



KD-7008

B. Arch. III (Sem. VI) Examination

December - 2012

**ARC - 602 : Building Material & Construction
Technology-VI**

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृशावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लखवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. Arch. III (Sem. VI)

Name of the Subject :
ARC-602 : Building Material & Constr. Tech.-VI

Subject Code No. : **7 0 0 8** Section No. (1, 2,.....): **Nil**

Seat No. :

Student's Signature

- (2) Figures to the right indicate total marks.
(3) Support your answers with neat sketches.

Q-1 Answer in one line: 10

- (a)
1. What is the difference between intensity and magnitude of an earthquake?
 2. What kind of geometric configuration and mass distribution is preferred in designing for EQ zones?
 3. How can you ensure 'box-action' for the walls in a load bearing structure in seismic zone (two points)?
 4. What are the main failure types in a beam and which one is preferable?
 5. How can you isolate the building for better EQ resistance?

Q-1 Fill up: 10

- (b)
1. For an optimized performance of synergetic structures like metal domes the joints should be _____.
 2. PTFE is also known as _____ coated fiber glass.
 3. Fly ash is the byproduct of _____ industry.
 4. An arch is a type of _____ catenary.
 5. The 3-d extrapolation of inverted catenary is _____ type of structures.
 6. For large spans in temporary exhibitions _____ type of structures are good option.

7. _____ type of approach to building design favours marketing of a building material.
8. _____ type of structures derive their strength from air.
9. Vernacular shelters in _____ region are usually raised on stilts.
10. Bhungas are typical structures of _____ region in the state of Gujarat.

- Q-2 (a) Discuss the role of horizontal bands in masonry structures with design strategies for better earthquake resistance. 10
- Q-2 (b) Suggest appropriate building technology and material Choice for cost effective and eco friendly shelters for urban areas in the southern geo climatic zone of India. 10

OR

- Q-2 (b) Discuss various agro waste based materials with their application potential. 10
- Q-3 (a) Discuss the material aspect of surface structures, with some suitable example. 10
- Q-3 (b) Out of your studio project, select any one large column free space that you have designed, and sketch out the plan section and details showing the material and joinery. 10
- Q-4 (a) 'Steel is a promising material for future construction' Justify with the merits of steel construction. 10
- Q-4 (b) Element→System→Material is the approach which favours the buildings having good configuration of form resistant structures, elaborate with suitable example. 10

OR

- Q-4 (b) List down different considerations which help in devising specific structural system with its unique characteristics for a given project with some example. 10
- Q-5 (a) Discuss the general design considerations for roof design for better performance during cyclonic winds. 10
- Q-5 (b) Attempt any two: 10
1. Dhajji-dwara system of construction in Kashmir
 2. Pitched roof types.
 3. Mud construction methods (any two)
 4. Joineries and fastening methods for framed structures