

Total No. of Questions : 8]

SEAT No. :

P4422

[Total No. of Pages : 3

[5251]-1006

F.E. (Engineering) (Semester - II)

BASIC CIVIL AND ENVIRONMENTAL ENGINEERING

(2015 Pattern)

Time : 2 Hours]

[Max. Marks : 50

Instructions to the candidates :

- 1) Neat diagram must be drawn wherever necessary.
- 2) Figure to the right indicates full marks.
- 3) Assume suitable data wherever necessary.
- 4) Use of electronic pocket calculator is allowed (non-programmable).

- Q1)** a) Explain the general role of civil engineer in any construction work. Support your answer with minimum 04 points. [4]
- b) Define 'Uniform Settlement' and 'Differential Settlement' of footings/ foundations. Show these settlements clearly in neat sketches. [4]
- c) State the general role of civil engineer in construction of National Highway. Support your answer with minimum 04 points. [4]

OR

- Q2)** a) State the general role of civil engineer in construction of Bunglow. Support your answer with minimum 04 points. [4]
- b) Draw a proportionate sketch (Sectional View) of a framed superstructure. Show (Label) following parts (components) in it: Plinth, Slab, Parapet, Flooring. [4]
- c) Justify the statement: Use of clay bricks should be avoided in constructions. (Give four points of justification). Also state two substitute materials for the clay bricks. [4]

P.T.O.

- Q3)** a) Define the fundamental axes of Dumpy Level with the help of neat sketch. [6]  
b) Enlist any 06 steps to achieve environmental sustainability in day to day activities. [3]  
c) Define Contour. Draw typical contours for the following features of RLs: [3]  
i) Uniformly Sloping Ground  
ii) Steeply Sloping Ground

OR

- Q4)** a) Explain in brief following methods of treatment of solid waste: [3]  
i) Mechanical volume reduction.  
ii) Thermal volume reduction.  
iii) Manual component separation.  
b) Explain—G.T.S., Permanent, and temporary benchmarks. [3]  
c) Explain any three characteristics of contours with neat sketch. Also give any three uses of contour maps. [6]

- Q5)** a) Comment on statement “privacy and circulation are complementary to each other” with neat sketch. [7]  
b) What do you understand by Eco-friendly materials in construction? Explain in detail. [6]

OR

- Q6)** a) Enlist the various principles of planning and explain in brief Aspect and Prospect with sketches. [6]  
b) Explain in brief the following terms: [7]  
i) Covered area  
ii) Plinth area  
iii) FSI  
iv) Built up area  
v) Floor area  
vi) Carpet area  
vii) Set back distance

- Q7)** a) Enlist any 02 global effects of air pollution. Explain with suitable sketch/equations, any 01 in detail. [6]
- b) State three ill effects of ozone layer depletion [3]
- c) Give WHO &NWC definitions of water pollution. Enlist any 02 sources of water pollution. [4]

OR

- Q8)** a) Compare solar energy and wind energy. Minimum 03 points of comparison are expected. [3]
- b) Define air pollution as per IS. Explain in brief any 04 sources of air pollution. [6]
- c) Explain in brief: what is land pollution. Explain in brief any 03 sources of land pollution. [4]

