



DAU-161001010304

Seat No. _____

B. Arch. (Sem.-III) Examination

May - 2022

Structure - III

Time : 2 Hours]

[Total Marks : 50

- Instructions :** (1) Answer should be specific with related explanatory text and diagrams.
(2) All diagrams should be neat and clean with proper scale.
(3) All diagrams must have appropriate title, subtitle, label, dimensions etc.
(4) Use bullet point or key sentence to give answer rather than paragraph.

1 State whether the following statements are true or false (Any Ten) 10

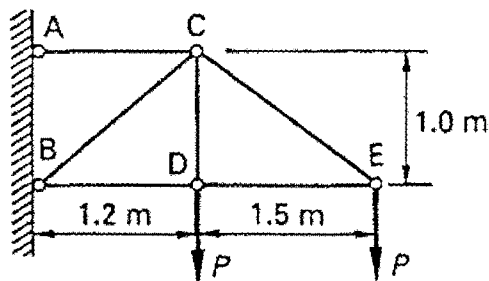
- (1) Pile foundation is considered as a Shallow foundation.
- (2) Combine footing is done when distance between two column is less.
- (3) Portal frames have Pined connections at a junction of beam and column.
- (4) In case of Beam, Moment of Inertia increased as depth of Beam decreases.
- (5) A liner beam spanning between two support points is an example of one-way system.
- (6) An Arch is a Curved structure for spanning an opening designed to support a vertical load primarily by axial compression.
- (7) Three-hinged arch structure doesn't resist bending moment at junctions.
- (8) A statically determinate structure is the one in which reactions and internal forces can be determined from free-body diagrams and equations of equilibrium.

- (9) Hoop forces are generated in masonry vault structure.
- (10) Shape of B. M. Diagram of simply supported beam with uniformly distributed load at mid span is, Parabolic.
- (11) Truss is a structure, which doesn't allow bending moment to its joints.
- (12) $\frac{bd^4}{12}$ is the formula for M.I. of square section having width (b)

2 Explain in brief with neat sketches or diagrams (Any Four) 20

- (a) Radius of gyration
- (b) Statically determinate structure
- (c) Inverted arch footing
- (d) Meridional and hoop forces in dome
- (e) One way structural slab
- (f) Difference between Squinch And Pendentive

3 Find the Following (Any two) 20



- (a) Find the compression and tension for each member of the following by inspection.
- (b) Find the resultant force through vector diagram.
- (c) Find the resultant force through Horizontal and vertical force at any two point.
