

SYLLABUS FOR SELECTION TO THE POST OF ACMT (GROUP-B)

SYLLABUS FOR PROFESSIONAL PAPER

1. Should be conversant with the methods of Chemical Analysis of plain carbon steels, alloy steels, cast irons and various non-ferrous metals and alloys.
2. Should be conversant with the methods of physical testing of different types of metals and alloys for tests such as tensile strength, compression strength, impact hardness etc. and be familiar with preparation of standard test pieces required for carrying out the above tests.
3. Should be conversant with carrying out metallurgical investigation of coach components failed in service and preparation of reports thereon.
4. Should be conversant with various non-destructive testing methods such as X rays, Gamma rays, Ultrasonic, Magnetic particle etc. used in testing the quality of weld fabricated structures, Axles, plates etc. in ICF.
5. Should have knowledge of different types of Heat treatment processes and their applications to various types of plain carbon and alloy steel items and components.
6. Should be conversant with Metallographic testing of different types of metals and alloys used in the manufacture of components for ICF coaches. Should also be conversant with the preparation of samples for their metallographic examination, enchants used etc.
7. Should be familiar with the details of spring manufacture process followed in ICF including the specs. of spring steel rounds used and tests for quality control.
8. Should have knowledge of various metal joining processes, selection and evaluation of correct welding consumables, precautions to be observed during the operation etc. in the fabrication of different types of components in the manufacture of coaches.
9. Should have knowledge of various methods of manufacture of Iron and Steel. Should also be conversant with the metallurgical aspects of forging, casting, rolling, extrusion and other forming methods of metals and alloys.
10. Must be familiar with the various standard specifications and quality standards followed at different stages of manufacture of components in ICF with particular reference to metallurgical and chemical aspects.
11. Should be conversant with the methods of testing of different types of paints, lubricants, laminated plastic sheets, plywood, limpet asbestos sheets, rubberized cushions, foam rubber, flooring composition, thermal insulation materials etc. used in coaches.
12. Should have adequate knowledge about various types of rubbers used for various components used in ICF coaches and be conversant with various methods of testing of the products.
13. Should be conversant with various electroplating processes such as chromium plating, electrogalvanising and also anodizing carried out in ICF including the properties and methods of testing of such coatings.
14. Should be conversant with the process followed for antiseptic cum fire-retardant treatment and seasoning of wooden items used in ICF coaches.

15. Should be conversant with the methods of surface preparation, phosphate treatment, painting practices adopted in ICF coaches.
16. Should be conversant with the process followed for laying of magnesium oxy chloride flooring in ICF coaches, the specifications of materials used and quality control exercises.

ESTABLISHMENT AND FINANCIAL MATTERS

A) ESTABLISHMENT

- i) Staff cadres and channel of promotions- Promotions of staff in the same class or from one class to another - Selection and Non-Selection posts - Trade tests - Selection Boards - Efficiency Bar.
- ii) Discipline and Appeal Rules - Railway Services (Conduct) Rules - Annual Confidential Reports - Termination of Service, Discharge, Dismissal etc.
- iii) Leave, Pass & Travelling Allowance - Preparation of Pay sheets and Muster sheets - Method of Payment- Boxing of wages - Dearness, Compensatory, House Rent and other Allowances- Overtime- Medical Attendance Rules
- iv) Departmental Procedure in regard to :
 - a) Payment of Wages Act
 - b) Hours of Employment Regulations - Adjudication Award- Duty Roster
 - c) Workmen's Compensation Act
 - d) Factory's Act
 - e) Official Language Policy
- v) Compliance with Vigilance Procedures.

B) ACCOUNTS

- i) Finance: Principles of Financial Scrutiny, Financial Justification, Concurrence of Finance for proposals involving expenditure on
 - a) Establishment b) Works c) Miscellaneous matters.
- ii) Budget: Procedure and preparation of Railway Budget in respect of
 - a) Ordinary Working Expenses b) Works Expenditure, c) Manufacture
- iii) Control of Expenditure on Works:
 - a) Works Register- their maintenance, review and reconciliation with General Books.
 - b) Estimates of various types – their certification by Accounts
 - c) Tenders - Procedure for calling, considering and accepting Tenders - Association of Accounts.
 - d) Progress Report, Financial reviews, Publicity expenditure - Imprest cash.
 - e) Rules for grouping Works - Competency of sanction.
 - f) Deposit Works - Incidence of expenditure of works for other Depts.
 - g) Accounting of working hours of Direct workers and Indirect workers- method followed.
 - h) Incentive working in ICF.
