



# DEPARTMENT OF PHYSICS

## KOKRAJHAR GOVT. COLLEGE, KOKRAJHAR

P.O. & T.O. KOKRAJHAR.

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### Laboratory Notebook Guidelines for TDC course

The main purpose of your laboratory notebook is to be a permanent record of your experiments. After an experiment, you will use it to record data and observations necessary to complete lab reports that explain your results.

#### General Guidelines

- 1) **Always use a pen.** Notebook entries need to be in permanent ink, **never pencil**. One rationale behind this is that scientists should always report the data that they observe and never falsify or modify data.
- 2) Writing and recording of data should be done on the ruled pages. This leaves the plain side of each page available for circuit diagrams, ray diagrams, quick notes, or calculations.
- 3) Record all data, including measurements and observations, as they happen in the lab properly in the rough note copy. A common mistake is to think that you will remember things to write down later. Always include units with measurements and record values with the proper number of significant figures according to the precision of the device.
- 4) **Be complete, yet concise, and write clearly.** Your notebook is a permanent record of your experiments not only for yourself but also for evaluation during an examination.
- 5) **Strikethrough mistakes.** If you make a mistake when writing something, strikethrough the erroneous entry by drawing a line through it. Then, write your correction next to the strikethrough. This applies to single words or even large sections that need to be corrected. The original entry should still be legible behind the strikethrough. **Do not use white-out and never erase anything.**

#### Initial Set-Up

- 1) Use a bound notebook. Select any notebook that has pages that are permanently attached (bound) to the spine; **notebooks with perforations that allow for pages to be torn out are not acceptable.** Never remove pages from your notebook.
- 2) Write your name, class, university Roll number and class roll number on the front cover.
- 3) Number all of the pages. Both the front and back sides of each page need to be numbered. The outside corners are a convenient location.
- 4) Create a Table of Contents on the first page if it is not provided in the readymade form by the laboratory notebook manufacturer. It should have columns for the date of experiment, experiment title and/or experiment number, the page number(s), signature of teacher and remarks. Fill in the information when you do an experiment to keep it up to date. It is recommended that a student should write the experiment in notebook within **one week** of performing the experiment and get it checked by the concerned teacher.

#### Individual Experiments

- 1) **Aim**– Write down the full aim of the experiment (as per syllabus) at the top of the page. Include the experiment number serial number as per the chronology of the experiments performed by you.
- 2) **Apparatus** - Write the name of the apparatuses used in the experiment.
- 3) **Theory/ working formula** – Write a brief Theory/ working formula of the experiment as per the requirement of the experiment. For **electrical/optics/electronics** experiments, you **must draw** the relevant circuit/ ray diagram on the white side of the page
- 4) **Procedure** - It is not necessary to write the procedure of the experiment.
- 5) **Data and Observations** – You should fill in your experimental data and observations in this section.

6) **Plotting of graph** – Include the graphs of the data and observations in this section. In graphs mention the caption, axis label and the scale clearly.

7) **Calculation** –Show all work for necessary calculations. Write out **each step** of the calculation so that others can follow it. One sample calculation is sufficient for each type of calculation if the same calculations are repeated multiple times. For multi-step calculations, carry one to two extra digits throughout the intermediate steps and then only round at the end. If answers to intermediate steps need to be recorded, show the unrounded number in your sample calculation and the rounded answer separately (nearby or in the results section).

8) **Error Calculation**- For honours course you can calculate proportional error. For Generic/DSC course absolute percentage of error will be enough.

9) **Results** – Determine the results and then present those results with **proper units along** with the errors therein.

10) **Discussion**: A few comments on precautions and observed results can be added here.

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