

**ASSIGNMENT-1**

<b>Department</b>	<b>: Mechanical Engineering</b>	<b>Semester</b>	<b>: II</b>
<b>Subject Name</b>	<b>: Elements of Mechanical Engineering</b>	<b>Subject code:</b>	<b>: 21EME25/15</b>
<b>Maximum marks</b>	<b>: 10</b>	<b>Publication Date</b>	<b>: 04/07/2022</b>
<b>Staff In-charge</b>	<b>: Dr. C. Solaimuthu</b>	<b>Submission Date</b>	<b>: 11/07/2022</b>

**Instructions to course students in answering the course assignments:**

- Draw sketches wherever relevant. Explain notations explicitly and clearly. Discuss answer to the points.
- An incomplete assignment is NOT acceptable for submission.
- Once you submit your assignment, you will be expected to answer all the questions there INDEPENDENTLY. You may be asked to answer any question of the assignment in the class.

**Questions**

1. Fundamental difference between subtractive and additive manufacturing? How 3D printing is the emerging trend in Mechanical Engineering?
2. Compare between renewable and non-renewable energy sources.
3. As a mechanical engineer - discuss the emerging trends and technologies in Aerospace sector and its contribution to GDP.
4. With the neat sketch explain the working principle of “Pelton” turbine.
5. Explain the three processes of utilization of solar energy.
6. Explain the working of Tidal power plant.
7. Define the following: (i) Internal Energy, (ii) Enthalpy, (iii) Entropy, (iv) Formation of Steam and (v) Latent Heat.
8. Discuss the application of steam in milk industry in less than 500 words.
9. With neat sketch explain the principle of nuclear power plants.
10. With neat sketch explain the principle of hydro-electric power plants.