

**Ministry of higher education**

**Year: 2023-2024**

**Djillali Liabes University**

**Duration: 1H30**

**Technology faculty**

**Science and Technology department**

**Second year LMD**

**First term English Exam correction**

Full name	
Section and group	
Student's number	

**Read the text carefully, and answer the questions: (8Pts)**

Fluid mechanics is the branch of physics concerned with the mechanics of fluids (liquids, gases, and plasmas) and the forces on them. It has applications in a wide range of disciplines, including mechanical, aerospace, civil, chemical, and many other fields. It covers a vast array of phenomena that occur in nature with or without human intervention. It can be divided into fluid statics, the study of fluids at rest; and fluid dynamics, the study of the effect of forces on fluid motion.

There is not much separating fluid mechanics from solid mechanics. For instance, glass looks solid, but upon closer inspection, it is actually a liquid with a high viscosity. The variation in glass thickness in high windows is evidence of the "liquidity" of glass. The glass is thicker at the bottom than at the top.

Treating materials like grains and sand as liquids is appropriate. These substances are known to be capable of drowning humans.

- 1) What is the difference between static and dynamic?  
Static is the fluid at rest; dynamic, the effect of forces on fluid motion.
- 2) are glass, sand, aluminum and grains, solid or fluids? And why?  
There is not much separating fluid mechanics from solid mechanics glass, sand, aluminum and grains are solids, but Treating them as liquids is appropriate.
- 3) What are the modifications that happen to glass?  
The glass is thicker at the bottom than at the top.  
The glass is thicker at the bottom than at the top.
- 4) Traduce the Second paragraph into French  
Il n'y a pas beaucoup de différence entre la mécanique des fluides et la mécanique des solides. Par exemple, le verre semble solide, mais en y regardant de plus près, il s'agit en fait d'un liquide à forte viscosité. La variation de l'épaisseur du verre dans les fenêtres

hautes témoigne de la "liquidité" du verre. Le verre est plus épais en bas qu'en haut.....

**Activity two: (5Pts)**

**1- Circle the right answer(s).**

1) Responsibility of an engineer is :  
b- Ensuring the safety of built environment. c- controlling and regulating

**2) Hydraulic engineering deals with:**

a- Channels. c- Dams and Bridges

**3) Mechanical engineers play a central role in industries such as:**

a- Electronics. b- Automotive. c- Biotechnology.

**4) Obtuse angle is:**

b- An angle more than 90.

**5) aeronautical engineering definition is the study of:**

a- planes b- aircrafts

**2- Write the names of the following shapes, and their elements (2Pts)**

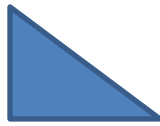


**Equilateral Triangle**

All three sides are equal.

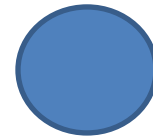
All three angles are congruent and are equal to 60 degrees.

It is a regular polygon with three sides.



**Right Triangle**

sides, angles, and vertices.



**Circle**

the radius, diameter, circumference, arc, chord, secant,

**3-Write the following mathematical equation in English letters: (2Pts)**

$$(70-17) \times 7.135 + 4^2 - \frac{6}{10} \neq \sqrt[3]{777}$$

**Seventy minus seventeen between brackets times seven point one three five plus four squared, time six tenth's not equal to cubed root seven hundred seventy seven**

**4- Reorder the following words in the paragraph below:** (production, products, process engineering, thermodynamics, mass , chemical techniques **(3Pts)**)

Various ... chemical techniques .... have been used in industrial processes since time immemorial. However, it wasn't until the advent of thermodynamics,.. and the law of conservation of mass... that process engineering production.. was properly developed. The term process, as it relates to industry and.. dates back to the 18th century. During this time period, demands for various ...products..began to drastically increase, and process engineers were required to optimize the process in which these products were created.