

SC - 6

Total No. of Pages : 3

Seat No.	
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**First Year (All Branches) (Engineering) (New) (Semester - I & II)**  
**Examination, December - 2019**  
**BASIC CIVIL ENGINEERING**  
**Sub. Code : 59179**

Day and Date : Thursday, 5 - 12 - 2019

Total Marks : 100

Time : 2.30 p.m. to 5.30 p.m.

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

**SECTION - I**

- Q1) a) Enumerate the various governing principles of building planning. Explain any three of them with neat sketches. [8]

OR

- a) Explain co-relevance of Civil Engineering with other branches of Engineering in detail. [8]
- b) Write a short note on 'Role of a civil engineer'. [4]
- c) Write a note on building bye laws for building line and control line with neat sketch. [4]

- Q2) a) Differentiate between the following. [6]

- i) Load bearing and framed structure
  - ii) Uniform and differential settlement
- b) Explain with neat sketch Pile foundation. Write its suitability. [6]
  - c) Explain the functions of any five elements of super - structure. [6]

P.T.O.

SC - 6

Q3) a) Explain in detail various ingredients and grades of concrete. [8]

OR

a) Mention the uses of aluminium and plastics in building construction. [8]

b) Write note on Ready mix concrete [4]

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

**SECTION - II**

Q4) a) Define surveying. Explain the objects and purpose of surveying. [4]

b) Explain the temporary adjustments of a prismatic compass. [4]

c) The distance measured between two points was measured with 30 m and 20 chain was 215 m and 218 m respectively. If the 30 m chain was 9cm too short, find the error in 20 m chain. [8]

OR

c) Observed bearings for a closed compass traverse are given below. Find the local attraction at each end of the affected station and correct all bearings. Tabulate the data and results. Find also included angles. Show all calculations. [8]

Line	AB	BC	CD	DA
F.B	N15°E	S56°E	S67°W	N25°W
B.B	S14°W	N53°W	N65°E	S25°E

Q5) a) Attempt any two questions from following.

i) Differentiate between Rise and Fall method and HI method for reducing level. [4]

ii) Define bench mark and explain types of bench mark. [4]

iii) Define: Change Point, Back Sight, Fore Sight and Line of Sight. [4]

SC - 6

- b) The following staff readings were observed on a continuously sloping ground along the center line of a road; with the help of a dumpy level and 4 m staff at 30 m interval. The first reading was taken on starting point of R.L. 150.000m. [10]

0.750,1.520,1.925,2.415,3.770,1.105,1.885,2.385,3.480,0.555,1.235,1.725

Enter the readings in a page of level book. Find R.L.s by collimation plane method. Apply usual checks. Determine longitudinal gradient of the road.

- Q6) a) Draw a neat sketch of cross section of road in embankment. [4]  
b) Define gauge of a railway track. State the types of gauges of a railway track. [4]  
c) Explain with neat sketch components of Earthen Dam. [4]  
d) Draw the flow diagram of components of water supply scheme. [4]

