

ch. 05 -
 09/11/19

**SYLLABUS FOR DPQ & IMAQ EXAM FOR PROMOTION TO JEE
 - COURSE CONTENT-**

01	General knowledge, Current affairs, Math- Time & Distance, Profit/Loss, arithmetic, fundamentals of algebra and trigonometry.,
02	Power supply HT & LT sources, power supply network, sub-station lay out, over head & under ground distributions, operation of transformer, switchgears, protective devices and distribution line,
03	House wiring, metering & safety precaution.
04	Tarrif and agreements, relative merits of obtaining HT & LT supply, step to reduce maximum demand, measurement of power, power factor etc.
05	Water supply system, types of pumps used in Indian railway and their applications, VS & HS pumps, efficiency drive, electrical connection and protection, cavitation and priming of pumps, submersible pumps and their applications. Electrical motors(AC/DC) working principle and opration and different types of starters.
06	Central airconditioning plant and package type system, refrigeration cycle, air changes, types of refrergerants and their properties, ducting. Requirement of water coolers, window coolers and refrigerators.
07	Illumination level- yard lighting, street lighting, platform, concourse area and colony network. Drive for workshop machinery
08	Earthing and bonding, commissioning and maintenance aspect of conventional and maintenance free earthing arrangement for general service and it's applications,
09	Working principle and symmetric diagram of train lighting equipments, coach wiring, underframe wiring, couplers, junction boxes and fuses. Light, fans and water raising apparatus,
10	SG, UG, HOG, Power car, electrical components layout, operation procedure for slip coaches, types of TL batteris and their defect analysis, analysis of causes of failures and remedial measures. Working principle of alternator. Fire in trains, preventive measures and precautions.
11	Self generation coach and equipment alternator, RRU/ERRU, lead acid batteries and VRLA. V-belt and pullys.,
12	Fundamentals of airconditioning, heat load calculation, basic theory and practice of airconditioning, airconditioning system on coaches, types of coaches used in indian railways.
13	LHB type AC coaches, familarisation with major equipments and their rating, LHB type non ac coaches, familarisation with major equipments and their rating, Water raising system.
14	Power car, theory and practice of diesel engines and their spare parts.
15	Application of UPS and its upkeep maintenance. Type of Power Cable and their utility and lying procedure,
16	Brief on IE rules, energy conservation act, BEE codes, ECBC codes, information on star rated products, energy efficiency measures in electrical assets.
17	Procedure of DG sets installations and maintenance . General information on Lifts and Escalators—operation and maintenance practice, safety precaution during operation.
18	Leave, pass and travelling allowance rules, master sheet , method of payment, dearness allowance, compensatory, house rent and other allowances, over time, medical attendance rules, payment of wage act, HOER, D&A rule, railway service conduct rule, termination of service, discharge, dismissal, re-employment rules.,
19	Procedure relating to procurement of stock item, non-stock item, distribution and accountal of store, receipt and custody of store. Sell of surplus stores. Schedule of power,
20	Rajbhasa
21	Disaster management, type of disaster, Roll of electrical supervisor during disaster.