UNIVERSITY OF PUNE
[4361]-5
F. E. (May / June 2013 Examination)
Basic Civil and Environmental Engineering
(2008 Course)

[Total No. of Questions:12]　　　　　　　[Total No. Printed Pages: 4]

[Time : 3 Hours]　　　　　　　　　　　[Max. Marks:100]

SECTION -I

Q.1 a) Explain in brief the role of Civil engineer in Infrastructure [4]

　　development of any country.

　b) State Comparison between Highways and Railways. [6]

　c) State various practical applications of Geotechnical engineering and [6]

　　foundation engineering

OR

Q.2 a) Explain with a neat sketch the Working principle of remote sensing. [4]

　b) Define the term Gauge and Draw a neat sketch of Railway Track. [6]

　c) Explain in brief the merits and demerits of any major Irrigation [6]

　　project

Q.3 a) How will you check the quality of bricks and cement at construction.[6]
site.

　b) What is the Importance or Sand in construction. State any four [4]

　　advantages of artificial Sand.

　c) Define foundation Settlement. Also state various causes of it. [6]

OR

Q.4 a) Explain in brief the need of Automation in construction Industry. [4]

b) State Comparison between Framed Structure and Load Bearing [6]
Structure.

c) Draw a neat sketch of the following : [6]

1) Pile foundation

2) Combined Footing

Q.5 a) What is Map? State various types of Map. Explain any one in brief. [5]

b) What is GPS? Explain in brief the various components of GPS [5]

c) Write a short not on Digital Planimeter [4]

d) Define the following terms used in levelling [4]

1) Reduced Level   2) Change point   3) Level Line

4) Height of instrument.

OR

Q.6 a) Define Surveying. state fundamental principles of surveying. [5]
Explain any one in brief.

b) What is Total station. State any four use of Total station. [3]

c) Write in detail the Stepwise procedure of levelling of dumpy level [4]

d) The following consecutive readings were taken with a dumpy [6]
level and 4 m levelling statt, 0.760, 0.900, 1.430, 1.750, 0.500,
1.750, 1.525, 0.850, 1.800.

The level was shifted after 4th and 7th reading. The first reading

taken on a B.M of R.L. 100.00 m calculate the Reduced Levels of

all stations by using collimation plane method. Apply usual arithmetic

check.

SECTION -II

Q.7 a) Enlist any four natural resources. Explain in brief the necessity of [4] conserving natural resources.

b) Explain in brief the Biotic and A Biotic components of ecosystem [4]

c) Write a short note no: [8]

1) Carbon Cycle

2) E- waste

OR

Q.8 a) What is EIA. State various methods of carrying out EIA. Explain [4] any one in brief.

b) What do you mean by sustainable development. What techniques/ [4] methods are used to achieve it.

c) Write a short note on: [8]

1) Solid waste management

2) Hydrological Cycle

Q.9 a) Explain in brief the necessity of building bye-laws. [4]

b) Explain with a neat sketch the following: [4]

1) Circulation   2) Elegance

c) A owner wants to constructs a three storeyed building on a plot of [4] size 30 m x 30 m. The Built up area on Ground floor is 400 m^2 and First floor is 350 m^2. How much area can be construct on second floor if the permissible FSI is 1.2

d) Write a short note on use of Ecofriendly materials in construction. [4]

Q.10 a) Distinguish between Aspect and Prospect [4]

b) Write a short note on Green Building. [4]

c) Determine the carpet area per floor of a two storeyed building [4]

from the following data :

1) Plot Area = 1200 m^2
2) F.S.I. allowed = 1.0
3) Ratio of carpet area to built up area = 0.75 Assum equal built up area on each floor.

d) Write note on set back distance. [4]

Q.11 a) Write short notes of following : [18]

1) Land Pollution

2) Green House Effect

3) Primary and secondary air Pollutants

4) Water Pollution

OR

Q.12 a) Write short notes on following : [18]

1) Global warming
2) Conventional Sources of energy
3) Wind Energy
4) Solar Energy