



UG-7008
B. Arch. III (Sem. VI) Examination
May/June – 2012
ARC - 602 : Building Material & Construction
Technology-VI

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

<p>नीचे दृशावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लखवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : B. Arch. III (Sem. VI)</p> <p>Name of the Subject : ARC-602 : Building Material & Constr. Tech.-VI</p> <p>Subject Code No. : 7 0 0 8 Section No. (1, 2,.....): Nil</p>	<p>Seat No. : □ □ □ □ □ □</p> <p style="text-align: center; border: 1px solid black; border-radius: 15px; padding: 10px;">Student's Signature</p>
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- (2) Figures to the right indicate total marks.
(3) Support your answers with neat sketches.

- 1 (a) Draw the sketches showing. 10
- (1) Box action in masonry building for better EQ performance.
 - (2) Earthquake resistant detailing of staircase in masonry building.
 - (3) Correct practices for laying horizontal bands in masonry structures.
 - (4) Any two types of pitched roofs.
 - (5) Building plan forms that perform well during earthquakes. (any two)
- (b) True or false. 10
- (1) Flexural failure is preferred to shear failure in the beams designed for earthquake resistance.
 - (2) Strong column weak beam configuration is preferred to weak column strong beam.

- (3) Our main load bearing columns have to be ductile rather than brittle.
- (4) A joint between structural elements or components allowing no relative rotation where they meet is known as pin joint.
- (5) PTFE is also known as polytetraflouroethylene coated fiber glass.
- (6) Scattered and zigzag planing is preferred for breaking the wind pattern in the cyclone affected areas.
- (7) A discontinuous roof of verandah is preferred for cyclone resistant behavior.
- (8) Adobe is a type of bamboo construction.
- (9) Flood prone areas need to have strip foundation rather than raft foundation.
- (10) Material to element to system approach is seen in the typical housing developments of our city.

- 2** (a) What should be done to improve the behaviour of Masonry Walls during earthquakes ? **10**
- (b) Discuss in detail the application of bamboo for construction for different building elements. **10**

OR

- (b) Discuss various industrial waste based materials with their application potential in Indian context. **10**
- 3** (a) Discuss the general design considerations for roof design for better performance during cyclonic winds. **10**
- (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**
- 4** (a) What is the technology used in the construction of surface materials ? How are the joinery systems of surface materials similar to that of the textile industry? **10**

- (b) Element → system → material is the approach which favours the buildings having good configuration of form resistant structures, elaborate with suitable example. **10**

OR

- (b) List the three broad categories of building structural systems with examples of each. **10**
- 5** (a) What are the factors to be considered while choosing the site for shelter in cyclone prone areas ? **10**
- (b) Attempt any two. **10**
- (1) Bhungas of Kutch.
 - (2) Flat roofs and the cross sectional detail of different layers.
 - (3) Mud construction methods (any two).
 - (4) Joineries and fastening methods for framed structures.
