

S2024

Final Scheme of Valuation/Answer Key

(Scheme of evaluation (marks in brackets) and answers of problems/key)

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIRST SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 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 | Brief explanation on Educational buildings (1.5 marks)
Institutional building (1.5 marks) | (3) |
| 2 | Regulations of open spaces. (3 marks) | (3) |
| 3 | Advantages of total station (3 marks) | (3) |
| 4 | Any three differences between PCC and RCC (3 marks) | (3) |
| 5 | Figures of header and stretcher bond (3 marks) | (3) |
| 6 | Any three functions of foundation (3 marks) | (3) |
| 7 | Any three types of paints (3 marks) | (3) |
| 8 | Any three design parameters of elevators (3 marks) | (3) |
| 9 | Any three functions of tower. (3 marks) | (3) |
| 10 | Classifications of air conditioning system (3 marks) | (3) |

PART B

Answer any eight questions, each carries 6 marks.

- | | | |
|----|--|-----|
| 11 | Importance of proper planning for the construction of a building (3 marks)
Stages of planning a building(3 marks) | (6) |
| 12 | Various components of a residential building (4 marks)
Sketch with components marked (2 marks) | (6) |
| 13 | Any six factors considered while selecting the site for a residential building
(6 x 1 mark) | (6) |
| 14 | Carpet area (3 marks) and floor area (3 marks) | (6) |
| 15 | Procedure adopted for setting out a single room building (5 marks)
Sketch (1 mark) | (6) |
| 16 | Description of ranging (3 marks)
Instruments used for ranging (3 marks) | (6) |

17 Tabular Column: 2 marks

Each step 0.5 marks (0.5x6=3 marks)

Arithmetic check:

$$\sum BS - \sum FS = \text{Last RL} - \text{First RL}$$

$$\text{ie. } 5.964 - 6.916 = 99.048 - 100.000 = - 0.952$$

Since $\sum BS - \sum FS = \text{Last RL} - \text{First RL}$, the calculations are correct (1 mark)

Station	BS	IS	FS	HI	RL
A	2.228			102.228	100.000
B		1.606		102.228	100.622
C	2.090		0.988	103.330	101.240
D		2.864		103.330	100.466
E	0.602		1.262	102.670	102.068
F	1.044		1.982	101.732	100.688
G			2.684	101.732	99.048

(6)

18 Total station (3 marks) and GPS (3 marks)

(6)

19 Composition of Ordinary Portland Cement (3 marks)

Explanation of the functions of ingredients (3 marks)

(6)

20 Properties of steel used in building construction.

Any two types (2x3=6 marks)

(6)

PART C

Answer any two questions, each carries 11 marks.

21 a) Procedure of painting (6 marks)

(6)

b) Importance of intelligent buildings (2 marks)

Features (3 marks)

(5)

22 a) Classification of foundation (2 mark)

Sketches of any two types (2 x 2 marks each)

(6)

b) Classification of roofing materials (1 mark)

Explanation of any two types (2 x 2 marks each)

(5)

23 a) (a) Chimney: Uses (1 mark) and types (2 marks)

(6)

(b) Towers: Uses (1 mark) and types (2 marks)

b) Any 2 civil engineering aspects of ramp (2 x 2.5 marks)

(5)
