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

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

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
**FIRST/SECOND SEMESTER B.TECH DEGREE EXAMINATION, JULY 2017**

**Course Code: CE100**

**Course Name: BASICS OF CIVIL ENGINEERING**

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions. Each carries 3 marks.*

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|----|---|-----|
| 1  | Write any six factors to be considered in the selection of site for a building. | (3) |
| 2  | Define plinth area, floor area and carpet area.                                 | (3) |
| 3  | What is meant by the terms Backsight, Foresight and Change point in levelling?  | (3) |
| 4  | Discuss any three properties of cement blocks.                                  | (3) |
| 5  | Write any three functions of foundations.                                       | (3) |
| 6  | What is shallow foundation? List different types of shallow foundations.        | (3) |
| 7  | Define the terms pitch, rise and span used in connection with slopping roofs.   | (3) |
| 8  | Write any six aspects of escalators.  | (3) |
| 9  | List any six benefits of an intelligent building.                               | (3) |
| 10 | Discuss any six facts about chimneys.   | (3) |

**PART B**

*Answer any eight questions. Each carries 6 marks.*

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|----|--|-----|
| 11 | List various disciplines of civil engineering and briefly discuss on any two disciplines.  | (6) |
| 12 | Draw a rough sketch of the section of a simple single storied building and mark the basic building components.   | (6) |
| 13 | Assume a suitable site and draw to scale the plan of any simple residential building in the site plan.   | (6) |
| 14 | With reference to a suitable sketch explain the setting out a building by central line method.   | (6) |
| 15 | a) What is surveying?  | (1) |
|    | b) Explain the fundamental principles of surveying.  | (2) |
|    | c) Discuss triangulation survey and traverse survey.   | (3) |
| 16 | a) Discuss the term offsets used in surveying.   | (2) |
|    | b) Draw a neat sketch of Dumpy level and mark salient features.  | (4) |
| 17 | The following staff readings were obtained when running a line of levels between two bench marks A (RL=100.000) and B (RL=98.000)<br>1.95(A), 2.90, 3.10, 2.95(CP1), 1.50, 1.91, 3.25 (CP2), 2.51, 3.15, 0.45 (CP3), 1.35, 2.75, 2.81 (B) are the readings. Enter the readings in a level book and reduce the levels. Determine the error in the level of B. | (6) |

- 18 a) Define grade of cement. List available grades of cement. (2)  
b) What is standard consistency of cement and how it is determined? (4)
- 19 a) Define workability of concrete and list the factors affecting workability. (2)  
b) Explain any one method to determine the workability of concrete. (4)
- 20 a) What are the uses of steel in building construction? (3)  
b) Discuss with sketches any three forms of steel available in the market. (3)

**PART C**

*Answer any two questions. Each carries 11 marks.*

- 21 a) Discuss with sketches different types of deep foundations. (6)  
b) With the help of suitable sketches explain English bond. (5)
- 22 a) Discuss any two types of flooring used for top floors. (6)  
b) Write short note on sound proofing. (5)
- 23 a) Explain the importance of water tanks in civil engineering. How they are classified? (6)  
b) Discuss the significance and classification of air conditioning systems. (5)

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