



ROLL NO:

PRESIDENCY UNIVERSITY, BENGALURU

SCHOOL OF ENGINEERING

Weightage: 20 %

Max Marks: 40

Max Time: 1 hr.

Tuesday, 25th September, 2018

TEST – 1

Odd Semester 2018-19

Course: **CIV 204 Concrete technology &
Construction Materials**

III Sem. Civil

Instruction:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

Part A

(3 Q x 4 M = 12 Marks)

1. Write the significance of initial setting and final setting times of cement.
2. Write the advantages of using admixtures in concrete.
3. Write the requirements of aggregates for cement concrete.

Part B

(2 Q x 8 M = 16 Marks)

4. Write short notes on i) fly ash and ii) silica fume.
5. Explain the classification of aggregates based on size, shape and texture.

Part C

(1Q x 12 M = 12 Marks)

6. Explain in detail the manufacture process of cement by dry process with flow chart.



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TEST 2

Odd Semester: 2018-19

Course Code: CIV 204

Course Name: Concrete Technology & Construction Materials

Branch & Sem: CIV & III

Date: 28 November 2018

Time: 1 Hour

Max Marks: 40

Weightage: 20%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted.

Part A

Answer **all** the Questions. **Each** question carries **four** marks.

(3x4=12)

1. Briefly explain the different types of slump.
2. Write the requirements of well mixed concrete.
3. Write the effects of sea water on concrete.

Part B

Answer **all** the Questions. **Each** question carries **eight** marks.

(2x8=16)

4. Explain why curing is needed to concrete. Explain curing methods.
5. Explain the concept of gel space ratio and maturity of concrete.

Part C

Answer the Question. Question carries **twelve** marks.

(1x12=12).

6. Define workability of concrete and explain the factors affecting workability



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END TERM FINAL EXAMINATION

Odd Semester: 2018-19

Course Code: CIV 204

Course Name: Concrete Technology & Construction Materials

Programme & Sem: CIV & III Sem

Date: 29 December 2018

Time: 2 Hours

Max Marks: 80

Weightage: 40%

Instructions:

- (i) Read the question properly and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and Non-programmable calculators are permitted
- (iv) IS 10262-2009 is Mix proportion guide lines is permitted

Part A

Answer **all** the Questions. **Each** question carries **five** marks.

(4Qx5M=20)

1. Write the objectives of concrete mix design.
2. Write advantages and disadvantages of lightweight concrete.
3. Write the properties and applications of Polymer Impregnated Concrete.
4. Briefly explain the fibers used in fiber reinforced concrete.

Part B

Answer **all** the Questions. **Each** question carries **ten** marks.

(4Qx10M=40)

5. Explain the factors affecting the properties of fiber reinforced concrete
6. State the advantages, disadvantages of self-compacting concrete & also write its applications.
7. Explain the detailed procedure for concrete mix design as per IS guidelines. Mention references from IS code, wherever applicable.
8. Write short notes on i) slump flow test ii) L-Box test on self-compacted concrete

Part C

Answer the Question. Question carries **twenty** marks.

(1Qx20M=20)

9. Design a concrete mix for M35 grade of concrete with the following stipulation as per IS 10262-2009 guidelines:
- a) Type of exposure : Severe
 - b) Slump range : 100 -125mm
 - c) Specific gravity of cement: 3.15
 - d) Bulk density of cement : 1450 kg/m^3
 - e) Grading zone of sand : Zone I
 - f) Specific gravity of sand : 2.62
 - g) Moisture content of sand : 4 %
 - h) Water absorption of fine aggregate : 1 %
 - i) Bulk density : 1700 kg/m^3
 - j) Maximum size of coarse aggregates : 20mm
 - k) Specific gravity of coarse aggregates : 2.67
 - l) Moisture content of coarse aggregates : 1 %
 - m) Water absorption of coarse aggregate : 0.5 %
 - n) Bulk density : 1800 kg/m^3
 - o) Standard deviation : 2 MPa
 - p) Maximum allowable water cement ratio : 0.45
 - q) Minimum cement content : 340 kg/m^3
 - r) Chemical admixture : Super plasticizer with specific gravity of 1.145
 - s) Dosage of chemical admixture : 2% by volume of cement
 - t) Method of Placing : Pumping