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