



BE CIVIL III-Sem A Section A.Y. 2024-25

SURVEY & GEOMATICS

Assignment

1. Draw the fundamental lines of a transit theodolite.
2. What is tangential tachometry?
3. Name the applications of a total station.
4. A line was measured with a steel tape which was exactly 30 m at a temperature of 20° C and a pull of 10 kg. The measured length was 1650 m. The temperature during measurement was 30° C and the pull applied 15 kg. Find the true length of the line, if the cross-sectional area of the tape was 0.025 cm². The coefficient of expansion of the material of the tape per 1° C is 3.5×10^{-6} and modulus of elasticity of the material of tape is 2.1×10^5 kg/cm².
5. The following successive staff readings were taken with a level using 5 m levelling staff on a continuously sloping ground at an interval of 25 m: 0.405, 1.035, 1.930, 2.895, 3.805, 4.760, 0.715, 2.060, 3.160, and 4.415. The reduce level of the first point is known to be 62.980 m. Workout the staff reading by rise and fall method.
6. The following bearings were observed in a running closed traverse. Determine the correct magnetic bearing of the lines and apply the check

Line	F.B.	B.B.
AB	71°05'	220° 20'
BC	110°20'	292° 35'
CD	161°35'	341°45'
DE	220°50'	40°5'
EA	300°50'	121°10'

7. Write the principles of Chain surveying, Plane Table surveying.
8. The following perpendicular offsets at 20m intervals were taken from a survey line 3.29, 4.05, 6.23, 5.75, 4.76, 5.26, 4.32, 3.92 & 2.91. Using Trapezoidal method compute its area.