



Sanjay Ghodawat University, Kolhapur

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2018-19

EXM/P/09/01

Year and Program: 2018-19

School of Technology

Department of FY B. Tech

Course Code: FYT 105

Course Title: Elements of Civil Engineering

Semester -- IV

Day and Date: Fri, 31/05/2019

End Semester Examination (ESE)

Time: 10.30a.m. to 1.30p.m.

Max Marks: 100

Instructions:

- 1) All questions are compulsory.
- 2) Assume suitable data wherever necessary.
- 3) Figures to the right indicate full marks.

Q.1 Solve any Two

- a) Enlist and discuss the scope of various sub branches of civil engineering

Mark s	Bloom's Level	CO
07	L <sub>2</sub>	CO1

OR

- a) Explain role of civil engineering in various construction activities.  
b) Enlist various principles of planning. Explain any three with sketches.

07	L <sub>2</sub>	CO1
08	L <sub>2</sub>	CO2

OR

- b) Define Building Bye Law. Explain the following building bye laws.  
i) Open space requirement ii) Built up Area iii) Height of building

08	L <sub>2</sub>	CO2
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Q.2 Solve any Two

- a) Draw neat sketch of building components of structure & explain any three components of superstructure.

07	L <sub>2</sub>	CO3
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OR

- a) Give various types of deep foundation & Explain any three  
b) Define surveying. Explain the principles of surveying works with sketches.

07	L <sub>2</sub>	CO3
08	L <sub>2</sub>	CO4

OR

- b) The following bearings were taken with a prismatic compass in running a closed traverse

08	L <sub>2</sub>	CO4
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- i) Find correct F.B. & B.B.
- ii) At what stations do you suspect local attraction.
- iii) Find out included angles.

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Line	FB	BB
AB	66° 15'	244° 00'
BC	129° 00'	313° 30'
CD	218° 30'	37° 30'
DA	306° 45'	126° 45'

**Q.3 Solve any Two**

- |  |    |                |     |
|--|----|----------------|-----|
| a) Explain application of civil engineering with allied branches.  | 08 | L <sub>2</sub> | CO1 |
| b) Explain the following terms:<br>1) Circulation                      2) FSI<br>3) Sanitation                      4) Aspect of building  | 08 | L <sub>2</sub> | CO2 |
| c) Explain the following:<br>1) Bearing Capacity of Soil      2) Types of shallow foundation   | 08 | L <sub>2</sub> | CO3 |
| d) The distance measured between two points by a 20 m chain was 1340 m and when measured by a 30 m chain was 1345 m. if the 30 m chain was 0.2 m too short, find whether the 20 m chain was of correct length or not. If not find the error in it. | 08 | L <sub>2</sub> | CO4 |

**Q.4 Solve any Two**

- |   |    |                |     |
|---|----|----------------|-----|
| a) Rule out a level book to enter following reading with dumpy level.<br>3.325, 3.050, 2.755, 1.575, 0.625, 3.575, 2.875, 1.255, 1.785, 0.795, 0.780<br>The level was shifted after the fifth and eight readings. The RL of first point was 245.755 m . Calculate reduction levels by HI method. Apply usual checks.                                  | 09 | L <sub>3</sub> | CO5 |
| b) Rule out a page of level book to enter following reading with dumpy level.<br>1.360, 1.745, 1.920, 0.970, 1.860, 2.340, 2.675, 1.895, 2.415, 2.630, 1.970, 2.320<br>The level was shifted after the third, seventh, and tenth readings. The RL of first point was 170.000 m. Calculate reduction levels by Rise & Fall method. Apply usual checks. | 09 | L <sub>3</sub> | CO5 |
| c) Define Contour. Explain characteristics of contour with neat sketch.   | 09 | L <sub>2</sub> | CO5 |

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Q.5

**Solve any Two**

- |  |    |                |     |
|--|----|----------------|-----|
| a) Explain components of railway track with sketch   | 09 | L <sub>2</sub> | CO6 |
| b) Explain water supply scheme in detail with sketch | 09 | L <sub>2</sub> | CO6 |
| c) Explain types of Irrigation in detail with sketch | 09 | L <sub>2</sub> | CO6 |

Q.6

**Solve any Three**

- |  |    |                |     |
|--|----|----------------|-----|
| a) Write note on EDM with special reference to Total station               | 06 | L <sub>2</sub> | CO5 |
| b) Enlist various types of levelling & Explain any two types of levelling. | 06 | L <sub>2</sub> | CO5 |
| c) Explain components of rigid and flexible pavement with neat sketch      | 06 | L <sub>2</sub> | CO6 |
| d) Give difference between Gravity Dam & Earthen Dam                       | 06 | L <sub>2</sub> | CO6 |

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