Combined First and Second Semester B.Tech. Degree
Examination, January 2019
(2008 Scheme
08.106 : BASIC CIVIL ENGINEERING
(CMNPHE TARUFBS)

Time : 3 Hours Max. Marks : 100

PART – A

I. Answer all questions :
a) Brief on the principles of surveying.
b) The following perpendicular offsets are taken at 10 m intervals from a survey line to an irregular boundary line : 3.60, 2.80, 4.50, 8.25, 7.85, 6.45 and 5.35. Calculate the area enclosed between the survey line and the boundary line by the trapezoidal rule.
c) Write a note on Total Station and GPS.
d) Classify foundation.
e) Define bearing capacity of soil. What is the importance of determination of the same ?
f) Classify paints.
g) List the advantages of reinforced cement concrete and plain cement concrete.
h) What are plumbing services? What is the need of it in a building?

(8x5=40 Marks)

PART – B

Module – I

II. i) Explain the principle of leveling. 10
 ii) What are the characteristics of contours ? 10

OR

P.T.O.
III. i) Enumerate the various instruments used in chain surveying.
   ii) Calculate the area between the chain line and the irregular boundary
       and the first and last offsets using Simpson’s rule and the trapezoidal rule.

<table>
<thead>
<tr>
<th>Distance (m)</th>
<th>0</th>
<th>3</th>
<th>6</th>
<th>9</th>
<th>12</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offset (m)</td>
<td>1.50</td>
<td>3.20</td>
<td>2.75</td>
<td>2.10</td>
<td>1.70</td>
<td>2.20</td>
</tr>
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Module – II

IV. With a neat sketch, explain the various building components.

   OR

V. i) Explain the types of flooring.
   ii) Write a note on brick masonry.

Module – III

VI. Give a brief description on the qualities of ingredients of concrete.

   OR

VII. i) Explain the various tests on cement.
   ii) Write a note on steel in building construction.