

Seat No.	
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**First Year (All Branches) (Semester- I & II) (New)  
(Revised) Examination, May - 2017**

**BASIC CIVIL ENGINEERING**

**Sub. Code : 59179**

**Day and Date : Tuesday, 09-05-2017**

**Total Marks : 100**

**Time : 10.00 a.m. to 1.00 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)** State the various principles of planning and explain any two with neat sketch. [8]

b) Write short note on 'scope of civil engineering'. [4]

OR

b) Write a short note on 'Role of a civil engineer'. [4]

c) What are the various building Bye-laws? [4]

**Q2)** Answer the following.

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

b) Explain the various types of soil and rocks as foundation strata. [6]

c) What are the various types of foundations? Explain the basis on which you will select each type of foundation for a particular situation. [6]

**Q3) a)** Compare merits and demerits of timber and steel as a building material. [8]

OR

a) What are different grades of concrete? Write note on P.C.C, R.C.C. and R.M.C. [8]

b) What are the various advantages and uses of building bricks. [4]

c) How will you classify the various loads coming on a structure. [4]

**P.T.O.**

SECTION-II

- Q4) a)** Write note on principles of surveying. [4]
- b) Differentiate between whole circle bearings and reduced bearings system. [4]
- c) A 30 m chain was found to be 15.24 cm too long after chaining a distance of 1524 m. The chain was found 30.48 cm too long after chaining a total distance 3048 m. The chain was correct before commencement of the work, find the true distance. [8]

OR

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

Line	AB	BC	CD	DE	EA
F.B.	50° 00'	157°30'	243°30'	311°00'	30°00'
B.B.	231°30'	335°30'	65°00'	130°00'	210°00'

- i) Plot the traverse and show all F.B. and B.B. on it.
- ii) Calculate correct F.B. and B.B.
- iii) Find out the amount of local attraction at affected stations.
- iv) Calculate included angles. Show specimen calculations.

- Q5) a)** Attempt any two questions from the following.

- i) Write a note on 'Auto level' [4]
- ii) How you will calculate area on paper using mechanical planimeter? [4]
- iii) State and explain methods of reduction of levels. [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 20 m.

0.540, 1.245, 2.375, 3.885, 1.245, 2.560, 3.780, 0.875, 1.625, 2.960

The R.L. of first station was 350.000 m. 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 functions of various components of railway track (Broad gauge). [4]
- b) Explain with neat diagram components of flexible pavement. [4]
- c) Explain with neat diagram various units of water treatment plant. [4]
- d) Explain with neat diagram gravity dam. [4]

OR

- d) Explain components of earthen dam with neat diagram. [4]

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