

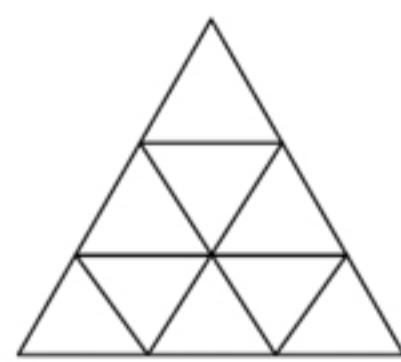





Unit 8 - Week 6

Course outline
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Assignment 6

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

Due on 2020-10-28, 23:59 IST.

- 1) The structural system of Roman Amphitheatre "Colosseum" is based on Arch and Barrel Vault combination. The statement is 1 point
- (A) True
 (B) False
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(A) True
- 2) In an arch the wedge shaped truncated pieces are arranged on a curved line. They are called 1 point
- (A) Intrados
 (B) Impost
 (C) Voussoirs
 (D) Springer
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(C) Voussoirs
- 3) Choose the correct option for a two-hinged semi-circular arch with concentrated load 1 point
- (A) Only horizontal reaction is independent of the radius of arch
 (B) Both vertical and horizontal reactions are independent of the radius of arch
 (C) Only vertical reaction is independent of the radius of arch
 (D) Both vertical and horizontal reactions are dependent on the radius of arch
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(B) Both vertical and horizontal reactions are independent of the radius of arch
- 4) Following statements are made regarding the Line of Thrust of an arch. Read the statements and choose the correct option 1 point
Statement P: Line of thrust is the track of resultant force between weight and the horizontal thrust of Voussoirs.
Statement Q: For stability the Line of Thrust should stay within middle one-third of the arch thickness
- (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:
(A) Statements P and Q both are TRUE
- 5) The surface of the Shell is subjected to 1 point
- (A) No stress
 (B) Compressive Stress only
 (C) Tensile Stress only
 (D) Membrane Stress
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(D) Membrane Stress
- 6) Which of the following shows a 'POSITIVE' Gaussian curvature 1 point
- (A) Dome
 (B) Barrel Vault
 (C) Conoid
 (D) Hyperboloid
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(A) Dome
- 7) Flying Buttresses is provided in Gothic Churches to conducting the 1 point
- (A) Membrane Stress
 (B) Lateral Thrust
 (C) Vertical Reaction
 (D) Torsion
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(B) Lateral Thrust
- 8) The following module of a geodesic dome is having frequency number 1 point
- 
- (A) 6
 (B) 4
 (C) 3
 (D) 1
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(C) 3
- 9) The roof of Bacardi Factory in Cuautitlán, Mexico, (figure below) designed by Félix Candela is the example of 1 point
- 
- (A) Paraboloid
 (B) Conoid
 (C) Ellipsoid
 (D) Hyperbolic Paraboloid
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(D) Hyperbolic Paraboloid
- 10) If the loading intensity on a dome of diameter 12 meter is 20KN/m. The magnitude of meridional stress at an angle 60° from vertical line will be 1 point
_____ KN/m²
-
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(Type: Numeric) 80
- 11) Match the type of shell in Group-I and examples in Group-II 2 points
- | Group-I | | Group-II | |
|---------|------------------------|----------|-----------------------|
| P | Single Curvature Shell | 1 | Dome |
| Q | Synclastic Shell | 2 | Flat Plate |
| R | Anticlastic Shell | 3 | Barrel Vault |
| | | 4 | Hyperbolic Paraboloid |
- (A) P-3, Q-1, R-2
 (B) P-1, Q-3, R-4
 (C) P-3, Q-1, R-4
 (D) P-1, Q-3, R-2
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(C) P-3, Q-1, R-4
- 12) A fixed parabolic arch having span 8m and rise 3m is subjected to a UDL of intensity 15KN/m. The Horizontal reaction at support and the Bending Moment at crown will be: 2 points
- (A) H = 80 KN, BM = 0
 (B) H = 40 KN, BM = 0
 (C) H = 40 KN, BM = 18 KN-m
 (D) H = 80 KN, BM = 18 KN-m
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(B) H = 40 KN, BM = 0
- 13) Match the type of shell in Group-I and their property in Group-II 0 points
- | Group-I | | Group-II | |
|---------|-------------------|----------|--------------------------------|
| P | Synclastic Shell | 1 | Gaussian curvature is Negative |
| Q | Anticlastic Shell | 2 | Convex-upward fold |
| R | Synform | 3 | Gaussian curvature is Positive |
| S | Antiform | 4 | Convex-downward fold |
- (A) P-4, Q-2, R-3, S-1
 (B) P-3, Q-1, R-4, S-2
 (C) P-3, Q-1, R-2, S-4
 (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
- 14) Match the elevation profile of the arch in Group-I and its respective name in Group-II 2 points
- | Group-I | | Group-II | |
|---------|---|----------|---------------|
| P |  | 1 | Foiled Cusped |
| Q |  | 2 | Tudor |
| R |  | 3 | Ogee |
| S |  | 4 | Stilted |
- (A) P-3, Q-1, R-4, S-2
 (B) P-2, Q-1, R-4, S-3
 (C) P-2, Q-4, R-1, S-3
 (D) P-3, Q-4, R-1, S-2
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(D) P-3, Q-4, R-1, S-2
- 15) Gaussian curvature of semi-circular dome of radius 'R's 2 points
- (A) $1/R^2$
 (B) R^2
 (C) 1
 (D) $1/R$
- No, the answer is incorrect.
Score: 0
Accepted Answers:
(A) $1/R^2$