



Department of Electrical and Electronic Engineering

Level-2, Term-I

Mid Term Examination, Spring-2023

Course Code: ME 211

Course Title: Mechanical Engineering Fundamentals

Notes:

Time: 1 Hour

Full Marks: 60

- a. Each question carries 30 marks.
- b. Figure on the right of each question indicate marks for respective question.
- c. Answer any Two (02) questions including the Question No. One (01)

1. a. In the event of a catastrophic failure in the boiler chamber, describe what can the boiler's safety fittings do to avoid disaster? (15)
b. While manufacturing a truck, which type of engine is best suited to operate the vehicle and why? State your chosen engine's working principle. (15)
2. a. If no energy can be destroyed nor created, then why is there scarcity of energy in today's world. Give proper reasoning for your answer based on the laws of Thermodynamics. (15)
b. Describe the working principle of a Water tube Boiler. Why is it the most used type of boiler currently? Justify your answer. (15)
3. a. Define the following: (15)
 - i. Isothermal Process
 - ii. Isobaric Process
 - iii. Isentropic Process
 - iv. Isenthalpic Process
 - v. Adiabatic Process
b. What are the differences between a 4-stroke Petrol engine and a 4-stroke Diesel engine? (15)