

Nov-Dec
2011



[4061] – 105

F.E. (Semester – I) Examination, 2011
BASIC CIVIL AND ENVIRONMENTAL ENGINEERING
(2008 Pattern)

Time : 3 Hours

Max. Marks : 100

Instructions : 1) Answers to the **two** Sections should be written in **separate** books.

- 2) **Neat** diagrams must be drawn **wherever** necessary,
- 3) **Black** figures to the **right** indicate **full** marks.
- 4) **Use** of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is **allowed**.
- 5) **Assume** suitable data, if necessary.
- 6) Solve Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6 from Section I and Q. 7 or Q. 8, Q. 9 or Q. 10, Q. 11 or Q. 12 from Section II.

SECTION – I

1. a) Explain in brief the role of civil engineer in construction of dam. 6
b) State comparison between roadways (Highways) and Railways (any six points). 6
c) State and explain any four basic areas/branches of civil engineering, involved in a construction of fly over bridge. 4

OR

2. a) Define valuation. State any four purposes of valuation. 6
b) Mention the name of construction work carried out by civil engineer in following branches of engineering. 4
 - i) Mechanical engineering
 - ii) E and TC
 - iii) Chemical engineering
 - iv) Electrical engineering.
- c) State the two practical application of : 6
 - i) Geotechnical engineering
 - ii) Remote sensing
 - iii) Fluid mechanics.



P.T.O.



3. a) State the comparison between first class bricks and second class bricks. 4
- b) Suggest the suitable stone/materials of construction for the following works : 4
- i) Kitchen platform
 - ii) Flooring
 - iii) Footing (foundation)
 - iv) Fine Aggregate in concrete
- c) Define foundation. Draw neat sketches of any two types of shallow foundations. 4
- d) State any four fundamental requirements of masonry. 4

OR

4. a) State the comparison between R.C.C. and P.C.C. 4
- b) State and explain in brief the following loads. 4
- i) Dead load
 - ii) Live load.
- c) Write a short note on prestressed concrete (PSC). 4
- d) Comment on the statement “Automation in construction is the replacement of manpower with machine power.” 4
5. a) What is Map ? State any four types of maps. 4
- b) Following consecutive readings were taken with a dumpy level and 4 m levelling staff. 0.750, 1.435, 1.800, 0.400, 1.705, 1.525, 0.865 and 1.300. 6
- The instrument was shifted after 3rd and 6th reading. The first reading was taken on a Arbitrary Bench Mark of R.L. 100.00 m. Calculate the reduced levels of remaining points by rise and fall method. Apply usual arithmetic check.
- c) What is GPS ? State any four applications of GPS. 4
- d) Define the following terms used in levelling 4
- 1) Line of collimation
 - 2) Bench Mark
 - 3) Change point
 - 4) Fore sight reading (F.S.).

OR

