

E

E2106

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST/SECOND SEMESTER B.TECH DEGREE EXAMINATION, JULY 2018

Course Code: CE100

Course Name: BASICS OF CIVIL ENGINEERING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks

Marks

- | | | |
|----|---|-----|
| 1 | List any three components of a residential building. Briefly explain the functions of these components. | (3) |
| 2 | What is the function of a door? Where it should be located? | (3) |
| 3 | List the instruments used in chain surveying for horizontal measurement. Write down the use of any one instrument in chain surveying. | (3) |
| 4 | Differentiate between plinth area and carpet area. | (3) |
| 5 | Write short notes on different grades of cement concrete. | (3) |
| 6 | Name any one type of structural steel section available in the market and explain its specifications with a neat sketch. | (3) |
| 7 | Draw the sketch of any one type of shallow foundation (plan and elevation). Mention the name of foundation also. | (3) |
| 8 | Write down the procedure for preparation of surface for painting. | (3) |
| 9 | Differentiate between elevators and escalators. | (3) |
| 10 | What is a chimney? Write short notes. | (3) |

PART B

Answer any eight questions, each carries 6 marks

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|----|---|-----|
| 11 | List and explain the physical properties of Ordinary Portland Cement. | (6) |
| 12 | Write down the procedure for preparing cement mortar. | (6) |
| 13 | What is a site plan? Which are the information to be included in a site plan? | (6) |
| 14 | The wall thickness provided for a single room building of room size 4.00m X 2.00m is 20cm, which is situated in plot of 10m length and 6m width. Determine the plinth area, carpet area and Floor Area Ratio. | (6) |
| 15 | What is meant by a bench mark in levelling? What are the different types of bench marks used? | (6) |
| 16 | What are the factors to be considered while selecting the site for a residential building? | (6) |
| 17 | What are the two general principles of surveying? Write short notes. | (6) |
| 18 | How buildings are classified according to occupancy as per National Building Code? | (6) |
| 19 | List any six major disciplines of Civil Engineering and write down the significance and scope for each of them. | (6) |
| 20 | Following consecutive readings were taken with a dumpy level and a levelling staff.
1.800, 1.235, 2.000, 0.850, 1.350, 2.250, 1.835, 2.225, 1.200, and 1.900. First | (6) |

reading was taken on a bench mark whose reduced level is 100.000 and the instrument is shifted after third and seventh readings.

- i) Rule out the page of level book and enter above readings.
- ii) Determine the reduced levels of all points.
- iii) Apply arithmetic checks.

PART C

Answer any two questions, each carries 11 marks

- 21 a) What are the different types of pile foundations? Explain each in one or two sentences with neat sketches. (6)
- b) Explain about the types of water tanks used in buildings. (5)
- 22 a) Explain in one or two sentences different types of floorings. (6)
- b) How the systems of air conditioning are classified? Give brief description for each system. <http://www.ktuonline.com> (5)
- 23 a) What are the benefits of intelligent buildings? (5)
- b) List and explain different types of roof covering materials. (6)

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