

Seat No. : \_\_\_\_\_

**NI-118**

**November-2013**

**B. Arch./ID/BCT Sem.-I**

**AR-103 Building Construction – I**

**(New Syllabus)**

**Time : 3 Hours]**

**[Max. Marks : 100**

- Instructions :**
- (1) All questions are compulsory.
  - (2) Illustrate your answers with neat diagrams wherever necessary.
  - (3) Figures to the right indicate full marks.
  - (4) Assume additional data, if necessary & state the same clearly.

1. Briefly write the following answers : (any **three**) **15**
  - (a) Discuss classification of rocks.
  - (b) Mention various types of cement and its uses.
  - (c) Defects in timber and preservation of timber.
  - (d) Market form of steel.
  - (e) Constituent of good brick.
  - (f) What does M20, M25, M35, etc. signifies ?
  
2. Give reasons for the following : (any **four**) **10**
  - (a) Why should concrete be cured ?
  - (b) Why it is important to follow natural bed of stone ?
  - (c) Bulking of sand.
  - (d) The slaked lime should always be used as fresh as possible.
  - (e) Why lapping (minimum  $\frac{1}{2}$  and  $\frac{1}{4}$ ) is done in brick bond ?
  
3. Differentiate between : (any **four**) **20**
  - (a) Cast iron and wrought iron.
  - (b) Cement mortar and lime mortar.
  - (c) Stonework and brickwork.
  - (d) Igneous rock and Sedimentary rock.
  - (e) PCC and RCC.
  - (f) Soft wood and Hard wood.

4. Sketch the following : (any **two**) **10**
- (a) Any two types of stone masonry.
  - (b) Any three decorative bonds in brick.
  - (c) Joints in stones masonry.
  - (d) Different types of pointing in brick bond.
5. Explain with sketches : (any **five**) **5**
- (1) Tooting
  - (2) Coping
  - (3) Perpend
  - (4) Racking back
  - (5) Lacing course
  - (6) Solider course
6. Draw to a scale (1 : 10) Bond showing Plans at various courses and a common elevation (any **one**) **20**
- (a) 'T' junction between 230 thick wall in English bond and 115 thick stretcher bond.
  - (b) 230 thick wall with a L junction Or right angled quoin in double Flemish bond.
7. Draw a typical wall section of load bearing structure showing following component : **20**  
Foundation, Plinth, Sill, Lintel, Slab and Parapet.
-