

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIFTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2017

Course Code: CE361

Course Name: ADVANCED CONCRETE TECHNOLOGY (CE)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

- | | | Marks |
|---|--|-------|
| 1 | a) Explain the classification of aggregates. | (5) |
| | b) List the advantages and disadvantages of artificial aggregates. | (5) |
| | c) Explain segregation and bleeding in concrete. | (5) |
| 2 | a) What are the effects of properties of aggregate on concrete? | (5) |
| | b) In hot weather condition blended cements are advised for construction. Justify the statement. | (4) |
| | c) Why admixtures used in Concrete? What are the different types of Chemical admixtures? | (6) |
| 3 | a) Explain the chemical and physical process of hydration. | (8) |
| | b) Explain the process of concreting. | (4) |
| | c) Properly manufactured M Sand is superior to river sand. Justify the statement. | (3) |

PART B

Answer any two full questions, each carries 15 marks.

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|---|--|-----|
| 4 | a) Explain any one method of proportioning of concrete. | (8) |
| | b) Differentiate between compressive strength and characteristic compressive strength. | (3) |
| | c) Define Creep. What are the factors affecting creep? | (4) |
| 5 | a) Explain the procedure of determination of modulus of elasticity of concrete | (8) |
| | b) List different types of shrinkage. What are the factors affecting shrinkage | (4) |
| | c) What is the advantage of using silica fumes in manufacturing of concrete? | (3) |
| 6 | a) What is the importance of compressive strength, tensile strength and flexural strength in concrete? | (6) |
| | b) What are the effect of creep on concrete? | (3) |
| | c) List some mineral admixtures along with their advantages | (6) |

PART C

Answer any two full questions, each carries 20 marks.

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|---|---|-----|
| 7 | a) What are the factors affecting durability? | (6) |
| | b) What do you meant by self compacting concrete? What are its advantages? | (6) |
| | c) Explain any two non destructive tests in concrete. | (8) |
| 8 | a) Explain how can we reduce sulphate attack in concrete. | (6) |
| | b) What do you meant by reinforcement cover? How it is measured? | (6) |
| | c) Explain light weight concrete. How it is manufactured. What are its advantages | (8) |
| 9 | a) Explain alkali Silica reaction. Write notes on concrete in sea water. | (8) |
| | b) How roller compacted concrete is prepared? What are its applications? | (6) |
| | c) Write notes on under water concreting and mass concreting. | (6) |
