ADDITIONAL EXAM. COMMON FOR ALL BRANCHES
B.TECH. SEM. - I (CBCS 2014 COURSE) : WINTER- 2019
SUBJECT: FUNDAMENTALS OF CIVIL ENGINEERING

Saturday 28-12-2019 W-11248-2019
10:00 AM-01:00 PM Max. Marks: 60

N.B.
1) All questions are **COMPULSORY.**
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data, if necessary.

Q.1 **a)** What is the scope and importance of Civil Engineering? **(05)**
b) What are the different components of building? Explain their functions. **(05)**

OR

Q.1 **a)** What is the role of Civil Engineer in construction activity? Explain. **(05)**
b) What are the types of structures based on loading? Explain framed structure. **(05)**

Q.2 **a)** What are principles of surveying? Explain. **(05)**
b) Describe temporary adjustments of a dumpy level. **(05)**

OR

Q.2 Following staff readings were observed successively with a dumpy level. Instrument was shifted after third and seventh reading. 0.955, 0.500, 1.115, 0.320, 2.125, 1.620, 1.500, 0.850, 0.655, 2.005. Enter the above readings in a page of level book and calculate R.L's of all points using collimation plane method. R.L. of first point is 500.000 m. Also apply usual check. **(10)**

Q.3 **a)** What are the factors to be considered while selecting a site for residential building? **(05)**
b) What is the necessity of building byelaws? Explain. **(05)**

OR

Q.3 **a)** Explain building byelaws for open space requirements, set back distance. **(05)**
b) What are ecofriendly structures? Explain. **(05)**

Q.4 **a)** What are types of foundation? Explain Mat foundation. **(05)**
b) Explain different earthquake zones in India. **(05)**

OR

Q.4 **a)** What are functions of foundation? Explain. **(05)**
b) What are causes and effects of earthquakes? Explain. **(05)**

Q.5 **a)** What are types of dam? Explain gravity dam. **(05)**
b) Explain with sketch different components of hydropower plant. **(05)**

OR

Q.5 **a)** Draw a flow sheet of water treatment plant. Explain functions of each unit. **(05)**
b) What are different methods of irrigation? Explain any one method. **(05)**

Q.6 **a)** Explain width of roads, super elevation, camber, gradient, sight distance with reference to roads. **(05)**
b) Explain with sketch components of bridge. **(05)**

OR

Q.6 **a)** Explain with sketch section of railway track. **(05)**
b) Discuss classification of roads according to material used for construction. **(05)**

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