



# Sanjay Ghodawat University, Kolhapur

2017-18

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

FY B Tech

School of Technology

Semester I

FYT 106

Elements of Civil Engineering

Max Marks: 100

Nov 2017

End Semester Examination (ESE)

Time: 3 Hrs

8 DEC

- Instructions for Students:**
- 1) Use of non-programmable calculator is allowed
  - 2) All questions are compulsory

Q1	Solve any Two	Marks	COs
a)	Enlist various branches of engineering. & Explain any four.	09	CO1
b)	Explain the difference between load bearing structure and framed structure	09	CO1
c)	What are the various applications of civil engineering to allied fields?	09	CO1
Q2			
a)	Define Bye laws. Give its necessity.	04	CO2
b)	Enlist various principles of planning. Explain any three OR	12	CO2
b)	Enlist various Building bye laws. Explain any three	12	CO2
Q3			
a)	Define 1) Safe bearing capacity 2) Ultimate bearing capacity	04	CO3
b)	Enlist various components of building structure & Explain any four.	12	CO3
Q4	Solve any Two		
a)	Define surveying. Explain various principles of surveying with sketches.	09	CO4
b)	A 30m chain was found to be 0.15 m too long after chaining a distance of 1524m. The chain was found 0.30m too long after chaining a total distance of 3048m. The chain was correct before commencement of the work, find the true distance.	09	CO4

- Q4** c) The following are the observed bearings of the lines of the traverse ABCD taken with a prismatic compass in a place where local attraction was suspected. 09 CO4
- Plot the traverse & show all F.B. & B.B.
  - Find correct F.B. & B.B. show specimen calculation.
  - Find out the amount of local attraction at affected stations.

Line	FB	BB
AB	66° 20'	246° 20'
BC	139° 30'	318° 50'
CD	189° 40'	11° 20'
DA	300° 30'	119° 30'

- Q5** a) Explain the term Level surface & Horizontal surface. 04 CO5
- b) Rule out a page of level book to enter following reading on continuously sloping ground at 30 m interval. The RL of first point (A) was 100.00 m. Calculate reduction levels by Rise & Fall method. Apply usual checks. Determine gradient as the line joining first and last station 12 CO5
- 0.79 (on A), 1.055, 1.555, 1.730, 2.110, 2.425, 2.810, 2.990, 3.185, 3.54, 3.735, 3.925 (on B).

OR

- b) The following consecutive readings were taken with the help of Dumpy level: 12 CO5
- 1.905, 2.650, 3.900, 3.025, 1.965, 1.700, 1.590, 1.260, 2.545, 2.005, 3.145
- The instrument was shifted after the fourth & seventh readings. The first reading was taken on the staff held on B.M. of R.L. 100.000 m. Rule out a page of level book, enter the above readings there on. Calculate the R.Ls. of the points by H.I. method and apply the arithmetical check

- Q6** a) Explain with neat diagram components of flexible pavement. 04 CO6
- b) Define Dam. Explain Gravity dam & Earthen dam with a neat sketch. 12 CO6

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