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# SINDH BOARD OF TECHNICAL EDUCATION KARACHI

DIPLOMA OF ASSOCIATE ENGINEER 3rd YEAR

## MODEL PAPER FOR

ANNUAL EXAMINATION 2021

Technologies: CIVIL

**SUBJECT: CT-364 CONCRETE TECHNOLOGY AND RCC DESIGN**

### SECTION "A" OBJECTIVE

Instructions:

- Attempt all questions.
- All questions carry equal marks.
- Question paper must be returned back to invigilator within the scheduled time.

TIME: 40 Minutes  
MAX. MARKS: 75

Q1. (a) Fill in the blanks

**Max Marks 40**

1. Initial setting time of ordinary port Land cement should not be less than \_\_\_\_\_ minutes
2. \_\_\_\_\_ apparatus is used to determine initial and final setting time of the cement,
3. The minimum size of coarse aggregate is \_\_\_\_\_ mm.
4. RCC stands for \_\_\_\_\_.
5. Slump cone is used to measure \_\_\_\_\_ of concrete.
6. Best shape of aggregate for good workability is \_\_\_\_\_.
7. Work ability of concrete is directly proportional to \_\_\_\_\_.
8. Volume of the one bag of cement is measure \_\_\_\_\_ cft.
9. Workability of concrete \_\_\_\_\_ with the addition of water.
10. Concrete which does not contain fine aggregate is called \_\_\_\_\_ concrete.
11. In Plastic state concrete is also known as \_\_\_\_\_ concrete.
12. There is no need of hook in case of \_\_\_\_\_ steel.
13. Steel used in ordinary R.C.C works is \_\_\_\_\_.
14. A concrete in which steel bars are used is called as \_\_\_\_\_.
- 15 Algebraic sum of vertical forces at any section of a beam is known as \_\_\_\_\_.
16. Shear reinforcement are also called as \_\_\_\_\_.
17. Tensile strength of concrete as compared to its compressive strength is as \_\_\_\_\_.
18. Maximum spacing of distribution bars is kept as \_\_\_\_\_.
19. A slab supported by columns without beams is called \_\_\_\_\_.
20. In two way slab lower layer of steel is provided always along the \_\_\_\_\_ span.

Q1. (b) Encircle "T" for True and "F" False.

**Max Marks 20**

1. Plain cement concrete is strong in tension (True / False).
2. Vicat apparatus is used to perform soundness test (True / False).
3. Cause of bulking of sound is surface dampness (True / False).
4. Slump cone is used to measure workability (True / False).

5. Low water cement ratio decreases the workability (True / False).
6. Specific gravity of water is 2.67 (True / False).
7. Mass of one bag of ordinary Portland cement is 50 Kg (True / False).
8. Rate of shrinkage of concrete in early stage is high (True / False).
9. Admixture used to increase the setting time of cement is retarder (True / False).
10. Separation of ingredients of fresh concrete is called segregation (True / False).

**Q1. (c) Multiple Choice questions**

**Max Marks 15**

1. Stirrups are used in.  
(a) Beam (b) Slab (c) Columns
2. Squeezing out water from the surface of fresh concrete is termed as.  
(a) Bleeding (b) Segregation (c) Creep
3. Admixture used to increase the setting time of cement is.  
(a) Accelerator (b) Reducer (c) Retarder
4. Cement used for mass concrete is  
(a) Quick setting (b) Low heat cement (c) High alumina
5. Specific gravity of port land cement is  
(a) 3.7 (b) 2.4 (c) 4.5
6. Algebraic sum of vertical forces at any section of a beam is  
(a) Shear force (b) Shear stress (c) Shear reinforcement
7. Maximum load that a member can bear its life is  
(a) Ultimate Load (b) Safe load (c) ultimate load
8. Which of the following has no measuring units.  
(a) Stress (b) Strain (c) force
9. Shear stress is taken 1/10 of-  
(a) compressive stress (b) Tensile stress (c) Bond stress
10. Factor of Safety for concrete strength taken in ordinary design is  
(a) 3 (b) 4 (c) 5
11. Stirrups are provided to check.  
(a) Tension (b) compression (c) shear
12. No extra reinforcement is required for  
(a) Beam (b) Slab (c) Columns
13. Anchor bars are provided in the beam to.  
(a) Resists shear (b) Hold Stirrups (c) Resists tension
14. Width of Slab considered in design is  
(a) 1000 mm (b) 100 mm (c) 10 mm
15. Maximum Spacing of distribution bars of slab is.  
(a) 5d (b) 3d (c) 3a

Signature of Candidate

Seal of Examination Centre

Signature of Invigilator



**SINDH BOARD OF TECHNICAL EDUCATION KARACHI**  
**DIPLOMA OF ASSOCIATE ENGINEER 3rd YEAR**

**MODEL PAPER FOR**

ANNUAL EXAMINATION 2019

Technologies: CIVIL

**SUBJECT: CT-364 CONCRETE TECHNOLOGY AND RCC DESIGN**

**SECTION "B" & "C"**

**TIME: 2.40 HOURS**

**MAX. MARKS: 75**

**Section "B"**

**(Short Answer Questions)**

**Max. Marks: 45**

**Q2: Attempt any Six questions from the following. All questions carry equal marks.**

1. Enlist the steps of concreting under water.
2. Define lateral ties used in columns.p
3. Enlist types of cement.
4. Describe freezing and thawing.
5. State slump test.
6. Differentiate between RCC and PCC.
7. Define one way slab and two way slab
8. Define RCC

**Section "C"**

**(Descriptive Answer Questions)**

**Max. Marks: 16**

**Q3: Attempt any Two questions from the following. All questions carry equal marks.**

- Q1. Design an RB roof slab of a room 5ft x 10ft the live load on the roof may be assumed to be 30lb/sft.

OR

Define Stair spanning horizontally

- Q2. Name important methods of mix design and explain one of them in detail

OR

Define water cement ratio explain relation between water cement ratio and strength of concrete.

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