

UNIVERSITY
OF
MCGILL COLLEGE,
MONTREAL.

SESSIONAL EXAMINATIONS. APRIL, 1860.

ENGINEERING.

Examiner PROF. M. J. HAMILTON.

1. Define the terms profile, datum and bench mark.
2. Describe the construction and adjustments of the Y Level.
3. A railway is to be built from A to B. State in detail the preliminary operations necessary in order to determine its probable cost and prepare for its actual construction.
4. Enter and reduce the following observations taken 100 feet apart according to the English and American systems the B M being 100 feet above Datum.

1st setting up of instrument	3·40,	4·70,	4·91,	5·60,	8·76
2nd " "	7·20,	11·90,	6·27,	7·60,	5·33
3rd " "	9·50,	11·50,	10·94,	11·40,	6·89
5. If the height of grade at the first station in the last question be 100 feet and at the last station 89 feet above Datum, the slopes $1\frac{1}{2}$ to 1 and the width at formation level 20 feet. Required the content in cubic yards by mean heights.
6. Required the inclination of grade in question (5) per 100 feet and per mile.
7. Required the content of the cutting in question (5) by the prismoidal formula.
8. The cross wires of a level standing 4·67 feet above a point A, coincides with the top of a spire 3 miles distant. Required the difference of level between the point A and the top of the spire—curvature and refraction being allowed for.