Week 5

Assignment 05

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-04-03, 23:59 IST.

1) For the equation \([K][u] = [F]\), the vector \([F]\) contains:

- [ ] Stiffness terms.
- [ ] Force terms attributable to distributed external load.
- [ ] Primary Variable term.
- [ ] Terms attributable to the presence of external concentrated as well as distributed loads.

No, the answer is incorrect.
Score: 0

Accepted Answers:
Terms attributable to the presence of external concentrated as well as distributed loads.

2) For the differential equation given below, which of the following is the correct expression for the elements of \([f]\) vector:

\[ \frac{d}{dx} \left( \frac{d}{dx} u \right) + cu = q \]

- [ ] \( \int_a^b q \Psi_i \, dx \)
- [ ] \( \int_a^b u \Psi_i \, dx \)
- [ ] \( \int_a^b c \Psi_i \, dx \)
- [ ] \( \int_a^b a \Psi_i \, dx \)

No, the answer is incorrect.
Score: 0

Accepted Answers:
\( \int_a^b q \Psi_i \, dx \)
4) For the matrix equation $[K]\{u\} = \{f\} + \{Q\}$, natural boundary conditions are incorporated in which of the following matrices?

- $[K]$
- $\{u\}$
- $\{f\}$
- $\{Q\}$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$\{u\}$

5) Primary variables converge ____ as compared to secondary variables.

- At the same rate
- Slower
- Faster
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Faster
6) For the figure given below, which of the following statements is not true?  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
\[ u_1^1 = U_1 \]  
\[ u_2^2 = U_2 \]  
\[ u_3^3 = U_3 \]  
\[ u_2^1 = U_2 \]

7) For the figure given below, which of the following statements is not true?  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
The size of global stiffness matrix is 8X8.

8) For the figure given below, which of the following statements is not true? Here, Qi is a member of \( Q \) and it represents secondary variables at nodes of elements of axially loaded 1-D bar.  

No, the answer is incorrect.  
Score: 0  
Accepted Answers:  
The size of global stiffness matrix is 8X8.
None of above.

No, the answer is incorrect.

Score: 0

Accepted Answers:

$Q_1$ is zero.

$Q_2$ is zero in absence of a concentrated force applied at point 2.

$Q_3$ is not zero if a point force is applied at node 2.

None of above.