical Training:- First Aid & Civil Defence-100 Marks.

E. Viva-voce- 100 Marks.

SYLLABUS FOR UDA OF PERSONNEL BRANCH.

Duration: - 7 Weeks

A. ESTABLISHMENT (WRITTEN) PAPER- I : Marks- 100

1. Govt. servant's conduct Rules-1979.
2. Railway servants E & D Rules , 1961.
3. General Condition of services and cadres.
4. Non-gazette staff & officers Recruitment Rules.
5. Gazette officers Recruitment Rules
6. Rules Governing Promotion of Sub-ordinates.
7. Leave Rules.
8. Pass Rules
9. General Provident Fund and Special contribution Rules
10. Pension and Gratuity Rules.
11. Traveling Allowances Rules.
12. Definitions.
13. Fixation of Pay Rules.
14. Grant of Increment Rules.
15. Procedure of handling P. cases for Final settlement early.
16. Job analysis and determination of requirement of staffs and allocation of Job.

B. ESTABLISHMENT (WRITTEN) PAPER- II : 100- Marks.

1. Power and function of GM's Addl. GM's and other Heads of Deptt.
2. Power and function of DRM's, Divisional / District and Asstt. officers holding independent charges.
3. Medical attendance Rules.
4. Payment of Wages Acts.
5. Hours employment Regulation.
6. Workman's compensation Acts.
7. Staff Benefit Fund Rules.
8. Group Insurance and Benevolent Fund Rules.- Welfare Trust.
9. Welfare Trust.
10. Factory Act.
11. Industrial Relation (Regulation Ordinance)- 1969

C. General Paper (Written)- 100 Marks.
See General Syllabus- A, B, C, D, E, F, G, H, I, J, K, L.

D. Physical Training:- First Aid & Civil Defence-100 Marks.

E. Viva-voce- 100 Marks.

TRAINING SYLLABUS FOR LDA-CUM-TYPIST OF PERSONNEL BRANCH.

Duration : Foundation- 7 Weeks
Refresher- 5 Weeks.

A. GENERAL 50 Marks.

1. Introduction
2. Railway system, Zonal system
3. Divisional system.
4. Personnel Branch in the Division and shop.
5. Drafting.
7. Decimal system.
8. Railway Recruitment Bureau & their function.
9. Organization at different levels of all Department.
10. Railway Training Academy & their function.

B. TRANSPORTATION, COMMERCIAL, MECHANICAL & CIVIL ENGINEERING.
50 - Marks

1. Coaches, Wagons, Classification of Trains, Mixed Train, Passenger Train, Mail Express & Intercity Trains.
2. Stations, Junctions, Transportation Station, Commercial Stations, Cabins, Relay-Interlocking.
3. Primary track, Secondary track, Tertiary track, Welded track, Gauge, Levels, Bridges, Culverts, Level Hinges, Platform, Foot-over-Bridges, Platform shed, Water supply, Residential Colony and their upkeep.
4. Types of Locomotives, Fueling Shed & Workshop working.

C. ESTABLISHMENT (WRITTEN) PAPER-I :

1. Govt. Servant Conduct Rules.
2. Railway Servant Efficiency & Discipline Rule, 1961.
3. General Condition of Service and Cadres.
4. Non-Gazetted staff recruitment Rules.
5. Gazetted Officers Recruitment Rules.
6. Rules governing the promotion of sub-ordinates.
7. Leave Rules.
8. Pass Rules.
9. General Provident Fund & Special Condition Rules.
10. Pension and Gratuity Rules.
11. Traveling Allowances Rules.
12. Definitions.
13. Fixation of Pay Rules.
14. Grant of Increment Rules.
15. Procedure of handling P. cases for final settlement early.

D. ESTABLISHMENT (WRITTEN) PAPER- II :

1. Power and functions of GMs, Addl. CMs and other Heads of Departments.
2. Power and function of DRMs, Divisional/District and Asstt. Officers holding independent charges.
3. Medical Attendance Rules.
4. Payment of wages Act.
5. Hours of Employment Regulations.
6. Workmen Compensation Act.
7. Staff Benefit Fund Rules.
8. Group Insurance and Benevolent Fund Rules.
9. Factory Act.
10. Industrial Relation (Regulation Ordinance) 1960.

F. Viva-voce- 100 Marks.

Syllabus for Promotion to the Category of Asstt. Officer (Staff of Scale Tk. 1350-2350 of Traffic & Engineering Cadres)

A.	General Syllabus	-	200 Marks.
	Engineering Subjects	-	100 Marks.
	Other then Engineering Subjects	-	100 Marks.
B.	Physical Training, First Ai, Civil Defense	-	100 Marks.
C.	Viva- Voce	-	100 Marks.

REFRESHER COURSE FOR SR. SCALE OFFICERS OF ALL DEPARTMENTS.

Duration: 4 WKS.

A. MANAGEMENT.

1. Management by objects
2. Leadership
3. Personnel Management.
4. Railway Acts.
5. E & D Rules of 1961.
6. Leave Rules
7. Govt. Servant Conduct Rules, 1964, 1979.
8. Pass Rules.
9. Pension Rules.
10. Payment of Wages Acts.
11. Hours of Employment Regulation.
12. Workmen compensation Act.
13. Creation of posts.
14. Recruitment Rules.
15. T.A. Rules.
16. Promotion Rules.
17. Fixation of Pay Rules.
17. Railway Servant Conduct Rule.

B. RAILWAY FINANCE:

(1) Control over expenditure.
(2) Preparation of Budget.
(3) Canons of financial propriety.
(4) ADP.
(5) Progress of works.

C. STORES:

Issue and Account of stores.

D. RAILWAY STATISTICS:

Commercial , Operating an accident statistics.

E. TRANSPORTATION :

1. Procedure for conducting enquiry into accident cases.
2. Railway Accidents an remedial measures.
3. Stock working-Improvement of Turn Round of Locomotives, Carriage and Wagons.
4. Framing of Station working rules and working Time-table.
5. Freight Operation.
6. Intercity Train Operation.
7. Interchange of Rolling Stock.
8. Inspections.
9. Inland haulage of Containers.

COMMERCIAL:

1. Commercial Management.
2. Liability of Railway as a carrier
3. Prevention of claim.
4. Passenger amenities.
5. Booking of RMC consignments.
6. Railway rating structure.
7. Freight marketing.
8. Freight forwarding.

F. LOCOMOTIVES, CARRIAGE & WAGONS:

1. Schedules of repairs for locomotives.
2. Defects in locomotives, Carriages and Wagons which may be cause accident.
3. Fuel Economy
4. Stock Braking system.
5. Power link, Crew link & Rake link preparation.
6. Train lighting.

G. PERMANENT WAY:

1. Formation and components of track.
2. Tack maintenance.
3. Measured Shovel packing.
4. Points and crossings.
5. Curves, super-elevation, grades.
6. Defects in tracks which may cause accidents.
7. Procedure for taking Blocks and imposition of restrictions.
8. SWR, LWR & Concrete sleepers.

H. SIGNALLING AND INTERLOCKING:

1. Signaling and Interlocking system.
2. Maintenance of signals, Interlocking, Block Instruments and Securing of points.
3. Relay Interlocking and causes of their failures.
4. Sectional capacity.

Preparation of paper -100 Marks.

Viva- Voce - 100 Marks.

SYLLABUS FOR PROMOTION TO THE CATEGORY OF HEAD ASSTT.
AND UDA OF MEDICAL HEPARTMENT.

Duration- Foundation = 3 Weeks.
Refresher = 5 Weeks.

A. Medical departmental subject- 100 Marks.

1. Organizational Setup o Medical Department and its functions.
2. Rules for Health examination of in Service Gazetted and non Gazetted staff and newly appointed staff.
3. Responsibilities and duties of Medical officers and staff at the time of accident.
4. Rules for Medical attendance
5. Rules for issuing Medical Certificates.
6. Rules regarding contagions diseases.
7. Public Health.
8. Medical stores and Equipment.
9. Power of Divisional Medical officers, Asstt. Medical officers and Radiologist regarding Medical Technical subjects.
10. Maintenance of different registers and emergency records.

B. General Paper---------- 100 Marks.

ESTABLISHMENT.

1.	Railway Organization	2.	Govt. Servant Conduct Rule. 1979, 1964.
3.	E & D Rule 1961	4.	Leave Rule.
5.	Pass Rule.	6.	Wage's Act.
7.	Hours of employment Regulation	8.	Factory Act.
9.	Worksman Compensation Act.	10.	Pension Rule.
11.	T. A. Rule.	12.	Office Management.
13.	Railway Servant Kallayan Trust.	13.	Railway Servant Conduct Rule.

TRANSPORTATION AND COMMERIAL

1.	Railway Time Table	2.	Different Kinds of Tickets.

SIGNAL AND TELECOMMUNICATION

1. Different kinds of signals and their uses.

PERMANENT WAY

1. Formation of Track, Points and Crossings.

LOCOMOTIVE, CARRIAGES AND WAGONS :

1. Different types of Locomotive, Carriages and Wagons, their uses Scheduling.

ACCOUNTS AND STORES

1. Preparation of Budget.
2. Control of expenditures.
3. Canons of Financial propriety.
4. Procurement of stores and accountal there to.

C. Physical Training:- First Aid & Civil Defence- 100 Marks.

D. Viva-voce- 100 Marks.

TRAINING SYLLABUS FOR HEAD ASSTT. AND UDA's OF
ESTATE DEPARTMENT.

Duration- Foundation = 7 Weeks.
Refresher = 5 Weeks.

A: SUBJECTS CONCERNING ESTATE DEPARTMENT - 100 Marks.

Organisation and functions of different Department of Bangladesh Railway.
Airm, object and functional responsibility of Estate Department.
Custody, Management and disposal of land (Chapter- VIII) of Railway Engineering Code.

Land acquisition, requisition and issuing Licence (Chapter- XI) of Way Government's Policy regarding Bangladesh Railway.

Progress Report,

Budget, Budget Order, Budget grant, Canons of Financial Propriety, Financial Justification, control over expenditures.

Stores : Maintenance of Inventory, Requisitions, stock verification.

Audit : Maintenance of Accounts and Audit department on Railway, Audit objections, classification of Audit objections.

Establishment :

a) E & D Rule-1961
b) Govt. Servant Conduct Rule. 1979, 1964
c) Non- gazetted Staff's Recruitment Rule- 1985
d) Government Servant's Special Ordinance- 1979
(Ordinance- 11-1979), 1982 (Ordinance-34-1982)

e) Leave Rule f) Pass Rule g) T.A. Rule
h) Pension Rulei) Retirement benefit Rule
i) Railway Servant Conduct Rule.

1. Others :

a) Imprest Cash and its accountal.
b) Implication of Law Management of Railway land.
c) Show cause notice, Injunction- temporary and permanent and written objection, special petition, Appeal, 2nd appeal, Administrative Tribunal.

B: Physical Training, First Aid and Civil Defence- 100 Marks.

C: Viva - Voce - 100 Marks.

GENERAL SYLLABUS FOR OFFICERS AND
SUPERVISORS OF ALL DEPARTMENTS.

"A" : ESTABLISHMENT

1. History of the Bangladesh Railway.
2. Railway Organisation.
3. Government Servant Conduct Rule, 1979, 1964.
4. E & D Rule, 1961.
5. Leave Rule & T.A. Rule.
6. Pass Rule.
7. Constitution of Bangladesh, National Flag, National anthem,
8. Railway Servant Conduct Rule.

'B" : TRAFFIC

TRANSPORTATION :

1. Train Operation, Absolute Block System, Kinds of Signals, Station Working Rules, Protection of Block Section, Speed Restriction, Caution Orders, Level Crossing gates.
2. Line Capacity, Classification of Accidents, Working of Relief Trains, Inland haulage of Containers, Inter-city Trains working.

COMMERCIAL :

1. Route Map of Bangladesh Railway, Layout of Passenger Stations. Amenities to Passengers, Service to Railway users.
2. Rules for booking luggage, Parcels and Goods, Weighment, Loading and unloading, Rules for booking of RMC, Demurrage/Wharfage charge, Use of Cranes, Rail, Roads and Waterway competition.

."C" : CIVIL ENGINEERING.

A. Role of Civil Engineering Department and organisation thereof.
B. 1. Formation of Track and its components, Density of Sleepers, Curves and Grades, Super-elevation, Points and Crossing,

2. Engineering Signals and Indicators, Imposition of Speed Restriction.
3. Points and Crossings, Cross overs, Types of Bridges.
4. Water Supply.
5. Opening of New line, GIBR's Inspection.
6. Safety rules in emergency such as Accident, Flood, Procedure for protection of line as per G&S. Rule Book and Way & Works Manual.

D: SIGNALING, INTERLOCKING & TELECOMMUNICATION

1. Signalling, Interlocking & Telecommunications, Different types of Signals, Block overlap, Signal Overlap.

2. Interlock and its principle, Mechanical Interlocking, Power Interlocking and Relay Interlocking etc.

"E" MECHANICAL

1. Mechanical Organisation and its functions.
2. Definitions and types of Rolling Stock.
3. Maintenance systems of Rolling Stock.
4. Facilities developed for maintenance of Locomotive and Carriage and Wagon.
5. Schedules of Locomotives.
6. Schedules of Carriage and Wagons.
7. Locomotive defects- Responsible for Road failure/derailment
8. Carriage and Wagons defects- Responsible for Road failure/derailment.
9. Brake systems of Locomotives.
10. Brake systems of Carriage and Wagons.
11. Different Dimensions of Bogie (Trolly) and oversize consignment.
12. Train Examinations.
13. Discussion on Power link, Crew link, Utilisation of Power Engine failure and fuel management.

"F": ELECTRICAL ENGINEERING.

1. Role of Electrical Deptt. in Railway operations.
2. Electrification of Railway premises.
3. Train- lighting, Air conditioning of Coaches, Maintenance of Air- coolers.
4. Transmission, distribution of Power to service Buildings
5. Electrical safety measures.

G. GENERAL SYLLABUS OF ACCOUNTS DEPTT.

1. Functions of Accounts Deptt. & its relation with other Deptts.

2. Preparation of Railway Revenue Budget- Annual Development Programm -New Minor works- Budget order - Allocation Rules - Schedule of Power.

3. Financial Justification - Canons of Financial Propriety - Works & Allocation Registers - Control over expenditure - Appropriation Accounts.

4. Classification of Railway Earnings and the procedure of their receipts and accountal payment from station earnings.

5. Dills : Monthly salary bills, supplementary bills, T.A. bills, contingent bills- Imprest cash

6. Inspection : Station Inspection, Stock Verification, Inspection of Executive offices, Disposal of Inspection reports.

7. Losses, Frauds and embezzlement, Dealing with Audit objections.

8. Local Purchase and procedure for submission of Vouchers to the Accounts Department for adjustment .

H- STATISTICS

1. Necessity and Importance of Railway Statistics, Methods of collection of data and compilation of Information Book.
2. Comparative Study of Transport Agencies.
3. M. I. S.
4. Passenger Train and Passenger Train- Kilometres.
5. Coaching Vehicles per Train and Coaching Vehicles Kilometres.
6. Freight Train and Freight Train Kilometres.
7. Freight Wagons per Train and Freight Wagon kilometres.
8. Speed and Net load of Freight Trains.
9. Average Daily Kilometres of a Coaching Vehicles : Percentage Coaching Vehicles under repairs, Average number of Passengers per Vehicle, Average number of Passenger per Train.
10. Average Daily Kilometrage of a Freight Waogn : Percentage of Wagons under repairs: Wagon kilometres per Engine hour : Net Tonne kilometres per wagon day, Average Turn Round of a wagon.
11. Average Daily kilometrage of a Locomotive.
12. Percentage of Locomotive under repairs.
13. Revenue from Passenger Carried, Revenue per Passenger and per Passenger Kilometres, Revenue from Freight Tonnes Carried, Revenue per Tonne and per Tonne kilometres.

"I" MODEL ROOM PRACTICE :

1. Different Classes of Stations,
2. Description of Signaling and Interlocking

3. Different Types of Block Instruments and their working (Double & Single Line).

"J" STORES DEPARTMENT :

1. Stores Organisation, its functions.
2. Procedures for procurement of stores from stores Department.
3. Receipts and Issue of Stores and Accountal thereof.
4. Procedures for procurement of Stores from open market.
5. Floating of Tenders for procurement of stores from open market.
6. Execution of Agreements.

"K" MULTIMODALISM :

1. Multimodal Transport.
2. Transport of Containers
3. Classification of Containers
4. I C D / CFS
5. Freight Forwarding
6. Freight marketing.

"L" COMPUTERIZATION:

1. Hardware.
2. Software
3. Operation.

BANGLADESH RAILWAY TRAINING ACADEMY
HALISHAHAR, CHITTAGONG.

SYLLABUS FOR SRAS TRAINING COURSE, DURATION = 16 WEEKS

(A) Sub : General Rules & Procedure. Marks = 100

Name of Code Books	Subject to be taught	Reference	
General Code Vol-I			
1. Railway Finance		Chapter	III
2. Annual Budget		"	IV
3. Revised and Budget Estimates		"	V
4. Appropriation Accounts		"	VI
5. Financial Justification of Rly. Expenditures.		"	VII
6. Control over Expenditure & Financial Propriety.		"	VIII
7. Allocation of Expenditure.		"	IX
8. Contingent Charges		"	XIII
9. Advances & Arrear Claims.		"	XV
10. Bills for Pay & Allowances.		"	XVI
11. Losses frauds and embezzlements		"	XVII
Accounts Code Part-I			
1. Bills for internal check of expenditure		"	II
2. Check of Establishment charges		"	III
3. Results of Internal check.		"	IV
4. Cash and Pay deptt.		"	IX
5. Inspection of Executive offices		"	VII
6. Communication from Audit and action thereon.		"	VIII
7. SRPF & GPF Rules.		"	XIII
8. Suspense Accounts (Various kinds of suspense Accounts)		"	XVI
9. Security deposits.		"	XVIII

Accounts Code Part-II

1. Check of local classification of passengers	Chapter	XX
2. Check of goods traffic receipts	"	XXII
3. Check of station Balance sheets.	"	XXIII
4. Accounts office debits and their clearance.	"	XXIV
5. Carriage bills & Accounts office Balance sheet.	"	XXV
6. The Traffic Book.	"	XXVIII
7. Station Inspection.	"	XXIV

Store Code

1. Organization & Classification of stores .	"	I
2. Purchase of stores.	"	II
3. Purchase policy & Rules.	"	III
4. Contract & Security of contractors for supply of stores.	"	IV&V
5. Contract Agreements.	"	VI
6. Depot Ledgers	"	XIV
7. Imprest stores (other than Engg. stores)	"	XVIII
8. Surplus stores.	"	XXII
9. Priced ledgers.	"	XXV
10. Reconciliation of Priced Ledgers with General Books.	"	XXVI
11. Accountal in General Books of Receipts & Issues of stores.	"	XXVII
12. Check & Payment of stores Bill.	"	XXVIII
13. Stock Verification of stores by the Accounts Deptt.	"	XXXI

Establishment Code Vol. I

1. Traveling allowance for journey. tour & transfer Traveling allowance for other Journeys. Revised rate of traveling allowance with effect from 1-6-85	"	III
2. State Railway leave Rules-prescribed leave Rules.	"	VII
3. Special Allowances.	"	V

Establishment Code Vol. I

1. Rly. Fundamental Rules (Definition General Condition of service, Fxaction of pay)	XX
2. Rly. Supplementary Rules (Combination of Holidays, Hospital leave, Joining time etc.	XXII

Engineering code

1. Engineering surveys Reconnaissance, Preliminary & location survey.	IV
2. Estimates.	IX
3. The Execution of works (U/C).	X
4. Initial Records, Measurement and Bills.	XII
5. Initial Accounts of Constructions A/C	XIV
6. Initial Accounts of open line.	XVI
7. Completion of works.	XVII
8. Material at site accounts.	XVIII

Mechanical code

1. Attendance in workshops	IV
2. Payment of wages Act and workmen/Compensation Act.	V
3. On Cost.	IX
4. Works Orders	X
5. Compilation of the workshop Manufacture suspense Accounts.	XVI
6. Payment Procedure.	V

MISCELLANEOUS :

(a) I Importance and Necessity of Statistics.

II Method of collection of data and compilation of Information Book.

(b) I Railway Budget.

II Head wise earning, Class wise fare of a passenger per kilometre and class wise earning of a passenger per kilometre.

III Head wise expenditure, Actual transportation cost for a passenger per Kilometre.

(c) I Other competitive transports against Railway and their role.

II Comparison of Role between other transports and the Railway in respect of transportation.

(d) Disposal of Audit objections.

(B) Sub:- Book & Budget (Theoretical & Practical) Marks-100

Name of Books	Subject
Office Manual of Books & Budget	1. Sectional organization, Main Division of works. 2. Preparation of Daily Abstract of Allocation General check-scope and Method of Internal check.

Accounts code pt. I

Chapter

III	Communications from Audit and action thereof
VIII	Reconciliation of Daily Cash Book with Cashier Cash Book.
IX	
X	Structure of Railway Accounts.
XI	Compilation of Railway Accounts.
XII	Annual Accounts and Returns.
XIV	Suspense Accounts-Review of suspense balances.

General code Vol. I

IV	The Annual budget
V	Revised & Budget Estimates.
VI	Appropriation Accounts including preparation of Capital statement, Balance sheet and profit & Loss Accounts.
XIV	Cash, Cheque and Vouchers.

(C) Sub :- ADVANCED ACCOUNTANCY

Chapter Marks-100

I 1. Introduction :
(a) Need and Importance of Accounting.
(b) Evaluation of Accounting.
(c) Modern theory and practices of Accounting
(d) Philosophy of debit & credit.
(e) Definition of Book-keeping.
(f) Distinction between Book-Keeping and Accountancy
(g) Its objects and advantages
(h) Double entry system of Book Keeping.
(i) Accounting cycle.

II 2. Book-Keeping upto the Trial Balance.
(a) Recording of transaction- Journal.
(b) Books of original entry.
(c) Different kinds of Cash Book.
(d)Classification Ledger.
(e) Bank Reconciliation Statement
(f) Summarising Trial Balance
(g) Trial Balance is not a conclusive proof of accuracy.

Chapter - III 3. Financial Statements.

(a) Capital & Revenue Expenditure.
(b) Capital & Revenue receipts.
(c) Adjustments entries.
(d) Trading Accounts, Profit & Loss Accounts and Balance sheet.
(e) Difference between Trial Balance and Balance sheet.
(f) Classification of Assets and liabilities.
(g) Final Account of (i) Partnership, (ii) Joint stock Company.

Chapter - VI 4. Bills of Exchange, Promissory Notes and cheques.

Chapter - VII 5. Accounts of Non Trading Concern.

Chapter - XIII 6. Depreciation, Reserves and provisions.

Suggested Book
Advanced Accounting by Md. Moinuddin Khan B. Com (Hons) M. Com, Associated Professor, University of Dhaka.

(D) Sub : Precise and Drafting Marks-100
Precise Writing

1. General : What is a precise. The object of precise-writing. Essentials of a good precise.
2. General Principles of precise-writing -Thorough Understanding.Title, Notes, language .
3. Precise of Correspondences and passengers- Form, Commission of Un-important points, length, preparing a Rough precise.

Drafting.

1. Essentials of a good Draft.
2. Drafting :
(i) Letter (ii) Demi-official (D.C) letter
(iii) Un-official (U.C) "Correspondence (iv) Memorandum
(v) Circular (vi) Endorsement (vii) Express letter
(viii) Telegram (ix) Notification.

E. General Paper- 100 Marks.
See General Syllabus- A, B, C, D, E, F, H, I, J, K, L

F. Physical Training- First Aid and Civil Defence- 100 Marks.

G- Viva Voce- 100 Marks and Training appraisal report- 100 Marks.

GENERAL SYLLABUS FOR SUPERVISORS OF ACCOUNTS DEPTT.

"A" ESTABLISHMENT

1. History of the Bangladesh Railway.
2. Railway Oraganization.

"E" MECHANICAL

1. Mechanical Organization and its functions.
2. Definations and types of Rolling Stock.

"K" MULTIMODALISM

1. Multimodal Transport.
2. Transport of Containers.

"L" COMPUTERIZATION

1. Hardware.
2. Soft ware.
3. Operation.

মোঃ আতাউর রহমান
ট্রেনিং অফিসার / ট্রাফিক
রেলওয়ে ট্রেনিং একাডেমি
হালিশহর, চট্টগ্রাম।

SYLLABUS FOR AUDITORS REFRESHER COURSE.

Duration : 9 Weeks.

A: GENERAL RULES & PROCEDURE- 200 Marks.

1. Organizational set-up of various Establishment units (both Executive and Accounts)
2. The functions of Establishment Section.
3. Preparation of Salary Bills, S.S. Bills, Pay Orders, various Statements and schedules and their checking.
4. Preparation of T.A. Journals, T.A. Bills (both local & foreign) and checking.
5. Special Allowances- Kinds of Special Allowances- conditions of grant.
6. Miscellaneous Advances- conditions of grant and recovery.
7. Provident Fund Rules (SRPF & GPF)
8. Leave Rules (Fundamental Leave Rules SRQLR& PLR/55.
9. Pension Rules of 1977, 1982 & 1989.
10. Deficiency & Discipline Rule, 1961
11. Miscellaneous.

WORKS SHOP ACCOUNTS

1. Class of staffs, Hospital leave, Special casual Leave, staff Benefit Fund, Compensation Act.
2. Attendance in workshop, Time office absentee list, shop absentee list & Mustor Rolls.
3. On cost-kinds of on cost in Railway Workshops.
4. Work order system- Kinds of work order in Railway workshop.
5. The Workshop Account current- its debits and credites.
6. The workshop Manufacturing Suspense Accounts-its compilation.

STORE ACCOUNTS

1. Functions of the Chief Controller.
2. Purchase policy Rules, its main conditions.
3. Details of Tender system.
4. Contracts - Principles of a good contract.
5. Numerical ledgers, priced ledgers, irregularities & reviews of priced ledgers.
6. Functions of a Stock verifier, principles of Stock verification.
7. Stock Adjustment Accounts- its part clearance of balance.
8. Short Note : Nomenclature-cum-price list, kinds of stores, Stock and non-stock items, surplus stores, Movable surplus, Dead surplus, Maxima Minima, canons of financial propriety, Purchase order, Receipt Note, Issue Note, DSR, DSI etc.

EXPENDITURE

1. Functions of expenditure section
2. Scrutiny of expenditure
3. Internal check of expenditure.
4. Check of contractor's bill.
5. Classification of expenditure.
6. Check of Imprest recoupment. bill.
7. Cost of order police.
8. Preparation of check of estimates.
9. Deposit works.
10. Works and allocation register and their reconciliation..
11. Building Rent.
12. Completion Report.
13. Control over expenditure.
14. Sidings Chargs.

TRAFFIC & STATION ACCOUNT

1. Introduction :
   - (1) Sources of Railway Revenue
   - (2) Accounts check of Traffic Earnings.
   - (3) Apportionment of receipts between Railways
   - (4) Period for completion of Traffic Accounts.
2. Check of Passenger Traffic Receipts.
   - (1) Check of Ticket Indents.
   - (2) Check of collected Tickets.
   - (3) Check of Local classification of passengers.
   - (4) Check of Return Journey vouchers.
   - (5) Check of Monthly season Tickets.
   - (6) Check of H.O.R.
   - (7) Check of Free passes.
   - (8) Check of Returns of Traveling Ticket Examiners.
3. Check of other Coaching Traffic.
   - (1) Left Luggage, Demarrage and wharf age
   - (2) Comparisn of Inwards way bills with abstracts
   - (3) Comparison of out wards and inwards summaries.
   - (4) Check of "Paid" and "To Pay" parcels Traffic
   - (5) Check of Terminal Tax on parcels.
   - (6) Check of over charge sheets and refund lists.
4. Check of Goods Traffic Receipts:
   - (1) Check of Invoice
   - (2) Check of Inward Abstracts.
   - (3) Check of summaries of Goods Inwards
   - (4) Check of over-charge sheets
   - (5) Check of wharf age and Demarrage returns
   - (6) Issue of error sheet
5. Station Balance Sheet:
   - (1) Check of station Balance sheet
   - (2) Charts showing how station Balance sheets are checked with account documents and Returns.
   - (3) Check of closing balance.
   - (4) Preparation of Approximate balance sheet
   - (5) Advice of Internal check.
6. Accounts Office Balance Sheet:
   - (1) Classes of Carriage bills
   - (2) Check of Credit notes.
   - (3) Commission charges on warrant and credit notes
   - (4) Check and Accounting of Railway Materials consignment note
   - (5) Freight charges for RMC
   - (6) Bills prepared from Advices and Statements.
   - (7) Object of the Accounts office Balance sheet.
   - (8) Debit and Credit entries in the Accounts office Balance sheet.
   - (9) Posting of the Accounts office Balance sheet.
   - (10) Out standing bills.

7. Traffic Book:

(1) Scope of Traffic Book.
(2) Parts of Traffic Books.
(3) Posting of Traffic Book.
(4) Comparison of Traffic Book Balance with General Books.

STATION ACCOUNTS

1. Supply of Tickets and issue of Tickets.
2. Booking and delivery of Luggage., Parcels etc.
3. Preparation of C.R. Note.
4. Duties of SM, ASM, TC, BC & TTE etc.
5. Sundries Earnings.
6. Preparation of outstanding list and Refund of over-charges.
7. Remittance of Station Earning.
8. Preparation of Station Balance sheet.
9. Posting of various items on the Debit and Credit sides.
10. Sources of posting of various items in Station Balance Sheets.

PAY & CASH

PAY:

1. Functions of Pay office.
2. Receipts of Bills and Cheques from the Accounts office.
3. Maintenance of Bill distribution Register, Pay Master's Cash Book and Pay Clerks Cash Book.
4. Unpaid Wages lists, its disposal.
5. Submission of PMR Cash Book to Accounts office and obtaining of Acquaintance certificate.

CASH:

1. Functions of Cash office.
2. Realization of Cash bags from the Traffic Cash safe.
3. Register of Cash bags and Cash bags/Way bill.
4. Shroffing of cash.
5. Cash Remittance Notes and Cashier's Cash Book.
6. Traffic Cash chesk sheet and misc. cash check sheets and its relation with Cashier's cash book.
7. Treasury Remittance Note and watching of the receipt of the acknowledged challans from Bank.

GENERAL (As per D.G. Rly.'s Instruction)

(a) I. Importance and necessity of Statistics.
II. Method of collection of data and compilation of Information Book.
(b) I. Railway Budget.
II. Head-wise expenditure, Class-wise fare of a passenger per kilometre and clsss-wise earning of a passenger per kilometre .
III. Head-wise expenditure, actual transportation cost for a passenger per kilometre.
(c) I. Other Competitive transports Against Railway and their role.
II. Comparison of role between other transports and the Rly. in respect of Transportation.
(d). Disposal of Audit objections.

B: BOOKS AND BUDGET (Without & with Books- 100)

1.	Functions of all the Sub-sections of Books and Budget section..
2.	Maintenance of General Books-purpose & reconciliation of subsidiary books with General Books.
3.	Post Audit of paid vouchers.
4.	Compilation of Monthly Account Current.
5.	Compilation of Appropriation including preparation of Capital statement, profit & Loss Account and Balance sheet.
6.	Compilation of Annual Accounts.
7.	Structure of Railway Accounts.
8.	Suspense heads & Revised of suspense balances.
9.	Monthly Review -November Review.
10.	Any short Note from the above Books.
11.	Short question from the above books.
12.	Broad question from the above books.
13.	Normalization.
14.	Allocation.
15.	Worked out viz (i) Cash Book (ii) Profit & Loss Account (iii) Account Current (iv) Average Annual Cost of the service.
16.	Closing of Annual Accounts- June/P, June/F, June/O
17.	Miscellaneous.

C: BOOK KEEPING & PRECIS & DRAFTING

Book Keeping- 50 Marks

1. Definition of Book-Keeping, Shat is double entry system ?
2. Its objects & advantages.
3. Difference between Book Keeping & Accountancy.
4. Classification of Accounts.
5. Meaning of the term Dr. & Cr.
6. Various subsidiary books used in the system of modern Book Keeping.
7. Recording of Transaction -Journal.
8. Classification of Transaction- Ledger.
9. Summary of Transaction- Trial Balance.
10. Bank Reconciliation Statement.
11. Various types of Cash Book.
12. Preparation of Trading, Profit & Loss Accounts and simple Balance sheet.

Precise & Drafting- 35 Marks.

Precise- 20 Marks.

1. General : What is precise ? Object of precise-writing, Essentials of good precise.
2. Making precise of passages with title.

Drafting-15 Marks.

1. General : Essentials of a good draft, Different types of drafts.
2. Drafting-
   1) Official letters.
   2) Sanction Memos.

D. GENERAL PAPER- 100 Marks.

See General Syllabus- A, B, C, D, E, F, H, I, J, K, L

F. Physical Training- First Aid and Civil Defence- 100 Marks.

G- Viva Voce- 100 Marks and Training appraisal report- 100 Marks.

SYLLABUS FOR JR. AUDITOR FOUNDATION COURSE

Duration- 9 Weeks.

(A) General Rules and Procedure — 200 Marks.

ESTABLISHMENT

1. Office Procedure and Maintenance of office Records.
2. Salary Bill and allowances- Internal Check.
3. Function of Establishment Section and auditing of claims.
4. Provident Funds Rules (GPF & SRPF)
5. Leave Rules (PLR/1955)
6. Pension cum-retirement Rules
7. .E & D Rules- 1961
8. Short Notes:- CO-7, Memo of different, Scale Check Register, Cadre Register, Salary Audit Register, Last Pay Certificate, Pay Slips, Basic Pay, Absentee List, Efficiency Bar, Quarantine Leave.

BOOKS AND BUDGET

1. Functions of Books & Budget Section.
2. General Books and Subsidiary Books- Reconciliation.
3. Monthly Account, Current- Approximate Account Current- Approximate Account Current.
4. Appropriation Account.
5. Annual Budget-Kinds of Budget preparation..
6. Short Notes : ATC/ATD, Transfer Voucher, Journal slip, Dead Head Report, Finance Accounts, Budget Order, Allotment Pink Book.

EXPENDITURE:

1. Functions of Expenditure section.
2. Classification and Principles of Expenditure.
3. Estimate- Kinds of estimates checking points.
4. Records of expenditure (Works and allocation register).
5. Tender- Kinds of Tender points of checking.
6. Contractor Bill- Points for checking.
7. Short Notes :- Sanction Memo, Voucher, Pay order, Budget Grant, Allotment etc

STORES ACCOUNTS:

1. Functions of C.C.S Deptt.
2. Purchase Policy Rules- Terms and Conditions.
3. Classification of Stores- Sources of procurement.
4. Registers proceed Ledger- Numerical Ledgers.
5. Stock adjustment accounts- its parts and stock verification.
6. Checking of supplier Bills.
7. Notes on :- Nomenclature- cum price list, Surplus stores, Imprest stores, Maxima, Minima, Ordinary stores, Special stores, Issue Notes, DSR, DSI etc

PAY AND CASH OFFICE:

1. Functions of Pay Office and Cash Office.
2. Receipt of Bills, Cheque and Bill distribution Register, Pay Master, Cash Book.
3. Unpaid Wages Lists- its disposal.
4. Treasury Remittance Note- Watching the receipt acknowledged by Bangladesh Bank.
5. Notes on :- C.R. Note Cash Bag, Cash Check sheets, Cashier Cash Book.

GENERAL (AS PER D.G. RLY's INSTRUCTIONS).

(a) I. Importance and necessity of Statistics.
II Method of collection of data and compilation of Information Book.

(b) I. Railway Budget.
II. Head - wise earning, class wise fare of a passenger per kilometre and Class-wise earning of a passenger per kilometre.
III. Head -wise expenditure, Actual transportation Cost for a passenger per kilometre.

(c) I. Other competitive Transport against Railway and their role.
II. Comparison of the Role between other transports and the Railway in respect of transportation.

(d) Disposal of Audit Objection.

(B) SIMPLE ARITHMETIC'S & BOOK KEEPING- 100 Marks.

1. Number : Even & Odd, Prime and composite.
2. Addition, Subtractions, Multiplication, Division and Simplification.
3. Metric System :- Metre
4. Metric system- Metre, Liter, Gram(Weight and measure).
5. Roman system of numeration
6. Simple and compound Practical
7. Simple Interest and percentage.
8. Average, Profit and Loss and Ratio.

BOOK KEEPING

1. Definition of Book Keeping.
2. Distinction between Book Keeping and Accountancy
3. Objects of Book Keeping.
4. Classification of Account.
5. Rules for Determining Debit & Credit.
6. Various subsidiary Books used in the system of modern Book Keeping.
7. Recording of Transaction Journal
8. Various Types of Cash Books

(C) PRECISE & DRAFTING & FUNCTIONAL ENGLISH -100 Marks.

Group - A..... 50 Marks.

1. One Simple Precise with a Title.
2. Introduction of Official Letters and the method of writing different official letters.
3. What is noting and how to write up official Notes giving a simple example.

Group-B: FUNCTIONAL ENGLISH 50 Marks.

1. Change of Voice.
2. Direct and Indirect Speech.
3. Idioms and Phrases.
4. Appropriate prepositions.
5. Distinction between Meanings and of Common words often confuse.
6. Common errors.

Group- C

D- Physical Training, First Aid & Civil Defence..... 100 Marks.

E- Viva- Voce and Training appraisal Report. ..... 100 Marks.

Bangladesh Railway Training Academy
Halishahar, Chattogram.

Sub: Syllabus for Probationer SAE (Signal & Telecom)- Final Course

Signal and Telecommunication Engineer Department

Duration : 6 (Six) Weeks

Full Marks-200

Railway Signal Engineer- Part 1; (Marks-100)

1)G & S Rule : Chapter (I) Preliminary, Chapter (II) Signaling & Interlocking Chapter (III), (Rule- 89,90-144), Chapter (IV) Accident, Chapter (IX), Chapter (X), Chapter (XI), Chapter (XIV), Chapter (XVI).

2) History of Railway Signaling.

3) Signal Engineering Manual : Chapter-2- Section B, Section C, Section D, Section E Chapter III, Chapter IV, Chapter V, Chapter VI, Chapter VII, Chapter IX, Chapter X, Chapter XI, Chapter XII, Chapter XV, Annexure.

4) Signal:- What is signal, Types of signal, non-interlock signal, standard dimensions for signaling, Semaphore arm and color light signal, operation of semaphore signal and color light signal, Interlock signal, Mechanical upper quadrant and lower quadrant signal, Interlocked color light signal, two aspect and multi aspect signal, Main signal, Subsidiary signal, Shunt signal, Warner signal, repeater signal, Signal repeater, Co-acting signal.

5) Interlocking :- What is interlocking, Types of interlocking, Principle of interlocking, Standard of interlocking, requirement of different standard of interlocking.

6) Classification of stations, Block overlap, signal over lap, Breaking distance, sectional capacity.

7) Track Circuit, DC track circuit & Layout, AC track circuit, Audio frequency track circuit, Safe pickup voltage, Drop way voltage, Ballast resistance ,Axle Counter.

8) LC Gate, Classification of level crossing gate, equipment of LC gate, approach warning system at interlocked level crossing gate.

9) Relay Interlocking system (Types of relay : Track relay, Neutral line relay, Line relay, Latching relay, Lamp proving relay, Magnetic contact relay).

10) Route setting, Route release, Route Cancellation, route locking test.

11) Engineering yard diagram, working rule, working rule diagram.

12) Installation of signal & interlocking equipment at station, Determination of minimum equipment of signals and interlocking at different types of station.

13) Block Communication (Block working, absolute block system, Tablet token system, Token less block system).

(সুশীল কুমার হালদার)
প্রধান সংকেত ও টেলিযোগাযোগ প্রকৌশলী (পূর্ব)
বাংলাদেশ রেলওয়ে, সিআরবি, চট্টগ্রাম।

14) Maintenance of different gears & equipment of signaling & Interlocking.

15) Train Control, levels of train control, Modern Train control system (ERTMS, ETCS, AWACS, TPWS, PTC).

16) Electrical point machine, principle of operation & maintenance of point machine.

17) Cables : Signaling cable, Cable laying, Cable distribution plan, Cable core analysis, cable testing.

18) Power System: (a) Power supply system (Commercial Power, Battery Backup, Diesel generator).

(b) Power supply design and Load calculation

(c) Calculation of Capacity of back up battery, Types of battery.

19) Conversion system : (a) Input panel, (b) IPS, UPS, Charger, Inverter, Converter (c) Distribution system.

20) Lighting arrestor and other safety equipment; RAMS; SIL4, fail safety system.

21) CBI system: Redundancy hot stand by, Warm stand by system, Route control chart/control table for standard I, II, III interlocking.

22) CTC system (Station & Central), server of CTC, Train ID movement.

23) CBI software installation /re-installation.

24) VDU software installation /re-installation.

25) CBI (ATO, ATP, ATS, CBTC).

26) Inspection of station & Accident inquiry.

(সুশীল কুমার হালদার)
প্রধান সংকেত ও টেলিযোগাযোগ প্রকৌশলী (পঃ)
বাংলাদেশ রেলওয়ে, সিআরবি, চট্টগ্রাম।

Telecommunication Engineer - Part 2: (Marks-100)
(TELECOM)

1) Railway telecommunication overview.

2) What is optical fiber cables (OFC), Classification of OFC, Losses of OFC, attenuation of OFC, practical application of OFC,

3) OFC laying method, OFC termination, ODF & OFC link testing equipment & procedure.

4) Principle of transmission through OFC & optical fiber cable splicing.

5) TC (Train control), STS (station to station) phones with block diagram & principle of operation, M Centrex Phone.

6) Router, Media converter, Power over Ethernet switch, power supply equipment & other networking device.

7) IP addressing, several classes of network and sub netting.

8) OSI ; Several Layers of OSI.

9) Back up link of Telecommunication system.

10) FDM, TDM, WDM, PDH, SDH, GSM, CDMA, MODEM, PCM, LAN.

11) TCP/IP ; IP Phone with working principle.

12) Several Telecommunication testing & safety equipment's.

13) BR webmail system, BR website, video conferencing system.

14) TIDS, TTMS, Internet , Intranet.

15) Wireless communication: VHF/UHF transmission method, base station, repeater station, WT (Walki-Talki).

16) PA system at station & train, Importance of PA system, Principle of Block diagram of PA system.

17) CCTV system.

18) Radio repeater, working principle of radio repeater.

19) T & T, GPON, IP PABX exchange.

20) Intercity train Manual: (Chapter- 1, Chapter -4, Chapter- 7, Annexure 8.1, 8.2, 8.3, 12.1, 12.2, 12.3, 26.1, 26.2,26.3, 27.1, 27.2, 27.3, 27.4, 27.5, 27.6, 27.7, 34.1, 34.2, 34.3, 34.4, 34.5, 34.6, 34.7, 34.8, 34.9, 34.10)

27/8/2023

(সুবীর কুমার হালদার)