



**DU – 195**

**III Semester B.Architecture Degree Examination, Dec. 2017/Jan. 2018  
(Semester Scheme)**

**AR 14- 302 : BUILDING CONSTRUCTION AND MATERIALS – III**

Time : 4 Hours

Max. Marks : 100

**Instruction :** Answer 4 full questions taking minimum 3 questions each from Part A and 1 question from B. All questions carry equal marks.

**PART – A**

1. Draw a M.S fire escape staircase with a mid landing. Floor to floor 3.1 m height. Draw also details of fixing Riser and Tread to stringer beams, details of handrails, balustrades. Width of a flight is 1.2 M. Assume equal risers not exceeding 150 mm high and tread 300 mm wide. **25**
2. Draw a concrete staircase to reach an attic of a bachelor's pad. Floor to floor of 2.4 m height. Draw also fixing details of handrails, balustrades. Width of a flight is 1 M. Assume equal risers not exceeding 150 mm high and tread 300 mm wide. **25**
3. Describe in detail with sketches :
  - a) RCC Retaining walls.
  - b) Draw a neat elevation of an exposed brick pointed arch spanning 1 m, label all parts
  - c) Differences between RCC Lintels and Steel Lintels. **(10+10+5=25)**
4. Draw neat sketches and describe
  - a) Coping – need, materials and methods of building.
  - b) Pointing for exposed brickwork and stone work.
  - c) What are expansion joints, where are they used ? **(10+10+5=25)**

**PART – B**

5.
    - a) Explain concrete, what are the appropriate uses for concrete.
    - b) What are admixtures ? Explain advantages and disadvantages of admixtures. **(13+12=25)**
  6. Describe in detail the following :
    - a) Site test of cement.
    - b) Water cement ratio.
    - c) Curing of cement work
    - d) Sand and substitutes.
    - e) Concrete used for industrial flooring. **(5×5=25)**
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