

"Do not write anything on question paper except Roll Number, otherwise it shall be deemed as an act of indulging in unfair means and action shall be taken as per rules"

Roll No. 23.UF.TA.1629..

BE I (CE)

Civil & Env. Engg.

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## FIRST B.E. EXAMINATION, 2023 I SEMESTER

### CE 102 A: CIVIL & ENVIRONMENT ENGINEERING

Time – Three Hours  
Maximum Marks – 100

- Note: (i) Attempt any **Five** questions.  
(ii) Answer should be to the point.  
(iii) All questions carry equal marks.

1. (a) Discuss basic principles of surveying with illustrations.  
Explain well conditioned & ill conditioned triangles. 10
  - (b) Draw plan of prismatic compass & surveyor compass.  
Explain the bearing system measured by each compass. 10
  2. (a) The following consecutive readings were taken with a level and given staff on a continuously sloping ground at a common interval of 30 m:
- |        |        |        |        |
|--------|--------|--------|--------|
| 0.780, | 1.535, | 1.955, | 2.430, |
| 2.985, | 3.480, | 1.155, | 1.960, |
| 2.365, | 3.640, | 0.935, | 1.045, |
| 1.630, | and    | 2.545. |        |

The R.L. of first point P was 180.75 m. Rule out a page of a level field book and enter the above readings. Calculate the reduced levels of the stations by rise & fall method Also calculate the gradient of the line joining the first & the last station. (staff height is 4.0 m) 20

3. (a) Compare brick masonry with stone masonry mentioning their salient features. 10

- (b) What are the functional requirements of foundations?  
Discuss. 10
4. (a) Discuss important Global environmental issues with their remedial measures. 10
- (b) "Dissolved impurity is the main impurity in subsurface water", Discuss with its remedial measures. Also discuss some important characteristics of potable water. 10
5. (a) Discuss self purification of streams. 10
- (b) Discuss with flow diagrams for treatment of waste water. 10
6. (a) Discuss justified solid waste collection & disposal methods considering Indian conditions. 10
- (b) Justify the head of environmental protection laws in India in present scenario. 10
- 7 Write short notes (Any Four)
- (i) Bio-diversity
  - (ii) Major Ecosystem
  - (iii) Reciprocal ranging
  - (iv) Declination & Local Attraction
  - (v) Compensating & Cumulative Error
- 5x4 = 20