

College of Engineering, Pune
(An Autonomous Institute of Government of Maharashtra, Pune-411005)
End Semester Examination
CE(101) – Elements of Civil Engineering
Semester- I

Academic Year: 2006-07
Duration: 3 Hours

Branch – All
Date: 29/11/2006
Max. Marks: 60

Instructions:

1. Draw neat figures wherever required.
2. Write answers of each question on new page.
3. Use of non programmable calculator is allowed.

-
- Q.1** Solve any two 4
- a) What are the points to be considered by civil engineer while constructing a chemical plant? 4
- b) Write practical applications of 4
- i) Surveying
- ii) Fluid Mechanics
- c) State two properties and two uses of following materials 4
- i) Bitumen
- ii) Earth
- Q.2** a) Compare whole circle bearing with reduced bearing. 3
- b) Define base line and explain open cross staff with a neat sketch. 3
- c) State the uses of contours. 4
- OR**
- c) State any 4 applications of remote sensing. 4
- Q.3** a) Describe the necessity of irrigation in India. 4
- b) i) Define following terms (Any two) 2
- 1) Catchment area
- 2) Gross command area
- 3) Storage dam
- ii) Compare gravity dam with earthen dam. 2
- OR**
- b) Explain various factors affecting duty. 4
- c) What is a spillway? State different types of spillway. 3

- Q.4 a) What are the objectives of watershed management? 4
b) Write a short note on 5
i) Rain water harvesting system
ii) Methods of soil conservation
c) Draw a flow diagram of water treatment plant and state the function of each unit. 4

OR

- c) What is the need of sewage treatment? 4

- Q.5 Solve any two of following 5

- a) Define built up area and explain following principles of planning,

i) Privacy

ii) Circulation

- b) A plot owner proposed 6+1 construction with 150 m² construction on each floor on a plot of 14 m x 19 m . Find ground coverage and FSI . If margin from all sides is 2 m and permissible FSI is 1 whether the plan will be sanctioned or not? 5

- c) What are the materials used for painting. 5

- Q.6 a) What is the difference between rigid and flexible pavement. 5

OR

- a) Explain the points to be considered while constructing machine foundation. 5

- b) State the situations under which following foundations are to be used. 2

i) Strip footing

ii) Raft foundation