

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**FOURTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018**

**Course Code: CE204**

**Course Name: CONSTRUCTION TECHNOLOGY (CE)**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer any two full questions, each carries 15 marks*

- |   |  | Marks |
|---|--|-------|
| 1 | a) What is meant by plywood? How is it manufactured?                             | (3)   |
|   | b) Explain the different types of mortars used in construction.                  | (4)   |
|   | c) State the requirements of reinforcement steel.                                | (4)   |
|   | d) Explain the uses of plastics and allied products in construction.             | (4)   |
| 2 | a) Define: i) Grade of concrete ii) Fineness modulus of aggregate                | (3)   |
|   | b) Explain the mechanism of action of plasticizers in concrete.                  | (3)   |
|   | c) List the various tests to be conducted on aggregates, indicating the purpose. | (4)   |
|   | d) Explain the method of determination of grading of aggregates.                 | (5)   |
| 3 | a) What are the factors affecting workability of concrete?                       | (3)   |
|   | b) What are the provisions in IS 456 to ensure durability of concrete?           | (3)   |
|   | c) How will you conduct compaction factor test on fresh concrete?                | (4)   |
|   | d) Explain the steps in making concrete, indicating various operations.          | (5)   |

**PART B**

*Answer any two full questions, each carries 15 marks*

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|---|--|-----|
| 4 | a) Distinguish between bearing pile and friction pile.   | (3) |
|   | b) Sketch a typical steel grillage foundation. What are the circumstances under which the same is adopted. | (4) |
|   | c) What do you understand by composite masonry? List the different types.                                  | (4) |
|   | d) Explain with a sketch the major features of a cavity wall.  | (4) |
| 5 | a) Define the term partition wall. List the requirements to be fulfilled by a partition Wall.              | (3) |
|   | b) Explain the different types of scaffolding.   | (6) |
|   | c) Explain the method of construction of rat-trap bond using bricks.                                       | (6) |
| 6 | a) Explain the construction of reinforced cement concrete lintel.  | (3) |
|   | b) Explain the essential requirements of a floor.  | (6) |
|   | c) Define: i) Common rafters ii) Pitch and iii) Purlins  | (6) |

**PART C**

*Answer any two full questions, each carries 20 marks*

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|---|--|------|
| 7 | a) What are the advantages of framed structures?                         | (6)  |
|   | b) Explain the requirements of a form work used in concrete structures   | (6)  |
|   | c) What are the advantages of welding over riveting or bolting           | (4)  |
|   | d) Explain the advantages of prefabrication in construction              | (4)  |
| 8 | a) What are construction joints? Give examples                           | (6)  |
|   | b) Explain the method of slip form construction                          | (4)  |
|   | c) Explain the design criteria of elevator service in a tall building    | (10) |
| 9 | a) Explain the causes of deterioration of reinforced concrete structures | (8)  |
|   | b) Explain the terms: i) Retrofitting ii) Cosmetic Repair                | (6)  |
|   | c) What are the materials used for retrofitting of concrete structures?  | (6)  |

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