

Reg. No. _____ Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JUNE 2017

Course Code: **CE204**

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

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any 2 questions carrying 15 marks each.

1. a. Explain the properties of glass and its use in construction . (8)
b. Discuss the role of admixtures in concrete. (7)
2. a. State the uses of steel in the construction activities. (7)
b. Explain the process manufacture of concrete. (8)
3. a. Differentiate fibre board and particle board. (6)
b. What is meant by workability of concrete? Discuss the factors influencing workability of concrete. (9)

PART B

Answer any 2 questions carrying 15 marks each.

4. a. Explain the different types of shallow foundations. (4)
b. Define lintels and their classification. (4)
c. write a note on white washing and colour washing. (7)
5. a. State the principles of filler slabs and construction detail of rat-trap bond masonry. (8)
b. Explain the procedure adopted for laying marble flooring. (7)
6. a. Define scaffoldings and also explain the different types of scaffolding. (10)
b. Explain painting. Mention the ingredients of paint and discuss the defects in painting. (5)

PART C

Answer any 2 questions carrying 20 marks each.

7. a. Distinguish between steel framed buildings and R.C.C framed buildings. (8)
b. What are the different type's stairs? (6)
c. what are the causes for foundation failures. (6)
8. a. What are construction joints? Explain. (5)
b. List the different types of elevators. (5)

- c. List the various reasons for the failure of R.C.C members and discuss any two of them. (10)
9. a. What is a slip form? Where they are used? (6)
- b. What are the fundamental design constraints of passenger elevators? (8)
- c. Enumerate the causes of failure in steel structures. (6)

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017

Course Code: **CE 204**Course Name: **CONSTRUCTION TECHNOLOGY (CE)**

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two questions.

1. a) What is seasoning of timber? Explain any one method of seasoning. (5)
b) What are the types of reinforcing steel used in construction? Explain their features. (5)
c) Describe the features and use of glass as a construction material. (5)
2. a) What are the processes involved in the manufacture of concrete? (5)
b) Explain any one test performed in fresh concrete. (5)
c) Describe the need to use chemical admixture in concrete. (5)
3. a) Differentiate between segregation and bleeding. (5)
b) Explain the mix proportioning of concrete by IS method. (10)

PART B

Answer any two questions.

4. a) What are the requirements of a good foundation? (5)
b) Explain with figures, any four types of foundation. (10)
5. a) Explain the principle of filler slab. (5)
b) Explain with figure, the constructional features of rat-trap bond masonry. (5)
c) What are cavity walls? Explain their advantages and disadvantages. (5)
6. a) Sketch any two types of steel roof truss. (5)
b) Sketch and mark the different parts of a typical arch. (5)
c) Explain any one damp proofing method (5)

PART C

Answer any two questions.

7. a) What is slip form construction? Describe its features. (5)
b) What is prefabrication? What are the advantages and disadvantages of prefabricated construction? (5)
c) Explain the need for providing construction joint. Draw and explain any two types of construction joints. (10)
8. a) What are the major reasons for failures in RCC structures? (5)
b) Describe any three causes of foundation failure. (15)
9. a) What is retrofitting? What is meant by global and local retrofitting? (5)
b) Explain any three methods to retrofit a reinforced concrete column. (15)

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

Course Code: CE204
Course Name: CONSTRUCTION TECHNOLOGY (CE)

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions. Each question carries 15 marks.

- 1 a) What are the different market forms of timber used in construction industry? 6
- b) What is an admixture? Explain the properties and uses of admixtures in concrete. 9
- 2 a) What is mortar? Explain the different types of mortars used in civil constructions. 9
- b) What is meant by curing of concrete? Discuss the different methods of curing of concrete. 6
- 3 a) Explain the different market forms of steel with neat sketches. Where they are used? 6
- b) Write the steps involved in BIS method of concrete mix design. 9

PART B

Answer any two full questions. Each question carries 15 marks.

- 4 a) Enumerate in detail the preliminary considerations in the selection of foundations. 5
 - b) What is an arch? What are the different types of arches? 5
 - c) Write a note on the different types of roofs used in buildings. 5
 - 5 a) Explain different types of stone masonry with neat sketches 9
 - b) What is DPC? Explain the different methods of providing DPC to a residential building. 6
 - 6 a) Explain, with neat sketches a) Filler slab b) Rat Trap bond masonry 8
 - b) List the various types of flooring materials and the criteria for their choice. 7
- Explain the construction of Timber Floor.

PART C

Answer any two full questions. Each question carries 20 marks

- 7 a) What are the advantages and disadvantages of tall buildings? 6
- b) What are the different modes for vertical transportation? Explain the components of an escalator with neat sketch. 9

- c) What are different types of failures of a building? List out the general reasons for a building collapse. 5
- 8 a) Distinguish between RCC framed buildings and steel framed buildings 6
- b) List out the different types of stairs used in buildings, with neat sketches. 6
- c) What are the causes of failure in RCC structures? Explain with neat sketches 8
- 9 a) Explain the advantages of precast concrete construction. 6
- b) What are the methods of Retrofitting of RCC beams? 8
- c) What are the causes of foundation failures? 6

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FOURTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 2019

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

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|---|--|---|
| 1 | a) What are the various types of reinforcing steel? Explain its properties. | 9 |
| | b) What are the properties and uses of aluminium? | 6 |
| 2 | a) Explain the steps involved in BIS method of concrete mix design. | 9 |
| | b) List the requirements of good building stones. | 6 |
| 3 | a) What is the role of water in concrete? Explain the significance of testing its quality. | 9 |
| | b) Discuss the role of aggregates in concrete. | 6 |

PART B

Answer any two full questions, each carries 15 marks

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|---|---|---|
| 4 | a) Explain various types of shallow foundations with neat sketches. | 9 |
| | b) Compare brick and stone masonry. | 6 |
| 5 | a) What is pointing? Explain its various types with neat sketches. | 9 |
| | b) Enumerate the requirements of partition walls. | 6 |
| 6 | a) Explain various types of sloped roofs with neat sketches. | 9 |
| | b) List the requirements of an ideal paint. | 6 |

PART C

Answer any two full questions, each carries 20 marks

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|---|---|----|
| 7 | a) Explain the various types of structural systems with neat sketches. | 10 |
| | b) What is construction joint? Explain its various types with sketches. | 10 |
| 8 | a) Write a short note on slip form construction. What are its advantages? | 10 |
| | b) What are the various causes of failure in RCC structures? Explain. | 10 |
| 9 | a) Write a note on failure of structures due to wind and fire. | 10 |
| | b) Explain the various methods of retrofitting columns with sketches. | 10 |

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FOURTH SEMESTER B.TECH DEGREE EXAMINATION(S), DECEMBER 2019

Course Code: CE204
Course Name: CONSTRUCTION TECHNOLOGY

Max. Marks: 100

Duration: 3 Hours

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

Marks

- | | | |
|---|--|---|
| 1 | a) How is plywood manufactured? Discuss its classification and uses. | 9 |
| | b) What are the properties and uses of glass? | 6 |
| 2 | a) Define workability of concrete. What are the factors that affect workability? | 9 |
| | b) Discuss the advantages and disadvantages of steel as a construction material. | 6 |
| 3 | a) Explain the various tests done on hardened concrete. | 9 |
| | b) Describe briefly the various processes in the manufacturing of concrete. | 6 |

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

- | | | |
|---|--|---|
| 4 | a) When are pile foundations preferred? Explain various types of piles. | 9 |
| | b) Explain the cavity wall construction with a neat sketch. State its advantages. | 6 |
| 5 | a) What are the requirements of a good roofing material? Explain the factors to be considered in the selection of a roof material. | 9 |
| | b) What are the advantages of (1) filler slab technology and (2) rat trap bond? | 6 |
| 6 | a) What are the functions of a lintel? Explain its various types with neat sketches. | 9 |
| | b) Distinguish between plastering and pointing. | 6 |

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

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|---|---|----|
| 7 | a) What are the advantages and disadvantages of RCC and steel framed structures? | 10 |
| | b) List the requirements of a good formwork. Describe various types of formwork. | 10 |
| 8 | a) What are the processes involved in prefabrication? State the advantages and disadvantages of prefabrication. | 10 |
| | b) What are the various causes of failure in steel structures? Explain. | 10 |
| 9 | a) Explain the various techniques for achieving earthquake resistance in buildings with neat sketches. | 10 |
| | b) Explain the various methods of retrofitting RCC slab with neat sketches. | 10 |

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Fourth semester B.Tech examinations (S), September 2020

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

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|---|---|----|
| 1 | a) Define seasoning of timber. Why this is required? Explain the methods of natural seasoning. | 6 |
| | b) How steel is classified based on its carbon content? | 3 |
| | c) Discuss the important types of glasses and their uses in construction industry | 6 |
| 2 | a) How will you classify sand on the basis of its source? | 3 |
| | b) Why is it necessary to compact freshly laid concrete? Explain the methods used for compaction. | 5 |
| | c) What are admixtures? Explain its types and uses. | 7 |
| 3 | a) What are the factors affecting workability of concrete? | 5 |
| | b) Explain the mix proportioning of concrete by BIS method. | 10 |

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

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|---|---|----|
| 4 | a) Explain the various types of foundations with neat sketches. | 10 |
| | b) What are cavity walls? What are its advantages? | 5 |
| 5 | a) What is scaffoldings? Explain its types. | 7 |
| | b) What is DPC? With neat sketches explain how it is provided at different levels of a building. | 8 |
| 6 | a) Enumerate the essential requirements of a good floor. | 5 |
| | b) State the purpose of using arches in buildings. With neat sketches explain its classification on the basis of shape. | 7 |
| | c) What is distempering? List down the desirable properties of a good distemper. | 3 |

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

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|---|--|----|
| 7 | a) Draw a typical cross-section of a stair. Label and explain the parts. | 10 |
|---|--|----|

- b) Write a short note on slip form construction. 5
- c) Discuss the advantages and disadvantages of steel framed structures. 5
- 8 a) Write short notes on
- i) Elevators ii) Escalators iii) Ramp 10
- b) What are the advantages of steel formwork over wooden formworks? 5
- c) Explain the mistakes leading to cracking/collapse of structure due to poor workmanship. 5
- 9 a) Discuss the general reasons for the failure of buildings. 10
- b) Explain the major techniques used for retrofitting RCC slabs. 10
