UNIVERSITY OF PUNE
[4361]-106
F. E. (COMMON) Examination 2013
BASIC CIVIL AND ENVIRONMENTAL ENGINEERING
(2012 Course)

[Total No. of Questions:8]   [Total No. of Printed pages :3]

[Time : 2 Hours]   [Max. Marks : 50]

Instructions :

(1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8*
(2) *Neat diagrams must be drawn wherever necessary.*
(3) *Figures to right indicate full marks.*
(4) *Assume suitable data, if necessary.*
(5) *Use of logarithmic tables, slide rule, Molllier charts, electronic pocket calculator and steam tables is allowed.*

Q.1 a) State the general role of civil engineer in construction of a bungalow   [5]

b)Define foundation. Draw a neat labeled sketches of any two types of   5]

foundations

c) State any two practical applications of the following: [2]

1) Irrigation engineering   2) Town planning

OR

Q.2 a) State comparison between plain cement concrete and reinforced cement [5]

b) Define steel. State various types / grades of steel and their uses in.   [5]

c) State any four practical applications of quantity surveying   .   [2]

Q.3 a) Define the following terms used in leveling: [4]

1. Bench mark 2. Line of collimation 3. Change point 4. Axis of telescope

b) Write a short note on sustainable development   [4]

c) Explain in detail the procedure of leveling of dumpy level   [4]

OR

Q4. a) State the various methods of collection of solid waste and explain [4]
any one in brief.

b) The following staff readings were taken with a dumpy level and 4m [8]
leveling staff. The first reading was taken on BM of RL 105.535 m. The
instrument was shifted after 3rd and 5th reading . Calculate the elevations of all
the stations by collimation plane method. Apply usual arithmetic check and
show all the calculations. The readings are 0.750, 1.780, 2.935, 0.425, 3.685,
0.680, 2.975

Q.5 a) Explain in brief the following principles of building planning. Also [4]
draw a neat sketch

   1.Circulation   2.Grouping

b) Explain in brief the necessity of building bye-laws in building construction.[4]

c) For a rectangular plot of size 25 m x 35m, permissible FSI is 1.0 and a [5]
building with G+1 storey's is to be constructed by consuming full FSI. Front
margin is 3m, rear and side margins to be left is 2.5 m each. Determine the built up
area of each floor. Assume width of the plot is parallel to the road

<p align="center">**OR**</p>

Q.6 a) Explain in brief the concept of green building [4]

b) Explain with a neat sketch, privacy as the principle of building planning [4]

c) A plot owner proposed G+1 construction with 100sq. area on each floor. [5]
The plot size is 16m x20m. Find the ground coverage and FSI proposed if all side
margins are 2m each. If the FSI allowed in the area is 1.0 state with reason whether
the plan will be sanctioned or not

Q.7 a) State any four merits and demerits of conventional energy sources [5]

b)Write short note on water pollution [4]

c) Enlist any four non-conventional energy sources and explain any one in brief [4]

<p align="center">**OR**</p>

Q.8 a) As a responsible member of the society, what measures will you adopt [4]
to reduce the pollution caused by an automobiles

b) State comparison between renewable and non-renewable energy sources [4]

c) Write a short note on green house effect [5]