Seat No. _____

HAA-161001010602

B. Architecture (Sem. VI) Examination

May - 2023

Building Materials & Construction - VI

Time : **2:00** Hours / Total Marks : **50**

Instructions :
(1) Attempt any five (5) questions out of six (6) questions.
(2) Answer should be specific with related explanatory text and diagrams.
(3) All diagrams should be neat and clean with proper scale.
(4) All diagrams must have appropriate title, subtitle, label, dimensions etc.
(5) Use bullet point or key sentence to give answer rather them paragraph.

1 Discuss effect of cyclone on load bearing structure and cyclone resistant details with neat sketches. **10**

2 Explain the 'Dajji Diwari' construction system with necessary sketches. **10**

3 Draw North-South wall section & East-West wall section for two story school building, located in Rajkot with considering following parameters. **10**

- Climatic consideration
- Ventilation
- Sun path
- Load bearing system
- Affordability

4 State whether the following statements are true of false, justify with short explanation (any five). **10**

(1) The distance between two brick piers used to be normally around 3-4 ft and was known as 'Dajji-Diwari'.

(2) The gap in between each 'Taq' would be filled in with either small wooden piece or mud mortar.

(3) Cost of hinged and pivotal window will be determined by cost of material only.

(4) Masonry is strong in tension but weak in compression during earthquake.

(5) Filler slab and precast hollow concrete slab have similar structural behavior.

(6) Long column attracts larger horizontal force while short column attracts smaller horizontal force during Earthquake.

(7) Metal can be used to prevent structural failure of wooden beam.

5 Explain the design issues in the given condition. **10**

Draw wall section for two story building, located in Thar Desert and discuss alternative construction system with following parameters.

- Environmental issue
- Transposition
- Materials sustainability
- Fast construction
- Affordability and adaptability

6 Discuss effect of earthquake on Load bearing structure and earthquake resistant details with neat sketches. **10**
