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Courses » Theory of Production Processes

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Unit 6 - Week 5

Course outline

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Week 1

Week 2

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Week 5

- Lecture 21: Concept of stress and strain, Elastic and plastic behavior
- Lecture 22: State of stress in two and three dimensions, Mohr's circle
- Lecture 23: Description of strain at a point
- Lecture 24: Mean and deviator stresses, Elastic stress strain relationships
- Lecture 25: Theory of

Assignment 5

The due date for submitting this assignment has passed. **Due on 2018-02-28, 23:59 IST.**

Submitted assignment

1) In Mohr's circle, maximum shear stress is the 1 point

- Diameter of Mohr's circle
- Radius of Mohr's circle
- Periphery of Mohr's circle
- None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
Radius of Mohr's circle

2) Engineering strain is defined as 1 point

- Change in length × original length of the body
- Change in length + original length of the body
- Change in length - original length of the body
- Change in length / original length of the body

No, the answer is incorrect.
Score: 0

Accepted Answers:
Change in length / original length of the body

3) According to Hooke's law 1 point

- Stress is inversely proportional to strain of the body
- Stress is directly proportional to strain of the body
- Stress is equal to strain of the body
- There is no relationship exists in between stress and strain of the

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Week-5	<p>4) In which of the following material, the properties of the material do not change with respect to any direction or orientation? 1 point</p> <p><input type="radio"/> Isotropic material</p> <p><input type="radio"/> Anisotropic material</p> <p><input type="radio"/> Rigid material</p> <p><input type="radio"/> Elastic material</p> <p>No, the answer is incorrect. Score: 0</p> <p>Accepted Answers: <i>Isotropic material</i></p> <p>5) In shear stress τ_{12}, subscript 1 stands for 1 point</p> <p><input type="radio"/> Plane at which shear stress will work</p> <p><input type="radio"/> Direction at which shear stress will work</p> <p><input type="radio"/> Axial force at which shear stress will work</p> <p><input type="radio"/> Axial strain at which shear stress will work</p> <p>No, the answer is incorrect. Score: 0</p> <p>Accepted Answers: <i>Plane at which shear stress will work</i></p> <p>6) Total stress tensor is defined as 1 point</p> <p><input type="radio"/> Mean stress tensor - Deviatoric stress tensor</p> <p><input type="radio"/> Mean stress tensor \times Deviatoric stress tensor</p> <p><input type="radio"/> Mean stress tensor / Deviatoric stress tensor</p> <p><input type="radio"/> Mean stress tensor + Deviatoric stress tensor</p> <p>No, the answer is incorrect. Score: 0</p> <p>Accepted Answers: <i>Mean stress tensor + Deviatoric stress tensor</i></p> <p>7) Poisson ratio is defined as 1 point</p> <p><input type="radio"/> Lateral strain / longitudinal strain</p> <p><input type="radio"/> Lateral strain + longitudinal strain</p> <p><input type="radio"/> Lateral strain - longitudinal strain</p> <p><input type="radio"/> Lateral strain \times longitudinal strain</p> <p>No, the answer is incorrect. Score: 0</p> <p>Accepted Answers: <i>Lateral strain / longitudinal strain</i></p> <p>8) Which of the following statement is/are correct for the principal plane? 1 point</p> <p>(i) The shear component is zero</p> <p>(ii) Only normal stress is existing</p> <p><input type="radio"/> Only i</p> <p><input type="radio"/> Only ii</p>
<input type="radio"/> Solution of assignment 5	
Week 6	
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- Both i and ii
 None of these

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both i and ii

9) Which of the following statement is/are correct for plastic deformation of material? 1 point

- (i) Stress and Strain has no proportional relationship
(ii) Strain hardening will take place during plastic deformation of material

- The first statement is true but the second statement is false
 The second statement is true but the first statement is false
 Both first and second statements are true
 Both first and second statements are false

No, the answer is incorrect.

Score: 0

Accepted Answers:

Both first and second statements are true

10) Which of the following relation holds good for True stress (s), Engineering stress (S) and Engineering strain (e)? 1 point

- $S = s (1 - e)$
 $s = S (1 - e)$
 $s = S (1 + e)$
 $s = S / (1 + e)$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$s = S (1 + e)$

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