

Unit 7 - Week 5

Course outline

How does an NPTEL online course work?

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- Introduction to Truss
- Analysis of Truss-1
- Analysis of Truss-2
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Assignment 5

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

Due on 2020-10-21, 23:59 IST.

1) Identify the TWO correct statements regarding roof truss from the options below 1 point

- (A) Howe is a type of Pitched truss
- (B) Fink is a type of Parallel cord truss
- (C) Mansard is a part of a truss
- (D) Strut is a part of a Truss

No, the answer is incorrect. Score: 0

Accepted Answers:
(A) Howe is a type of Pitched truss
(C) Strut is a part of a Truss

2) Read the following options and identify the wrong statement made on structural principle of truss 1 point

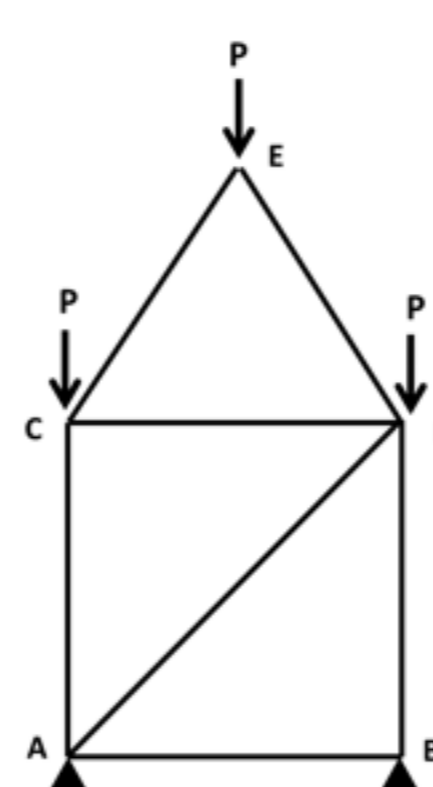
- (A) Truss is an open web type of system
- (B) The members of truss takes predominantly bending moment and shear force
- (C) The triangulation in truss provide more rigidity
- (D) Truss is a vector active system

No, the answer is incorrect. Score: 0

Accepted Answers:
(B) The members of truss takes predominantly bending moment and shear force

3) **For Question Number 3 and 4, please read the following statement and answer accordingly.** 1 point

The truss shown in the figure below is loaded symmetrically with three equal forces (P). The truss is also geometrically symmetrical about the vertical line through the apex point E.



The member force in AC, i.e. F_{AC} will be

- (A) $P/2$
- (B) P
- (C) $1.5P$
- (D) $2P$

No, the answer is incorrect. Score: 0

Accepted Answers:
(C) $1.5P$

4) The following member will have Zero force 1 point

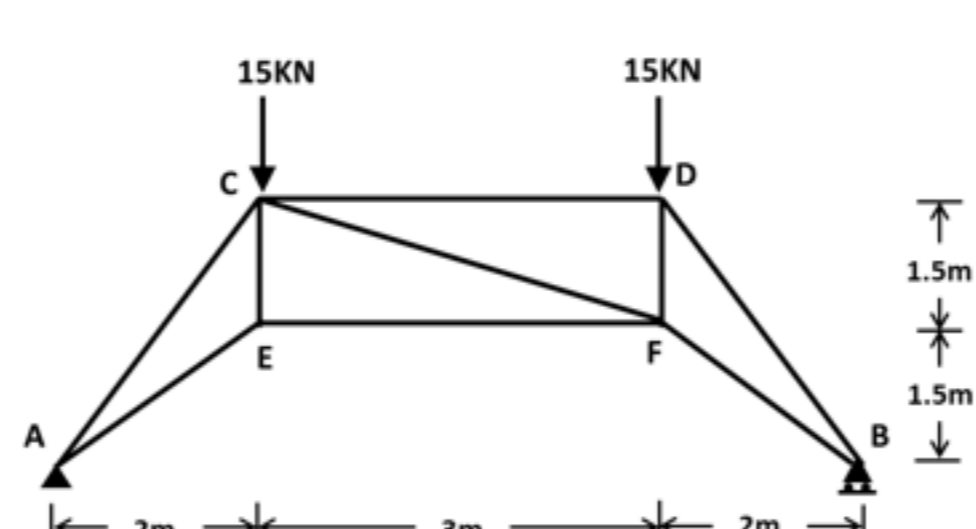
- (A) Only AB
- (B) Only AD
- (C) Both AB and AD
- (D) Only CD

No, the answer is incorrect. Score: 0

Accepted Answers:
(C) Both AB and AD

5) **For Question Number 5 and 6, please read the following statement and answer accordingly.** 1 point

The truss shown in the figure below is loaded symmetrically. The support A and B are hinged.



The force in member EF will be _____ kN (Tensile)

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Numeric) 20

6) The force in member CD will be _____ kN (Compressive) 1 point

No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Numeric) 20

7) Identify the type of connection in space frame members from the figure given below: 1 point



- (A) Weld Connection
- (B) Bolted Connection
- (C) Threaded Connection
- (D) Rivet Connection

No, the answer is incorrect. Score: 0

Accepted Answers:
(C) Threaded Connection

8) Which one of the following is NOT a valid type of grid layers of space frame according to the arrangement? 1 point

- (A) One-way Grid
- (B) Two-Way Grid
- (C) Diagonal Grid
- (D) Three-Way Grid

No, the answer is incorrect. Score: 0

Accepted Answers:
(A) One-way Grid

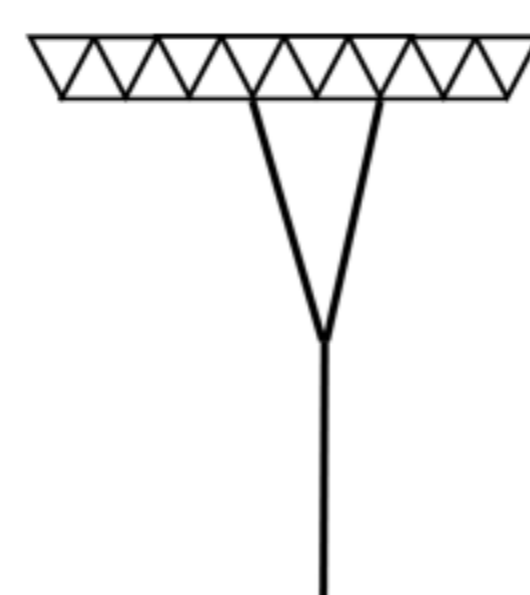
9) Which of the following statement is NOT correct regarding the space frame structure. 1 point

- (A) It consist of Nodes and Links
- (B) Tetrahedron, Cube and Octahedron are the commonly used geometrical forms that create the space frame
- (C) The external load is distributed over the area of space frame and members are under only compressive and tensile forces.
- (D) It can be analysed as one dimensional loading system

No, the answer is incorrect. Score: 0

Accepted Answers:
(D) It can be analysed as one dimensional loading system

10) The figure below shows a typical column support system for space frame structure. The column support is known as: 1 point



- (A) Tree Column
- (B) Grid Column
- (C) Bridge Column
- (D) Space Column

No, the answer is incorrect. Score: 0

Accepted Answers:
(A) Tree Column

11) Match the type of truss in Group-I and its corresponding geometric features in Group-II 2 points

Group-I		Group-II	
P	Gambrel	1	Inclined Tie beam
Q	Bowstring	2	Large void/space within truss
R	Scissors	3	Rafter with two different slopes
S	Attic	4	Curved Rafter

- (A) P-2, Q-4, R-1, S-3
- (B) P-3, Q-2, R-4, S-1
- (C) P-3, Q-4, R-1, S-2
- (D) P-3, Q-1, R-4, S-2

No, the answer is incorrect. Score: 0

Accepted Answers:
(C) P-3, Q-4, R-1, S-2

12) Match the type of truss in Group-I and its corresponding geometric features in Group-II 0 points

Group-I	Group-II
P	THREE
Q	TWO
R	ONE
S	ZERO

- (A) P-2, Q-3, R-1
- (B) P-4, Q-3, R-2
- (C) P-4, Q-2, R-3
- (D) P-3, Q-1, R-2

No, the answer is incorrect. Score: 0

Accepted Answers:
(B) P-4, Q-3, R-2

13) The following statements are made regarding the methods of truss analysis. Read the statements and choose the correct option 2 points

Statement P: In joint method, a truss joint should be selected such that maximum three member forces are unknown.
Statement Q: In section method, a truss joint should be selected such that only one member forces is unknown

- (A) Statements P and Q both are TRUE
- (B) Statement P is TRUE, but Statement Q is FALSE
- (C) Statement P is FALSE, but Statement Q is TRUE
- (D) Statements P and Q both are FALSE

No, the answer is incorrect. Score: 0

Accepted Answers:
(D) Statements P and Q both are FALSE

14) A north-light truss having 12-meter span and 1.5-meter rise is shown in the figure below. The rafter and the tie-beam of the truss are sub divided into four equal parts. If the dead load intensity is 600N/m^2 and the spacing of the truss is 5-meter, then the nodal force at intermediate rafter joints will be _____ kN 2 points



No, the answer is incorrect. Score: 0

Accepted Answers:
(Type: Range) 9.04, 9.10

15) Match the sketch of truss profile in Group-I and the corresponding truss system in Group-II 2 points

Group-I	Group-II
P	1 Bottom Chord System
Q	2 Cambered System
R	3 Top Chord System
S	4 Two Chord System

- (A) P-2, Q-1, R-4, S-3
- (B) P-3, Q-2, R-4, S-1
- (C) P-3, Q-4, R-1, S-2
- (D) P-3, Q-1, R-4, S-2

No, the answer is incorrect. Score: 0

Accepted Answers:
(D) P-3, Q-1, R-4, S-2