

Board of Examination (for Boiler Engineers)

Syllabus Applied Mathematics

- 1) **Boiler heating surface**
 - 2) **Calculation of draft, chimneys, weight of air for combustion & excess air etc.**
 - 3) **Safety valves, Lever type valve etc.**
 - 4) **Area and volume of tanks, boilers, pumps ...work, discharge, head, time to fill & emptying etc.**
 - 5) **Calorific value of fuels.**
 - 6) **Boiler efficiencies, boiler horsepower, Horsepower, Brake horsepower, Kinetic energy, potent energy, internal and external combustion engines.**
 - 7) **Calculation of working pressure, Boiler parts strength**
 - 8) **Work, power and energy.**
 - 9) **Algebra & Trigonometry**
 - 10) **Stress and strain; tensile, compressive and shear, modulus of elasticity, Hooke's Law; factor of safety, Moments of forces.**
 - 11) **Properties of steam, Dryness fraction of steam, Mixture of water & steam calculations**
 - 12) **Longitudinal and circumferential stresses**
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