

English exam for Mechanical engineering .

Full name: **Group:**

Part one: choose the correct answers. (08 pts)

01 -Lever makes lifting things easier by

- a) Rolling them.
- b) Turning rotation into lengthwise movement.
- c) Redirecting force over longer distances.

02 –“P” represents the

- a) Place of a force.
- b) Part of a force.
- c) Applied force.

03 -How many types of stress are there?

- a) 1 type.
- b) 2 types.
- c) 3 types.

04 –“A “represents the

- a) Cross section.
- b) Axe on which a force acts.
- c) Area on which it acts.

05 –Which ones of these materials are used for cutting?

- a) Zipper.
- b) Nail.
- c) Axe.
- d) Saw.

06 –An office chair, a shopping cart, a roller skate, and a bicycle are

- a) Screw.
- b) Pulley and lever.
- c) Wheel and axle.

07 –An infinitesimal element is

- a) $= 0$.
- b) < 0 .
- c) < 0 .
- d) Close to zero.

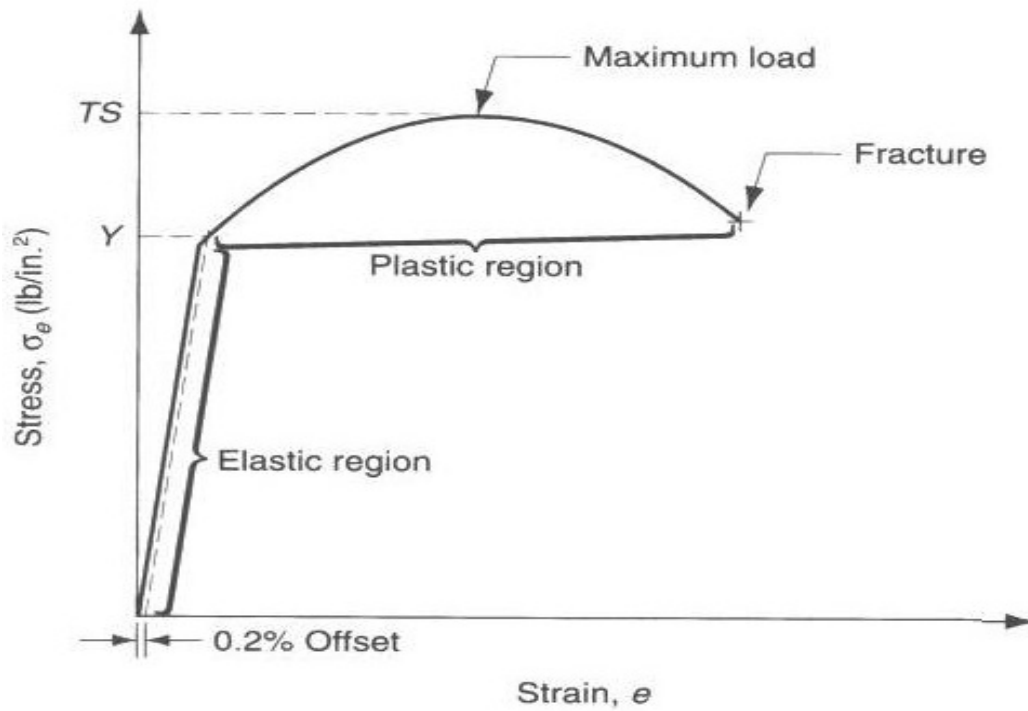
08 –A body is isotropic means that its properties

- a) Depend on load.
- b) Do not depend on load.
- c) Do not depend on direction.
- d) Depend on direction.

Part two: fill in the gaps with the following words: strain hardening / stress / deform /yield / plastic region / true stress. (03pts)

In the, the..... increases continuously, when a metal is strained beyond the point, more and moreis required to produce additional plastic deformation and the metal seems to have become stronger and more difficult to

.....This implies that the metal is becoming stronger as the strain increases. Hence, it is called



Part three: Look at the log-log scale and answer the following questions.(05pts)

What is Y ?

.....

What is TS ?

.....

What is fracture?

.....

What is strain ?

.....

How do we read lb/in² ?

.....

Part four: answer the following (05pts)

01) What are simple machines and why do we use them?(Give two examples)

.....
.....
.....

02) What is stress?

.....
.....

03) What is deformation?

.....
.....

04) What does “N” represent?

.....
.....

05) What does “S” represent?

.....
.....

06) What is the disadvantage of using simple machines?

.....
.....

**GOOD LUCK
AOUICHE.S**

English exam for Mechanical engineering .

Part one: choose the correct answers. (08 pts)

01 -Lever makes lifting things easier by

- a) Rolling them.
- b) Turning rotation into lengthwise movement.

c) Redirecting force over longer distances.

02 –“P” represents the

- a) Place of a force.
- b) Part of a force.

c) Applied force.

03 -How many types of stress are there?

- a) 1 type.

b) 2 types.

- c) 3 types.

04 –“A “represents the

a) Cross section.

- b) Axe on which a force acts.

c) Area on which it acts.

05 –Which ones of these materials are used for cutting?

- a) Zipper.
- b) Nail.

c) Axe.

d) Saw.

06 –An office chair, a shopping cart, a roller skate, and a bicycle are

- a) Screw.
- b) Pulley and lever.

c) Wheel and axle.

07 –An infinitesimal element is

- a) = 0.
- b) > 0.
- c) < 0.

d) Close to zero.

08 –A body is isotropic means that its properties

- a) Depend on load.
- b) Do not depend on load.

c) Do not depend on direction.

- d) Depend on direction.

Part two: fill in the gaps with the following words: strain hardening / stress / deform /yield / plastic region / true stress. (03pts)

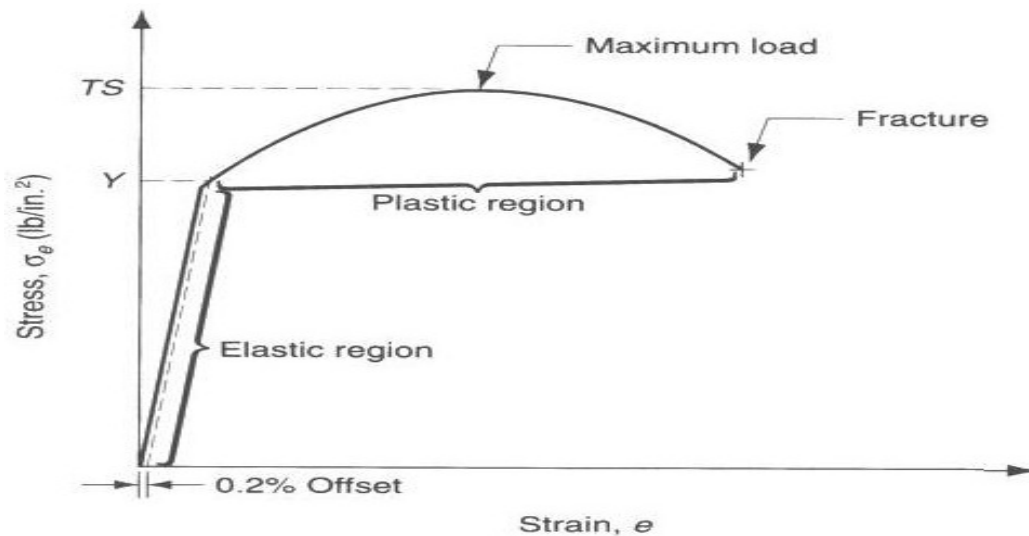
In the **PLASTIC REGION**, the **TRUE STRESS** increases

Continuously, when a metal is strained beyond the **YIELD point**,

more and more **STRESS** is required to produce additional plastic

deformation and the metal seems to have become stronger and more difficult to

DEFORM This implies that the metal is becoming stronger as the strain increases. Hence, it is called **STRAIN HARDENING**



Part three: Look at the log-log scale and answer the following questions.(05pts)

01) What is Y ?

It is the Yield point, it represents the starting point of deformation.

02) What is TS ?

It is the true stress; it represents the application of maximum load.

03) What is fracture?

It is maximum damage of a material; it is the limit of the material's resistance.

04) What is strain ?

It represents the change in length

05) How do we read lb/in² ?

We say: length pound per square inch.

Part four: answer the following (05pts)

01) What are simple machines and why do we use them?(Give two examples)

They are machines with few or no moving parts used to make work easier such as chisel and nail.

02) What is stress?

It is a force or a system of forces exerted on a body resulting in deformation.

03) What is deformation?

A change in shape or form which is due to the application of a force.

04) What does "N" represent?

It represents the Normal Stress.

05) What does "S" represent?

It represents the Shear stress.

06) What is the disadvantage of using simple machines?

It takes a longer time to get the work done.