

Seat No.	
-------------	--

S - 1473

SHIVAJI UNIVERSITY, KOLHAPUR**Subject : Basic Civil Engineering****Code : 59179****First Year Engineering - Sem - I (New Course)**

Day and Date : Thursday 26 - 12 - 2013

Time : 10.00 a.m. to 01.00 p.m.

Total Marks : 100

Note : 1. All questions are Compulsory

2. Figure to the right indicates full marks

3. Use of Non Programmable calculator is allowed

SECTION - I**Q. 1 Attempt any four questions from following**

- a) Explain significance of branches Irrigation Engg and Transportation Engg.? 04
- b) Write note on: Privacy in Building. 04
- c) Enlist various principles of planning and explain 'Grouping' in detail. 04
- d) Write necessity of setback distance and suggest suitable values for it? 04
- e) Explain the Bylaw which controls 'Height of Building'. 04

Q. 2 Solve the following

- a) Give classification of soil? What is bearing capacity of soil? How to determine bearing capacity of soil? 05
- a) Give classification of Shallow foundation. Explain Grillage Foundation and Raft foundation in detail? 09
- b) Along with neat sketch explain functions of various elements of structure? 08

Q.3 a) Attempt any three questions from following

- i) Write note on 'In gradients of Concrete' 04
- ii) Differentiate between Framed Structures and load bearing structures. 04
- iii) Explain various types of loads to be considered in building Design. 04
- iv) Write Uses of Plastic as a Building Material. 04
- b) Which are the characteristics of good brick? 05
-

SECTION – II

- Q. 4** a) Define the terms: Reconnaissance Survey, Index plan 03
 b) Write Note on Designation systems of Bearings. 03
 c) Which are the types of Bearings? Explain Magnetic Declination? 03
 d) 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 1cm=6m was 60.4 Sq.cm, Find the true area of field on ground. 07

OR

- d) The following bearings were observed during a compass survey where local attraction is suspected. 07

Line	AB	BC	CD	DE
FB	45° 45'	96° 55'	29° 45'	324° 48'
BB	226° 10'	277° 5'	209° 10'	144° 48'

At what station do you suspect local attraction? Calculate corrected bearings.

- Q. 5** a) Attempt any three questions from following
- i) Define the terms: Line of Collimation, Axis of Bubble Tube, Axis of Telescope 03
 - ii) Draw contours for: Pond, Valley, Watershed, 03
 - iii) Explain the principle of EDM? 03
 - iv) State various types of leveling and explain when to adopt cross sectioning? 03
- b) The Following staff readings were observed successively with a level, the instrument have been moved forward after the second, fourth and eighth reading:
- 0.875, 1.235, 2.310, 1.385, 2.930, 3.125, 4.125, 0.120, 1.875, 2.030, 3.765 03

The first reading was taken on BM of RL 132.135. Enter the readings in level book and calculate the RL's of all points. Apply usual checks.

- Q. 6** a) Attempt any three questions from following
- i) Draw a labeled diagram of cross section of road in embankment 04
 - ii) Along with neat sketch show various components of railway track 04
 - iii) Write note on flexible Pavements. 04
 - iv) Along with neat sketch explain components of Gravity Dam. 04
- b) Explain various components of Water treatment plant. 05