

Total No. of Questions : 12]

SEAT No. :

P555

[4456]-5

[Total No. of Pages : 3

F.E. (Common) (Semester - I)
BASIC CIVIL AND ENVIRONMENTAL ENGINEERING
(2008 Course)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Section - I : Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.
- 2) Section - II : Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12.
- 3) Figures to the right indicate full marks.

SECTION - I

- Q1)** a) Explain the role of civil engineer in any construction work. [6]
b) Differentiate between Roadways and Railways. [4]
c) Explain practical applications of : [6]
i) Remote sensing
ii) Quantity surveying

OR

- Q2)** a) State and explain the role of various branches of engineering in construction of any shopping mall. [6]
b) Define Fluid. State the practical applications of fluid mechanics. [4]
c) Explain in brief the following : [6]
i) Structural Engineering
ii) Geotechnical Engineering.

- Q3)** a) Define cement concrete. State various types of cement concrete. Also state the use of each. [6]
b) Explain with neat sketches : [4]
i) Combined Footing
ii) Wall Footing
c) State comparison between load bearing structure and framed structure. [6]

OR

- Q4)** a) State various commonly used materials of construction. and also state the two uses of each. [6]
b) Define foundation. State various functions of foundation. [6]
c) Draw a neat labelled sketch of load bearing structure. [4]

P.T.O.

- Q5)** a) The following consecutive readings were taken with a dumpy level and 4 m. levelling staff on a continuously sloping ground at common interval of 30 m. The readings are 0.905(on A), 1.745, 2.345, 3.125, 3.725, 0.545, 1.390, 2.055, 2.955, 3.455 (on B). The R.L. of 'A' was 395.00 m. Calculate the R.L.'s of different points and find the gradient of line AB. Use Rise and Fall method. [8]
- b) State the Name of various modern surveying Instruments. Also state the use of each. [6]
- c) Draw a neat sketch of 4 m levelling staff. [4]

OR

- Q6)** a) Explain in brief the procedure of levelling of Dumpy level. [4]
- b) Define contour. State any four characteristics of contour line. [6]
- c) State comparison between collimation plane method and Rise and Fall method. [4]
- d) Write a short note on GPS and GIS. [4]

SECTION - II

- Q7)** a) Explain in brief the biotic and abiotic components of Grassland Ecosystem. [6]
- b) Explain in detail the composting, as a method of disposal of solid waste. [6]
- c) Write a short note on sustainable development. [4]

OR

- Q8)** a) Discuss in brief the Biotic and Abiotic components of pond or Lake Ecosystem. [6]
- b) Explain in brief the necessity of conserving our Natural Resources. [6]
- c) Write a short note on Environmental Impact Assessment. [4]

- Q9)** a) What is prospect? Draw a neat sketches to show how prospect can be achieved. [6]
- b) Explain in brief the role of building byelaws in controlling the irregular growth of towns. [4]
- c) Determine the carpet area per floor of a two storeyed building from the following data : [6]
- i) FSI allowed = 1.5
 - ii) Plot area = 1200 m²
 - iii) Ratio of carpet Area to Built up Area = 0.8
- Assume equal built up area per floor.

OR

- Q10)** a) State the various points to be considered while selecting a site for Residential building. [6]
b) Explain in brief setback distance and its necessity. [4]
c) Explain with the help of a neat sketch the following : [6]
i) Circulation
ii) Orientation
- Q11)** a) What is meant by Land pollution? State the various methods of controlling land pollution. [6]
b) Define water pollution. State various causes of water pollution. [6]
c) Write a short note on : [6]
i) Geothermal energy
ii) Solar Energy

OR

- Q12)** a) State comparison between Renewable and Nonrenewable energy sources. [6]
b) Define Noise. What are the various sources of Noise. How it can be controlled. [6]
c) Write a short note on Green House effects and its adverse effect on environment. [6]

