Elements of Mechanical engineering

Subject Code: MEL-101

Time Allowed: 03 hours. Maximum Marks: 100

Before answering the question paper the candidate should ensure that they have been supplied the correct question paper. Complaints in this regard, if any, shall not be entertained after the examination.

Note: Question No. 1 is Compulsory and attempt two questions from each section. All questions carry equal marks.

Q1. [5x4]
   a) Write the difference between Fire tube Boiler and water tube boiler?
   b) Explain Simple lifting Machine and Define Mechanical advantage & Velocity Ratio.
   c) Explain various types of operations performed on lathe machine and drilling machine?
   d) Define Welding and classify various types of welding?

SECTION-A

Q2 a) Explain various types of Mountings and accessories used in boilers? [10]

Q3 a) Explain the stress-strain diagram of mild steel in Detail? [10]
   b) Explain the construction and working principle of Pelton Turbine? [10]

Q4 a) Explain single and double purchase winch crabs. [10]
   b) What are the different types of power transmission drives? Explain in detail. [10]

SECTION-B

Q5 a) what are the industrial safety methods? What are the types of accidents and its causes? [10]
   b) Explain Drilling Machine and Shaper machine? Differentiate between them on the basis of their operations? [10]

Q6 a) Explain Casting. Write the Basic steps involved in casting? [10]
   b) Explain the Cupola Furnace with its detailed diagram? [10]

Q7 a) Explain TIG and MIG Welding and write their applications? [10]
   b) What are the various types of Welding Defects and their remedies? [10]