I D NO.	

PRESIDENCY UNIVERSITY, BENGALURU

SCHOOL OF ENGINEERING

Weightage: 40 % Max Marks: 80 Max Time: 2 hrs. 10 May 2018, Thursday

ENDTERM FINAL EXAMINATION MAY 2018

Even Semester 2017-18 Course: **CIV 204 Concrete Technology & Construction Materials** IV Sem. Civil

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Instruction:

(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

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Part A

(4 Q x 5 M = 20 Marks)

1. Write the requirements of mix design.
2. Write the sampling of concrete for quality testing.
3. Write types of polymer concrete. briefly explain
4. Write the advantages and dis advantages of light weight concrete.

Part B

(2 Q x 10 M = 20 Marks)

5. Write the acceptance criteria as per IS 456-2000 for concrete mix design.
6. Write the advantages, disadvantages of self-compacting concrete & also write its applications.

Part C

(1 Q x 40 M = 40 Marks)

7. Design a concrete mix for M40 grade of concrete with the following design stipulation as per IS 10262-2009 guide lines.
   a) Grade designation :M40
   b) Type of cement: ACC OPC.
   c) Maximum size of aggregates: 20mm
   d) Minimum cement content: 320 kg/m^3.
   e) Method of concrete placing : pumping
   f) Degree of supervision : good
   g) Maximum water cement ratio : 0.45
   h) Workability : 100 mm(slump)
   i) Exposure condition : severe (reinforced concrete)
   j) Maximum cement content: 420kg/m^3.
   k) Chemical admixture: super plasticizer.
   l) Specific gravity of cement : 3.15
   m) Specific gravity of coarse aggregates: 2.68
   n) Specific gravity of fine aggregates : 2.66
   o) Specific gravity of admixture : 1.145
   p) Water absorption of coarse aggregates: 0.95%
   q) Water absorption of fine aggregates: 1.5%
   r) Free surface moisture of coarse aggregates : NIL
   s) Free surface moisture of fine aggregates : NIL
   t) Sieve analysis of coarse aggregates :confirming to table 2 of IS :383
   u) Sieve analysis of fine aggregates: confirming to zone-I of IS : 383

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PRESIDENCY UNIVERSITY, BENGALURU

SCHOOL OF ENGINEERING

Weightage: 20% Max Marks: 40 Max Time: 1 hr. 28 March Wednesday 2018

TEST – 2 **SET A**

Even Semester 2017-18 Course: **CIV 204 Concrete Technology & Construction Materials** IV Sem. Civil

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Instruction:

(i) Read the question properly and answer accordingly.

(ii) Question paper consists of 3 parts. Answer all questions.

Part A

(2 Q x 7 M = 14 Marks)

1. Explain the factors influencing strength of concrete.
2. Define shrinkage of concrete? Explain different types of shrinkage.

Part B

(2 Q x 7 M = 14 Marks)

3. What is NDT? Write the objectives of conducting NDT tests on concrete.
4. What are the different methods of underwater concreting? Explain any one method.

Part C

(1 Q x 12 M = 12 Marks)

5. Explain alkali aggregate reaction? List the factors promoting aggregate reaction and its control measure.

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PRESIDENCY UNIVERSITY, BENGALURU

SCHOOL OF ENGINEERING

Weightage: 20 % Max Marks: 40 Max Time: 1 hr. 20 Feb Tuesday 2018

TEST – 1

Even Semester 2017-18 Course: **CIV 204 Concrete Technology & Construction Materials** IV Sem. **Civil**

Instruction:

(i) Read the question properly and answer accordingly.

(ii) Question paper consists of 3 parts.

Part A

(4 Q x 4 M = 16 Marks)

1. Write the chemical composition of cement.
2. Mention any four types of cement. List the various laboratory test of cement?
3. Define plasticizers, accelerators & retarders? Write the advantages of accelerators.
4. Write the causes and prevention of segregation.

Part B

(2 Q x 8 M = 16 Marks)

5. Explain importance of bouge's compounds in hydration of cement.
6. Why compaction is required in concrete? Write note on Batching & Mixing.

Part C

(1Q x 8 M = 8 Marks)

7. Define workability? Explain briefly the factors influencing workability of concrete.