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Seat No.	

First Year Engineering (Semester - I) (Revised) Examination, April - 2016
BASIC CIVIL ENGINEERING
Sub. Code : 59179

Day and Date : Wednesday, 27 - 04 - 2016 **Total Marks : 100**

Time : 10.30 a.m. to 1.30 p.m.

Instructions :
1) **All questions are compulsory.**
2) **Figures to the right indicate full marks.**
3) **Make suitable assumptions wherever Necessary and mention it clearly.**
4) **Use of non-programmable calculator is allowed.**

SECTION - I

Q1) a) Enlist and discuss the scope of various sub-branches of civil engineering. **[8]**

b) Explain Aspect and Prospect, as a building planning principles. **[4]**

OR

b) Write a short note on orientation building. **[4]**

c) Write down the specific bye-laws for **[4]**

i) Open space requirement and

ii) Height of building.

Q2) Answer the following:

a) Explain with a neat sketch the different elements of building. Mention their functions. **[6]**

b) Differentiate betwen the following: **[6]**

i) Combined and cantilever footing

ii) Shallow and deep foundation.

c) Explain with neat sketch Grillage foundation. Write its suitability. **[6]**

P.T.O.

Q3) a) What do you know about Seasoning and preservation of timber. **[8]**

OR

a) Differentiate between **[8]**

i) P.C.C. and R.C.C.

ii) Load bearing structure and framed structure.

b) What is the difference between Structural and RCC steel. **[4]**

c) Explain in brief types of loads considered in the design of building. **[4]**

SECTION - II

Q4) a) Differentiate geodetic surveying and plane surveying. **[4]**

b) Draw sketch of Prismatic compass and explain functions of its various parts. **[4]**

c) A 20 m chain was found to be correct at the start of the work. After chaining 840 m, the chain was found to be 0.08 m too long. At the end of day's work, after chaining a total distance of 1376 m the chain was found to be 0.12m too long. Calculate total true distance. **[8]**

OR

c) The following bearings were taken with a prismatic compass in running a closed traverse **[8]**

Line	AB	BC	CD	DA
F.B.	50° 30'	140° 30'	219° 0'	328° 0'
B.B.	230° 30'	319° 0'	38° 0'	150° 30'

i) Plot the traverse and show all F.B. and B.B. on it.

ii) Find out the amount of local attraction at affected stations.

iii) Calculate correct F.B. and B.B. Show specimen calculations.

Q5) a) Attempt any two questions from the following:

i) Explain temporary adjustments of Dumpy level. **[4]**

ii) Explain various characteristics of contours. **[4]**

iii) Write short note on EDM and its applications. **[4]**

b) The following consecutive readings were taken with a dumpy level and a 4.0 m leveling staff on a continuously sloping ground at a common interval of 30m.

0.680, 1.455, 1.855, 2.330, 2.885, 3.380, 1.055, 1.860, 2.265, 3.540, 0.835, 0.945, 1.530, 2.250.

The R.L. of first station was 100.000m. Make entries in the level book page and apply usual check. Determine gradient of line joining first and last stations. Use rise and fall method. Show sample calculations. **[10]**

Q6) a) Explain with neat diagram various units of water treatment plant. **[4]**

b) Explain with neat figures components of rigid and flexible pavement. **[4]**

c) Explain with neat diagram functions of various components of railway track (Broad gauge). **[4]**

d) Write a note on gravity dam with neat diagram. **[4]**

OR

d) State functions of various components of earthen dam with neat diagram. **[4]**