

PUNE INSTITUTE OF ENGINEERING & TECHNOLOGY
(Formerly Government College of Engineering, Pune)

End Semester Examination

Subject code **CE 101**
Name of subject **ELEMENTS OF CIVIL
ENGINEERING**

Programme: F.Y. B. Tech Civil
Year: 2005-06
Duration: 1 hr

Date: / /
Max. Marks: 60

Instructions:

1. Solve all questions, Answer any two sub questions from Each question.
2. Draw neat figures wherever required.
3. Figures to the right indicates full marks.
4. Write answers of each question on new page.
5. Use of non programmable calculator is allowed.

- | | | | |
|------|----|---|---|
| Q 1. | a) | State the role of Civil Engineer in construction of Railways. | 5 |
| | b) | Enlist any five National Civil Engineering Projects. | 5 |
| | c) | i) State two properties & uses of cement or steel. | 3 |
| | | ii) Explain classification of bricks | 2 |
| Q 2. | a) | Find the bearings of all sides of a regular pentagon ABCDEA (run in a clockwise direction), if the F.B. of line AB is $60^{\circ} 30'$
Tabulate the F.B. & B.B bearings of the pentagon. | 5 |
| | b) | Define any five –
Base line, R.B., Change point, Contour interval, Line of collimation, TBM, R.L. | 5 |
| | c) | i) Convert the following W.C.B. into quadrantal bearing
(1) $126^{\circ} 40'$ (2) $87^{\circ} 30'$ (3) $325^{\circ} 50'$ (4) $260^{\circ} 15'$ | 2 |
| | | ii) State 3 applications of GIS | 3 |
| Q 3. | a) | Explain roof top rain water harvesting and ground water recharge | 5 |
| | b) | Enlist various domestic water demands and their recommended values. | 5 |
| | c) | Draw a flow diagram of sewage treatment and explain necessity of reuse of waste water. | 5 |
| Q 4. | a) | i) State the functions of (any three) – Dams, Spillways, Control Gates, Free board, Foundations | 3 |
| | | ii) Define- Catchment area, Distributory, Irrigation & Delta. | 2 |
| | b) | Draw a cross section of concrete Gravity Dam & name important parts | 5 |
| | c) | i) Enlist classification of storage dams. | 3 |
| | | ii) Write a note on estimation of water power | 2 |