

BACHELOR OF ARCHITECTURE EXAMINATION, 2022
(B. Arch. 2nd year 2nd Semester)

SUBJECT: STRUCTURE FOR ARCHITECTS

Instructions:

- (1) Full Marks: 70; (2) Answer to Question number 07 (compulsory) and any three of the rest;
(3) Use sketches wherever necessary; (4) All answers should be hand-written only;
(5) Time allotted: 3 Hours

- Q. 01. Compare the usual angles of vision of an Architect and a Structural designer in respect of understanding of a structural system and its application. 20
- Q. 02. Describe 'Dead load' and 'Live load' in connection with a Building structure. Discuss Tension, Compression, Shear, Bending and Torsion which a structure is usually subjected to. Explain these forces and their actions using sketches wherever necessary. 20
- Q. 03. Discuss the properties of materials in light of selection of the same for use in different types of structures and parts thereof in architecture. 20
- Q. 04. Discuss equilibrium, stability, strength, functionality, economy and aesthetics in light of structural requirements. 20
- Q. 05. Using appropriate sketches and connection detailings, describe 'Tensile Structures' 20
- Q. 06. Using examples and structural principles, describe 'Thin Shells' and 'Folded Plates' with relation to Architecture. 20
- Q. 07. Write short notes on (any two): (5 X 2) = 10
- (i) Frames and Arches
 - (ii) Bundle Tube concept as a structural system
 - (iii) Free body diagram
 - (iv) Sydney Opera House structural typology
 - (v) Pin jointed frames

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