

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

- | | | |
|---|--|-----|
| 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

- | | | |
|---|--|------|
| 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) |
