

SV - 622

Total No. of Pages : 2

Seat No.	
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**First Year B.Tech. (Semester - I & II) (CBCS) Examination, May - 2019**

**BASIC CIVIL ENGINEERING (All Branches)**

**Sub. Code : 71813**

**Day and Date : Friday, 10 - 05 - 2019**

**Total Marks : 70**

**Time : 10.00 a.m. to 12.30 p.m.**

- Instructions :**
- 1) Attempt any Three questions from Each Section.
  - 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) Explain co-relevance of Civil Engineering with other branches of Engineering in detail. [6]  
b) Explain Aspect, Prospect and Ventilation as a building planning principles. [6]
- Q2)** a) Explain with a neat sketch the different elements of super-structure of building. [6]  
b) Explain the various types of soil and rocks as foundation strata. [5]
- Q3)** a) Explain in brief the desired engineering properties of bricks & timber. [6]  
b) What are ingredients of concrete? Write note on R.M.C. [5]
- Q4)** Attempt any three of the following. [12]  
a) What is F.S.I.? Give its significance.  
b) What are various factors affecting bearing capacity of soil?  
c) Write a note on Pile foundation.  
d) What are the types of roofing materials commonly used in building?

**P.T.O.**



SECTION - II

- Q5) a) Write a short note on errors in chaining. [3]  
 b) The following bearings were taken with a prismatic compass in running a closed traverse. [8]

Line	AB	BC	CD	DA
F.B.	124°30'	68°30'	310°30'	200°30'
B.B.	304°30'	246°0'	135°0'	18°30'

- i) Plot the traverse and show all F.B. and B.B. on it.  
 ii) Find out the included angles.  
 iii) Calculate corrected F.B. and B.B.
- Q6) a) Write short note on EDM. [4]  
 b) The following consecutive readings were taken with a dumpy level and a 4m Leveling staff on a continuously sloping ground at a common interval of 30 m.

0.780, 1.535, 1.955, 2.430, 2.985, 3.480, 1.155,  
 1.960, 2.365, 3.640, 0.935, 1.045, 1.630 and 2.545.

The R.L. of first station was 180.750m. Make entries in the level field book and enter above readings. Determine gradient of line joining, first and last stations. Use rise and fall method. Calculate RI of points. [8]

- Q7) a) Write a note on gravity dam with the help of neat sketch. [5]  
 b) Explain with the neat diagram functions of various components of water supply scheme. [6]

- Q8) Attempt any Three from the following : [12]  
 a) Explain the process of chaining & ranging.  
 b) Explain various uses of contour map.  
 c) Draw a neat sketch of broad gauge railway track & explain its components.  
 d) The line was measured on a falling gradient of 1 in 10 with a 30m chain length. The chain was found to be 6cm too short. Find the correct horizontal distance if the measured length of the line was 378m.

