

SYLLABUS FOR PROMOTION EXAM – JE (WELDER) PB-2 9300-34800 + 4200
CARRIAGE WORKSHOP JODHPUR

1. Supervisor – Duties, Qualification, Responsibilities, Required merits
2. Incentive Bonus Scheme
3. Wages
4. Job Evaluation
5. Time Study

MATHEMATICS

Arithmetic : Percentage, average, simple equation, ratio, Time and work, gain & loss, Interest

Algebra : Fundamentals of algebra, (Addition, Subtraction, Multiplication, Division) simple equations, Measurement

Mensuration : Area of square, rectangle, equilateral, triangle, isosceles triangle, right, Gain & Loss, Interest, Cutting, Turning, Drilling & boring calculation, Newton's Law of Motion

Decimal & Fraction : Power & root – Logarithms, Ration and Proportions, Geometry, Graphs, Trigonometry, Work, Power, Energy & efficiency, Strength of material, Centre of gravity, Density, special gravity, Friction

GENERAL KNOWLEDGE

Abbreviations, current affairs, day-to-day events, current sports, books, new adventure / inventions, etc. Flags, capital. Head of States and currencies of nations. Indian history. UNO and its organizations, Security Councils, General knowledge about railways.

ESTABLISHMENT RULES

Leave Rules, Pass Rules, Rly Service Conduct Rules 1966, D&A Rules 1968

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Trade – Welder

Energy – Kinetic energy, law of conservation of energy. Heat – Unity of heat, calorie, heat loss and gain. Fraction – Work – Unit of work in MKS system and SI. Difference between heat and energy. Difference between mass and weight. Heat treatment, Meaning of stress, strain – simple problems, Iron and non-iron metal, Definition and difference and characteristics Electricity – definition, use, atom, molecules and structure, current and its types, conductor, resistance, Ohm's law. Magnet and its characteristics	Welding and its use, Precautions in welding, Classification of welding methods, Gases used in welding, their generation and quality and storing, High pressure and low pressure gas welding and equipment used in it. Flame, its structure, types, production and its use. Gas welding, techniques and faults. Joints, their types and preparation. Flame cutting, Soldering and Brazing. Fluxes and filler rods, Electric and welding equipment. Arc welding techniques, Arc welding electrodes, Arc welding in different positions. Resistance welding, Modern welding methods. Welding of various types of metals. Miscellaneous welding process. Welding Jigs and Fixtures. Welding joints, defects and inspection. Welding standard symbols and their use.
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