Seat No.

First Year Engineering (Semester - II) (New) Examination, December - 2018

BASIC CIVIL ENGINEERING

Sub. Code : 59179

Day and Date : Tuesday, 04 - 12 - 2018

Time : 02.30 p.m. to 05.30 p.m.

Total Marks : 100

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) "Civil Engineering is very much relevant to other branches of engineering". Explain . **[8]**

OR

Enlist various principles of building planning. Explain Grouping, Circulation and Prospect in detail. **[8]**

b) What is the orientation of, **[4]**
   i) Kitchen   ii) Bedroom
   iii) Living room

c) Write down the specific Bye Laws for, **[4]**
   i) Building and control line   ii) Height of the building.

Q2) Answer the following. **[18]**
   a) Write a note on bearing capacity of soil.
   b) Explain with neat sketch functions of different elements of substructure and superstructure.
   c) State types of foundation. Explain Raft foundation and combined footing with neat sketch.

Q3) a) Write a note on characteristics of timber and state uses of timber. **[8]**

OR

State various uses of Aluminium and Plastic. **[8]**
   b) What are the characteristics of good brick? **[4]**
   c) Differentiate between PCC and RCC. **[4]**

P.T.O.

SECTION - II

Q4) a) What is surveying? Explain in detail Plane & Geodetic Surveying. **[4]**

b) How whole circle bearing differs from reduced bearing? Convert 227°30' into quadrantal bearing with figure. **[4]**

c) A chain was tested before starting the survey, and was found to be exactly 20m. At the end of survey it was tested again and found to be 20.12m. Area of the plan is drawn to a scale of 1 cm=6m was 60.4 sq.cm; find the true area of field on ground. **[8]**

OR

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	PQ	QR	RS	ST	TP
F.B	196°	102°30'	24°30'	313°30'	251°30'
B.B	16°30'	282°30'	203°30'	130°	75°30'

Q5) a) Attempt Any Two questions from following :

i) Define the terms: line of collimation, Axis of Bubble tube, Axis of Telescope, RL. **[4]**

ii) What are the temporary adjustments of Dumpy level. **[4]**

iii) Explain characteristics of contours with neat sketch. **[4]**

b) The following staff readings were observed on a continuously sloping ground with the help of a dumpy level and 4 m staff at 20 m interval. The R.L. of the station where first reading was taken was 150.150 m.
0.325, 1.150, 2.380, 2.980, 0.485, 1.190, 2.295, 3.235, 0.625, 2.365, 3.225, 3.630.
Enter the readings in a page of level book. Find R.L.s by Collimation plane method. Apply usual checks. Determine longitudinal gradient. Show sample calculations. **[10]**

Q6) a) What are the types of road? **[4]**

b) Explain the components of flexible pavement with neat sketch. **[6]**

c) State the types of dams. Explain earthen dam with neat sketch. **[6]**

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