• Maintain work at • To plan & construct
  Public utilities   wastewater treatment
                     plant
• to develop roadway
  railways   • evalua^n of land &
  airports   buildings

Total No. of Questions: 4

Enrolment No........................

Q1 Multiple choice Questions   1

1. Magnetic Declination is represented in form of
    1. Fore Bearing   2. Back Bearing
    3. Horizontal Angle   4. Vertical Angle   1

2. Silica is used in bricks to reduce
    1. Shrinkage & Warping   2. Elasticity
    3. Moisture Content   4. All of These

3. If bearing of a line given in RB system is S 34° 45' W then bearing in   1
    WCB system will be
    1. 34° 45'   2. 214° 45'   3. 145° 15'   4. None of
    these.   1

4. Design ratio for M25 grade of concrete is:-
    1. 1:3:6   2. 1:1.5:3   3. 1:4:8   4. None of
    these   1

5. If RL of Line of Collimation of an Auto Level is 101.945 m. and staff
    reading at point of known RL and its consecutive point is 1.325 m &
    0.995 m respectively, then RL of Bench Mark is:-
    1. 103.270 m.   2. 102.275 m.   3. 100.620 m.   4. 100.950 m.   1

6. Age of tree can be determined by counting the:-
    1. Heart Wood   2. Cambium Layer
    3. Annular Rings   4. None of these.   1

7. Gunter's Chain is having the length of:-
    1. 66 ft.   2. 66 m.   3. 100 ft.   4. 100 m.

8. Temping of the concrete mix used in workability test is done to improve:-
    1. Workability   2. Compaction   3. Hardness   4. Strength

9. Contour map having higher elevation contour lines inside it with respect to
    outer ones represent:-
    1. Steep Slope   2. Depression   3. Gentle slope 4. Hill   1

10. Lime is added in manufacturing of cement to impart:-
    1. Plasticity   2. Bonding   3. Colour   4. Shrinkage

Q.2 1. Define Ranging and enlist its types.   2

    2. Calculate the RL of 10 points by Rise & Fall Method, if the staff   8
readings taken at 13 stations are as follows:-

    1.234, 1.345, 2.376, 4.120, 0.996, 2.334, 2.789, 0.998, 1.330, 1.580,
                       1.900, 0.778, 1.980

    Note: 1. Reduced Level of known point is given as 450.889 m.
            2. Auto level has been shifted at 4th, 6th and 9th staff stations.

OR 3. Find out the corrected Fore & Back bearings of given lines on the   8
traverse PQRSP by Included Angle Method if observed values are given
as follows:-

Line	Fore Bearing	Back Bearing
PQ	24° 30'	S 25° 00' W
QR	S 74° 30' E	285° 30'
RS	265° 30'	N 87° 00' E
SP	N 53° 15' W	127° 00'

Q.3 1. What do you understand by the term Grading of Concrete?   2

    2. Discuss the importance of each Bogue's Compound with their chemical   3
formula.

    3. Define the term Workability. Explain with diagrams the procedure of   5
Slump Cone Test.

OR 4. Draw the schematic diagram of cross-section of freshly cut Timber?   5
Explain in detail the method of its Seasoning.

Q.4 1. Present the classification of Survey related to Civil Engineering works in   2
form of a flow chart.

    2. Discuss various field tests performed on cement.   2

    3. Define the term Contour along with its uses and characteristics. (Draw   6
suitable diagrams).

OR 4. Write about Good Bricks with its standard composition, types and   6
characteristics.

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① contour   ④ survey

② Ranging

③ Role of civel engineer