

**NTK/KW/15–7288**

**First Semester B. E. (CBS) Examination**

**BASICS OF CIVIL ENGINEERING**

Time : Two Hours ]

[ Max. Marks : 40

- N. B. : (1) All questions carry equal marks.  
(2) Assume suitable data wherever necessary.  
(3) Illustrate your answers wherever necessary with the help of neat sketches.  
(4) Use of Non – Programmable calculator is permitted.

1. (a) What are the general considerations for selection of Site ? 5  
(b) List out the Principles of building planning. Explain any four. 5

**OR**

2. (a) State various types of buildings with their functions. 4  
(b) A plot is having dimensions 50 m × 60 m. A building constructed on it occupies 700 m<sup>2</sup> on ground floor and 550 m<sup>2</sup> on first floor. If permissible FSI is 0.8, how much area can be constructed on second floor ? 6
3. (a) Explain various Principles of Surveying. 5  
(b) What are the different types of Pavements ? Explain with neat sketch. 5

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Contd.

**OR**

4. (a) What are the various instruments used in surveying ? Explain Digital Planimeter and Total Station. 6
- (b) Draw a typical cross – section of a Highway. 4
5. (a) Draw flowchart of Water Treatment process and state purpose of each unit. 5
- (b) For a town of population 1 lakh, the per capita consumption is 270 litres/capita/day. Calculate the quantity of supply water required for the town. Also, give the breakage of domestic demand. 5

**OR**

6. (a) Explain the different types of dams. Draw the cross – section of Gravity dam. 5
- (b) Explain Rainwater Harvesting. 5
7. (a) Explain the concept of Green building. 5
- (b) What are the different types of strain gauges ? Explain Electrical resistance strain gauge. 5

**OR**

8. (a) Explain Spectrophotometer. 5
- (b) Explain the role of Civil Engineer in Sustainable development. 5