



PAT-10765

Seat No. _____

B. Arch. (Sem. IX) Examination
October / November - 2018
Building Material & Construction - VIII

Time : 4 Hours]

[Total Marks : 80

- Instructions :**
- (1) Respond with appropriate drawings and bulleted points only.
 - (2) Contextual understanding will be considered critically in assessment
 - (3) Support your stand/ statement with relevant examples and sketches.

- 1 Explain in detail, structure system and method of construction in Dulles Airport, Virginia of Eero Saarinen. **25**
(see reference **fig. 1** and **2**)

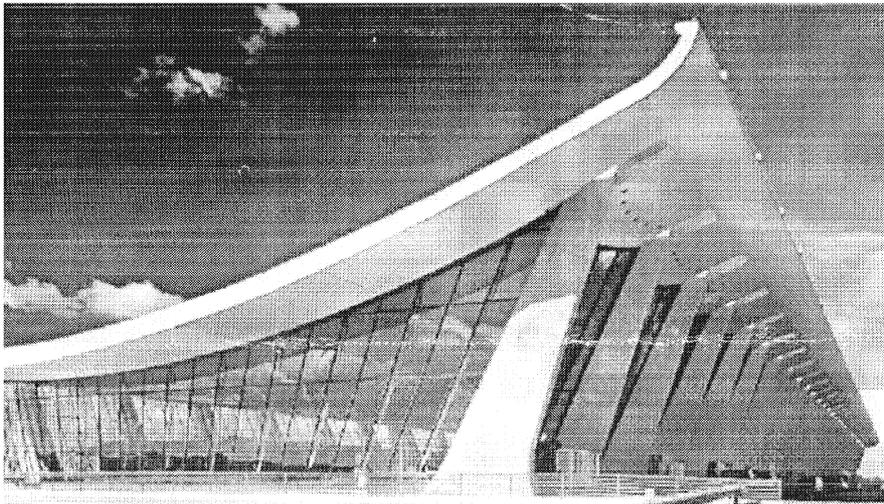


Fig. 1 : Duolles Airport, Virginia, Root & Column detail

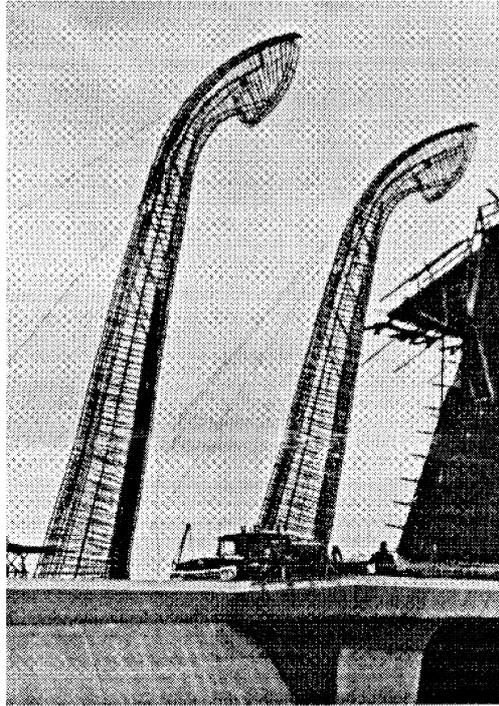


Fig. 2 : Dulles, detail of column under construction

OR

- 1 Design a foot bridle for the gap between edges of the Rock Mountain valley. The span of the bridge is 20mts. Design should incorporate following... **25**
 - Design concept
 - Choice of structural system
 - Overall design detail of substructure and superstructure
 - Details of all the junctions with material specification

- 2 Draw any six of following details through soft line drawing with all nomenclature **30**
 - (1) Floor detail of expansion joint at intermediate and top floor (terrace)
 - (2) Metal-wood composite splice joint for lengthening structural column and structural beam
 - (3) Structure hinges joint in "Three hinged arch" system
 - (4) Roof purlins and GI corrugated sheet in Slope and singly curved planes.
 - (5) "T" wall junction for $1\frac{1}{2}$ brick thick brick masonry
 - (6) Lengthening of structure tensile cable
 - (7) Joint between vertical and horizontal member of wooden door frame, for end place next to RCC column
 - (8) Inverted arch and Arch foundation with note on its practical application.

- 3** Introduce Gravity vault system vs. Timbrel Vault system **25**
and discuss advantages-disadvantages over each other.

OR

- 3** Draw a typical wall section with appropriate specification **25**
of all elements, for building with minimum cost in urban
area of Saurashtra region.
