

Laboratory Manual for Chemistry Experiments

--Based on recently developed curriculum of Kabul University

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Objectives:

One of the proposers (CKS) of this manual got an opportunity to visit Kabul University (KU) last year for 5 weeks (June 10-July 15, 2008) under the World Bank Project conducted by Delhi University (DU). He designed the B.Sc. curriculum for Chemistry Department during these days which they were not having when DU Team reached there. As a follow up programme five Chemistry Professors from KU visited Hindu College for a training programme for 9 weeks (December 20, 2008-February 20, 2009).

With these two interactions CKS found that the Chemistry Department of KU is in a very bad shape because of the civil war they had for such a long time. They have the building but there are no apparatus, chemicals, basic facilities and detail write ups to carry out chemistry experiments. The Dean of Sciences, Dr Arif M Taniwal happens to be the Head of Chemistry Department, KU, made an effort and is now getting their chemistry laboratories renovated again with the World Bank or Ministry of Higher Education, Afghanistan assistance. We all wish as the academicians that we should do something for their laboratory experimentation. Therefore production of a laboratory manual should be proposed for the students use both in English as well as in their local language, DHARI as per their curriculum. CKS role will only be providing them the academic write up but if World Bank can help in getting around 1000 manuals (500 in English and 500 in DHARI) printed it will be a great contribution towards re-building of chemistry laboratories of KU.

CKS also got an opportunity to interact with the students and teachers of B.Sc. classes of Kabul University through taking some classes in Physical Chemistry. The following observations are made:

- The students and teachers are very much interested in carrying out further studies if a chance is given to them.
- The students have the potential to learn more but they have very less opportunity to go for higher studies in Kabul.
- The students and teachers are not access to good books or laboratory manual. The teachers have made their genuine efforts to give their students a few lecture notes.
- The teachers lecture notes are in local language and if the students want to go abroad they got struck.
- The chemistry students do not have the feeling of writing experiments in a proper way.

- There is no practical manual for students to carry out chemistry experiments in the laboratory. We feel practical hands-on practices are very important aspect of learning science.

Proposal:

We, therefore propose to produce a practical manual for chemistry experiments for students use. The manual will be in two languages, viz English as well as in local language, Dari as per the following methodology:

The teachers of respective disciplines, Dr Arif M Taniwal (Inorganic); Raihana Popalzai (Physical); Moheb (Analytical); Omary (Organic); Habibullaha (Polymer) will frame experimental write ups in local language. One of the students expert in both the languages, English as well as Dari will then translate these write ups in English and in turn pass on to CKS who will edit and make changes as per the regular curriculum. Once the English version is ready it will then be translated in total in Dari. The final published manual will be available to the students and teachers in the book shop of Kabul University. A nominal cost will be charged from them and will be reimbursed to the funding organization in the end.

Time Period:

- Two years

Fund Requirement: This part will be handled by AMT

- Printing Cost of 1000 copies of manual of around 400 pages (500 English Language + 500 Dari Language): **US \$ 4000**
- Man Power:
US \$ 100x 2 Persons x 24 Months **US \$ 4800**
- Contingency: **US \$ 2000**

TOTAL US \$ 10,800