

**BENDING MOMENT OF BEAMS**

**Results**

**Length of Beam Span, L = \_\_\_\_\_\_\_\_\_\_mm**

**Distance of the cut section from the left support, L1= \_\_\_\_\_\_\_\_\_\_mm**

Distance of load cell from centre of the beam’s cross section,Y = \_\_\_\_\_\_\_\_\_\_mm

**Table 1: Load cell reading data**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **LOAD CASE** | **LOAD AND DISTANCE FROM THE LEFT SUPPORT** | | | | | | **LOAD CELL READING, F**  **(N)** |
| **W1**  **(N)** | **L1**  **(mm)** | **W2**  **(N)** | **L2**  **(mm)** | **W3**  **(N)** | **L3 (mm)** |
| **1** |  |  |  |  |  |  |  |
| **2** |  |  |  |  |  |  |  |
| **3** |  |  |  |  |  |  |  |
| **4** |  |  |  |  |  |  |  |
| **5** |  |  |  |  |  |  |  |

**Table 2: Bending moment data at section X-X**

|  |  |  |
| --- | --- | --- |
| **LOAD CASE** | **BENDING MOMENT (N.mm)** | |
| **EXPERIMENTAL (FX175)** | **THEORY** |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |
| **5** |  |  |

**Discussions/Analysis**

1. Using the data in the Table 1, determine the experiment value for bending moment and fill it in Table 2. Then, plot the bar chart for the bending for the theoretical and experimental for each load case.
2. Calculate the percentage of error for each load case and hence determine the overall percentage of error.
3. Will the readings of the load cell differ from the above if it is placed 100 mm from the centre of the cross-section. If the answer is yes, by how much. If the answer is no, then why.
4. Comment on the accuracy of the experiment and what are the precautions that should be taken in this experiment to ensure its accuracy?

**Conclusions**

Refer to the objective.

**References**/**Appendices**

1. Text book, reference books from the library or electronic references from the internet.
2. Related photo or plate due to the experiment.