

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

Mid Term Examination-II (Backlog), April 2024
B. Tech. (Civil Engineering), Semester VI

Roll No.....

Course Code and Name : CE1102
Digital Surveying and Mapping

Time: 2.5 hours Max. Marks: 40

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.
4. Write your answers in detail and it should be appropriate to the marks assigned for that question.

1. What are the different types of levelling instruments? What are the advantages and disadvantages of each type of instrument? CO1,2 (2+4)
- 2 What do you mean by contouring? Also defines the following:
Contour interval.
Interpolation of contours
Drawing contours
Contour interval for various purposes like building sites, and road construction.
CO1,2 (2+4)
3. A What is the level line, benchmark, forebearing, back bearing, and height of the instrument? The magnetic bearing of a line AB is S 28°30' E. Calculate the true bearing if the declination is 7°30' W.
CO 3,4 (4+4)
4. What do you understand by trigonometric levelling? CO 3,4 (4)
5. What do you understand by remote sensing? How EMR (Electro Magnetic Radiation) is useful in remote sensing? What are the four different types of resolution for remote sensing?
CO 5,6 (8)
6. The following consecutive readings were taken with a level and a 4 m staff on continuously sloping ground at a common interval of 30 m: 0.78, 1.535, 1.955, 2.430, 3.480, 1.155, 1.960, 2.365, 3.640, 0.935, 1.045, 1.630 and 2.545. The reduced level of the first point was 180.750. Rule out a page of a level field-book and enter the above readings. Calculate the reduced level of the points by the rise and fall method, and also the gradient of the line joining the first and last points.
CO 3,4 (8)