

Total No. of Questions : 12]

[Total No. of Printed Pages : 4

[3561]-104

F. E. (Semester -I) Examination - 2009

BASIC CIVIL AND ENVIRONMENTAL ENGINEERING

(June 2008 Course)

Time : 3 Hours]

[Max. Marks : 100

Instructions :

- (1) Answer Q. 1 or Q. 2, Q. 3, or Q. 4, Q. 5 or Q. 6 from section I, Q. 7 or Q. 8, Q. 9 or Q. 10, Q. 11 or Q. 12 from section II.
- (2) Answer to the two sections should be written in separate answer-books.
- (3) Black figures to the right indicate full marks.
- (4) Neat diagrams must be drawn wherever necessary.
- (5) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and stream tables is allowed.
- (6) Your answer will be valued as a whole.
- (7) Assume suitable data, if necessary.



SECTION - I

- Q.1) (A) Explain the role of Civil Engineer in Construction of Infrastructure Projects for 21st Century. [06]
- (B) Write a brief note on following and give practical application of each : [06]
- (1) Project Management
 - (2) Fluid Mechancis
- (C) Differentiate between Roadways and Railways. [04]

OR

- Q.2)** (A) Explain the importance of Quantity Surveying. [06]
(B) Enlist and briefly explain the Infrastructural Facilities required for the proper development of an area. [06]
(C) State and briefly explain any two adverse conditions under which the Civil Engineer has to execute the work. [04]
- Q.3)** (A) Explain causes of settlement of foundation and draw neat sketches of : [4+2=06]
(1) Trapezoidal Footing
(2) Strap Footing
(B) Enlist basic materials used in construction and give two uses of each. [06]
(C) Explain term : [04]
(1) Safe Bearing Capacity
(2) Differential Settlement

OR

- Q.4)** (A) Write a brief note on 'Smart Materials' in Construction Industry. [06]
(B) State advantages and disadvantages of Frame Structure with respect to Load Bearing Structures. [06]
(C) Explain the following terms and their uses : [04]
(1) P.C.C.
(2) P.C.
(3) R.C.C.
(4) P.S.C.

- Q.5)** (A) What are the Methods of Levelling. Explain in brief. [06]
(B) Explain the Axes of Dumpy Level. [04]
(C) The following staff readings were observed on continuously sloping ground along the centreline of a road, with the help of a dumpy level and 4m levelling staff, at 20m interval. The first reading was taken on starting point of road having R.L. 350.00 m, 0.540, 1.245, 2.375, 3.885, 1.245, 2.560, 3.780, 0.875, 1.625, 2.960.
(1) Enter the readings in a page of level book.
(2) Find R.L.'s by Rise and Fall Method. Apply usual checks.
(3) Determine Longitudinal Gradient of the Road. [08]

OR

