

Seat No. : _____

NJ-118

November-2013

Fourth Year B. Arch (BCT), Sem-VII Regular Examination

Advance Construction- 1 (AR-BCT-702) (Old Syllabus)

Time : 3 Hours]

[Max. Marks : 100

Instructions : (1) Write answer to the point.
(2) Figures to the right indicate full mark.

1. Attempt the following : (Any **two**) **15**
- (a) Define concrete mix design. What is the object of concrete mix design ? Explain Concrete ball (ladoo) test.
 - (b) Why quality control is important in construction industries ?
 - (c) What are the reasons for RCC structure disintegration, explain five dreaded concrete diseases which led to poor quality ?

2. Attempt the following : (Any **two**) **15**
- (a) What is “Economic life” of the building ?
Mention economic life of different structure. Discuss importance of Maintenance in the building.
 - (b) Various causes lead to the failure of RCC structure. Explain with examples.
 - (c) Discuss various factors influences corrosion in reinforced concrete. Explain with sketches.

3. Explain with the help of sketches repair method for corrosion in Reinforcement slab. Write complete procedure with name of chemicals used. **10**

OR

Discuss physical examination of structural crack. Also classify the Crack according to width of separation. Explain repair method of inclined Masonry crack.

4. (a) Describe main objectives of using construction chemicals. **10**
(b) Different forms of construction chemicals use in construction. Explain any two in detail.

OR

Write short notes : (Any two) Explain with market product name.

- (a) Waterproofing
- (b) Admixture
- (c) Coating
- (d) Sealant

5. Write short notes.(Any three) Explain with sketches. **15**
- (a) Injecting method.
 - (b) Guniting method.
 - (c) Jacketing
 - (d) Shotcreting
6. Explain the following : **15**
- (a) Explain in detail accidents costs in construction industry.
 - (b) Write important points to be included in safety program.
 - (c) Explain different types of insurance in construction industries,
 - (d) Explain different causes of construction accident.
7. Write True or False : **10**
- (a) Insurance premium for car policy, workman policy remains same at construction site.
 - (b) In Indian construction scenario safety is a process which delays the progress of work.
 - (c) Single scaffolding is always good for the work as it's reduce the cost and works fast and it has nothing to do with the quality of work.
 - (d) Ready mix Concrete at slab requires continuous sprinkling of water moment RMC is poured on slab.
 - (e) Premium for construction company for insurance of all types of construction , all types of heights, nature of work does not matter and premium remains same
 - (f) It is desirable to work out a safety program for each part of the job rather than for the whole job.
 - (g) In volume batching the boxes should not be level filled.
 - (h) Slab can be covered with plastic sheets soon after the casting is done to avoid shrinkage cracks of concrete structure.
 - (i) Volume batching is better then weigh batching.
 - (j) 5% voids in concrete causes 3% loss in the compressive strength.
8. At the recent new construction of administrative block construction at Valsad the contractor on an average employed 100 workers with 50 hours per week. The project lasted for 30 weeks and during this period, 17 disabling injuries occurred. **10**
- (i) Work out injury frequency rate.
 - (ii) Also find out injury - severity rate if number of days lost due to injury is 30 days.
 - (iii) Also find injury index.