Assignment 11

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Due on 2019-04-17, 23:59 IST.

1) Matrices [A], [B] and [D] are called_________________________.

- extensional, coupling, and bending stiffness matrices, respectively.
- extensional, decoupling, and bending stiffness matrices, respectively.
- coupling, bending, and extensional stiffness matrices, respectively.
- None of the above.

No, the answer is incorrect.
Score: 0

Accepted Answers:
extensional, coupling, and bending stiffness matrices, respectively.

2) Each stress component in a laminate ___________ of the laminate.

- varies linearly
- is discontinuous across adjacent layer, but linear within a layer
- is constant
- None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
is discontinuous across adjacent layer, but linear within a layer

3) Which one of the following assumptions does not relate to the classical lamination theory? 1 point

- Each lamina is orthotropic and in a state of plane stress.
- Thickness of laminate is equal to sum of thickness of all individual layers.
- Each lamina is elastic.
- Slip may occur between lamina interfaces.

No, the answer is incorrect.
Score: 0

Accepted Answers:
Slip may occur between lamina interfaces.
a) Thickness of laminate is equal to sum of thickness of all individual layers.

b) Bond between two layers is perfectly rigid.

- Only a is true
- Only b is true
- Both a and b are true
- None of these are true

No, the answer is incorrect.
Score: 0
Accepted Answers:
Both a and b are true

5) \([0/90/90/90/0]\) is an example of
- an angle-ply laminate.
- an un-symmetric laminate.
- a cross-ply laminate.
- None of these

No, the answer is incorrect.
Score: 0
Accepted Answers:
a cross-ply laminate.

6) Which of the following laminates has a zero \([B]\) matrix?
- \([0,90]\).
- \([0,45]\).
- \([0,45,45,0]\).
- \([0,45, -45]\).

No, the answer is incorrect.
Score: 0
Accepted Answers:
\([0,45,45,0]\).

7) Non-symmetric laminates undergo ________ when subjected to thermal loads.
- warpage.
- no warpage
- failure
- none of these

No, the answer is incorrect.
Score: 0
Accepted Answers:
warpage.

8) The extensional stiffness matrix \([A]\) for a laminate will not change if
- stacking sequence is changed.
- angle of plies is changed.
- elastic properties of the lamina are changed.
- None of these

No, the answer is incorrect.
9) Mid-plane curvatures for a laminate are zero according to classical laminate theory if the

☐ laminate is symmetric
☐ laminate is asymmetric
☐ laminate is symmetric and is subjected to only in-plane forces
☐ $D_{16} = D_{26} = 0$

No, the answer is incorrect.
Score: 0
Accepted Answers:
- laminate is symmetric
- laminate is symmetric and is subjected to only in-plane forces

10) Which of the following laminates will not undergo bending when subjected to thermal loads?

☐ [0,45, -45].
☐ [0,45,90,90,45,0].
☐ [0,30, -45].
☐ [0,45,90,45, -45].

No, the answer is incorrect.
Score: 0
Accepted Answers:
[0.45,90,90,45,0].

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