* S F - 7 0 0 7 / 2 0 0 *

SF-7007

B. Arch. - III (Sem. VI) Examination

May / June - 2011

AR-603 : BMC - 6

Time : **3** Hours] [Total Marks : **100**

Instruction :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. ARCH. - 3 (SEM. 6)

Name of the Subject :

☛ AR-603 : BMC - 6

☛ Subject Code No. : 7 0 0 7 ☛ Section No. (1, 2,.....) : NIL

Seat No. :

Student's Signature

(2) Figures on right indicate full marks.

(3) Support your answers with net sketches.

1 (a) Fill up : **10**

(i) Magnitude which quantitative measure of the actual size of the earthquake is measured on _____, it is obtained from the seismograms.

(ii) For minimum torsion during earthquake forces, _____ plans with _____ distributed mass and vertical members is preferable.

(iii) Our main load bearing columns have to be _____ rather than brittle.

(iv) The idea behind base isolation for earthquake resistant design is to _____ the building from the ground in such a way that earthquake motions are not transmitted up through the building, or as least greatly reduced.

(v) Reinforced concrete (RC) buildings often have vertical plate-like RC walls called _____ in addition to slabs, beams and columns.

(vi) When Upper storeys of open ground storey buildings move together as a single block, such buildings are like _____.

(vii) _____ configuration is preferred to weak column strong beam in RC framed structures for EQ safety.

(viii) Two types of failures generally seen in beams during earthquake are_____ and _____.

(b) State true or false : **10**

(i) Retaining wall has a deep foundation.

(ii) D.P.C. is meant as Damp proof course.

(iii) Pad Foundations on sites having water logging can be designed.

(iv) Piers, cofferdams, caissons are types of deep foundations.

(v) Staircases are part of superstructure.

(vi) Cellular concrete is a type of light weight concrete.

(vii) Coir waste, husk waste can be used for making wall panels.

(viii) Rat trap is an example of material extensive brick bonds.

(ix) Rice husk boards can be used for false ceilings, door panels, window panels etc.

(x) Filler slab roofing consists of in-situ concrete slabs.

2 (a) Discuss the seismic design philosophy/strategy for constructing buildings in EQ prone areas. **10**

(b) What according is the overall material/product selection criterion which confirms to green building ? Discuss with an example. **10**

OR

(b) Discuss the reasons for Indoor Air pollution, and ways to mitigate the same. **10**

3 (a) Suggest appropriate building technology and material choice for cost effective and eco-friendly shelters for urban areas in the western geo climatic zone of India. **10**

(b) From the BMC steel structure project of studio select any one component, explain the approach to design, choice of material, and joinery used. **10**

4 (a) Discuss the advantage of using steel as building materials ? Discuss in detail any two typical joining and fastening methods used in steel fabrications. **10**

(b) Explain raised timber flooring and plinth as building system with sketches. Which materials are used in the service pipe lines and wet areas constructed within these timber frame work ? Explain with sketches. **10**

OR

(b) Explain adobe construction for a two storeyed structure. Which materials are used in the service pipe lines and wet areas constructed within such system of construction? Explain with sketches. **10**

5 (a) Explain retaining walls in different type of soil conditions with neat sketches. **10**

(b) Attempt any two : **10**

(i) Catenary cable tension structure

(ii) Steel fastening and joining methods

(iii) Discuss agro based waste materials for building construction.

(iv) Fly ash : source and applications in building industry.