**K S RANGASAMY COLLEGE OF TECHNOLOGY**
**Tiruchengode – 637215**
**(An Autonomous Institution, Affiliated to Anna University, Chennai)**

**DEPARTMENT OF MECHANICAL ENGINEERING**

| **Flipped Cass** | | | |
|---|---|---|---|
| **Programme & Branch** | **B.E. & Mechanical Engineering** | **Year/Sem** | **II / III** |
| **Course Code & Name** | **50 ME 004 - Strength of Materials** | **Date** | **24.08.22** |

The video link for the topic of Interrelations between Elastic Constants is https://www.youtube.com/watch?v=GYomtssygV4&list=PLJoALJA_KMOARYNi50T6b488kPUBbOIsX&index=20. All the students are instructed to completely watch the video and come prepared for the activity to be held on 26.08.2022 (4$^{th}$ hour) in your classroom.

**Course Instructor**
**(Dr.K.Santhanam)**

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**Flipped Class - questions**

| | | | |
|---|---|---|---|
| **Programme & Branch** | **B.E. & Mechanical Engineering** | **Year/Sem** | **II / III** |
| **Course Code & Name** | **50 ME 004 - Strength of Materials** | **Date & Hour** | **26.08.22 & 4** |

**Questions:**

1) Define Hooke's law.
2) Define isotropic material.
3) Define orthotropic material.
4) Define pure shear.
5) Define homogeneous material.

**Course Instructor**
**(Dr.K.Santhanam)**

**Module Coordinator**
**(Dr.S.Jeyaprakasam)**

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| Flipped Class – Questions and Answers | | | |
|---|---|---|---|
| **Programme & Branch** | **B.E. & Mechanical Engineering** | **Year/Sem** | **II / III** |
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**Answers**

**1) Define Hooke's law.**

Hooke's law states that the strain of the material is proportional to the applied stress within the elastic limit of that material.

**2) Define isotropic material.**

Isotropic materials are materials whose properties remain the same when tested in different directions.

**3) Define orthotropic material.**

A material is orthotropic if its mechanical or thermal properties are unique and independent in three mutually perpendicular directions.

**4) Write the relationship between E and K.**

$E = 3K (1 - 2)$

**5) Write the relationship between E and G.**

$E = 2G (1 + v)$

**Course Instructor**
**(Dr.K.Santhanam)**

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