

phys-chem Calculator User Manual

MSC-CA Sem III

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Abstract

This document explains in detail about the ‘phys-chem Calculator’ and steps to be performed to use this application for any user of any age. Follow the steps and make this app a worth to be useable.

1 **Why phys-chem Calculator?**

- The phys-chem Calculator is an application developed for the user who are keen to solve the problems of physics and chemistry.
- It has two sections mainly physics and chemistry where the idea is to provide a smooth flow in solving problems in both of these fields.
- This application takes input as such and provides the output based on the laws embedded within that rule.
- For example for solving Ohm's law the user needs to provide the required input and based on that produces an output.
- It will help the users in various laws where according to the choice they can implement it as such.

Installing the application

For installing the application the apk file(for Phys-chem calculator) should be kept either in your External SD card or internal memory, where one needs to install the application directly in your Tab or in your Android cell phone as such. Tap on the application icon to begin working with it

Instructions

One needs to explicitly enter the values for two text-boxes.

Provided that if one wants to enter the values again for that particular textfield again, then one needs to check that particular check field once again. To refresh that particular textfield so that user can enter the values again for that text-field.

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Example

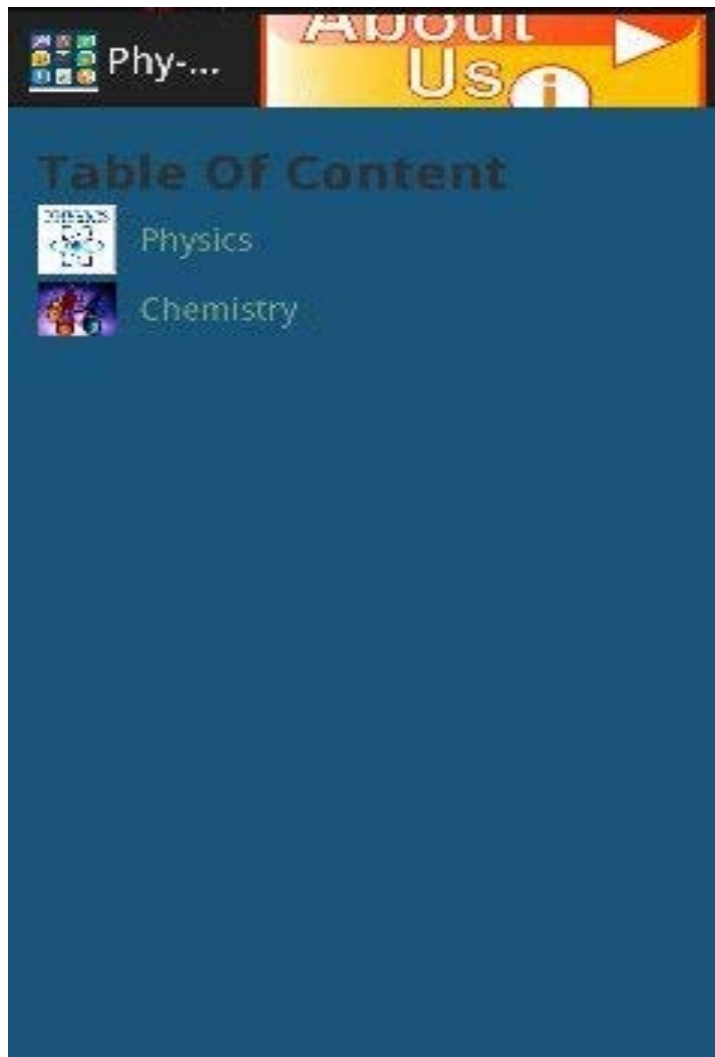


The image shows a screenshot of a physics calculator application. At the top, there is a header bar with a Windows taskbar icon on the left and a banner on the right that says "ABOUT Us" with a play button icon. Below the header, the main interface has a dark blue background. On the left, there are three labels: "Force", "Mass", and "Acceleration", each in a yellow font. To the right of each label is a light gray text input box containing the placeholder text "Enter S.I value of [label]". To the right of each input box is a small dark gray square button with a white checkmark icon. Below these three input fields is a yellow rectangular button with the text "Find Result" in black. At the bottom of the interface, the text "Formula :" is displayed in yellow, followed by the equation "Force = Mass X Acceleration" in a larger yellow font.

As shown in the figure above there are three text-boxes and by side there is a simultaneous three check boxes, if user wants to fill data for one field user needs to mark the check box to activate that text-box so that the data can be added. If user needs to fill the data for a particular text-box again then user needs to explicitly check that check box again.

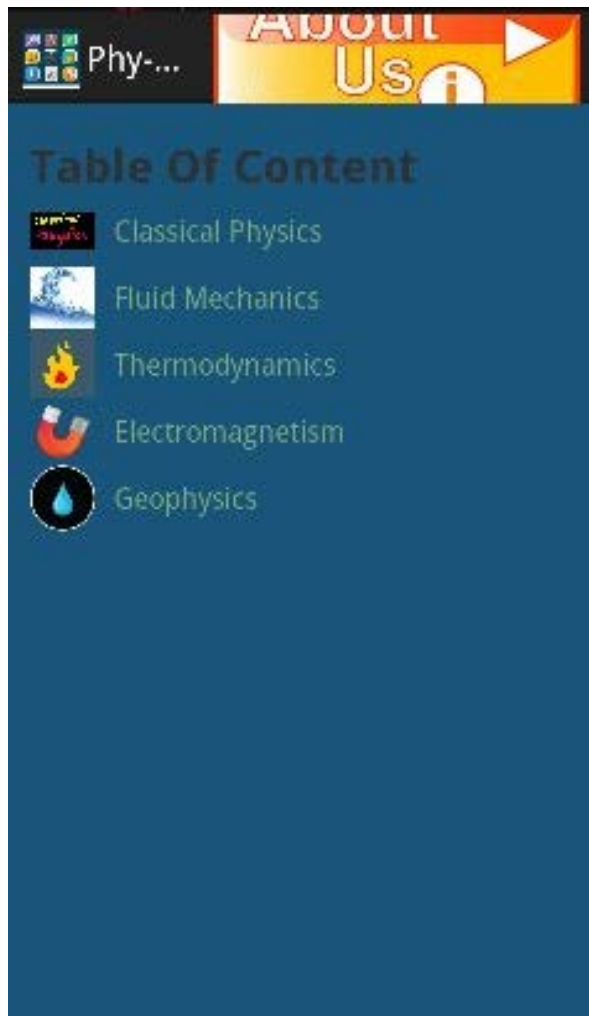
6 ScreenShots With Explanation

1) Home Screen



Home Screen Of the phys-chem app where as shown above displays two list's in a listview Physics ,Chemistry category along with the about us in the top menu which provides the details of the app.

2) Category in Physics screen



Provides a detailed view of the categories within the physics which includes the primary levels of main topics which may contain sub-topics within itself like within 'Classical category' it may involve sub-categories within its list menu (Same for each topic shown above) user can slide through any option available above. (NOTE-In this manual we will see a Detailed explanation of **one module** only which is 'classical physics', the procedure of performing the steps remains similar for all the topics in physics).

3) Sub –categories within the Physics Category Screen



Provides a UI with sub-Category Classical category where there are formulae's within the each section shown above which helps further in calculating the formulae's as such, for each list's shown above provides a detailed formula manipulation..User can switch to another category by switching back and selecting the appropriate topic.

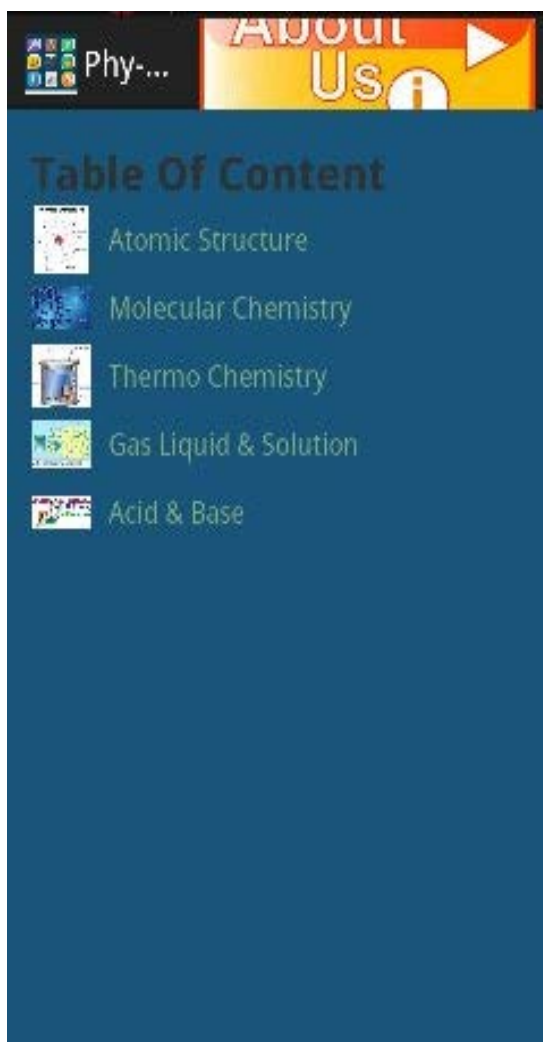
4) Calculation Screen



The screenshot shows a mobile application interface for physics calculations. At the top, there is a header bar with a Windows logo and the text 'Phy-...' on the left, and a yellow banner with 'ABOUT Us' and an information icon on the right. The main area has a dark blue background. It contains three input fields for 'Force', 'Mass', and 'Acceleration', each with a placeholder text 'Enter \$? value of Force' and a checkmark icon to its right. Below these fields is a yellow button labeled 'Find Result'. At the bottom, the formula 'Formula : Force = Mass X Acceleration' is displayed in yellow text.

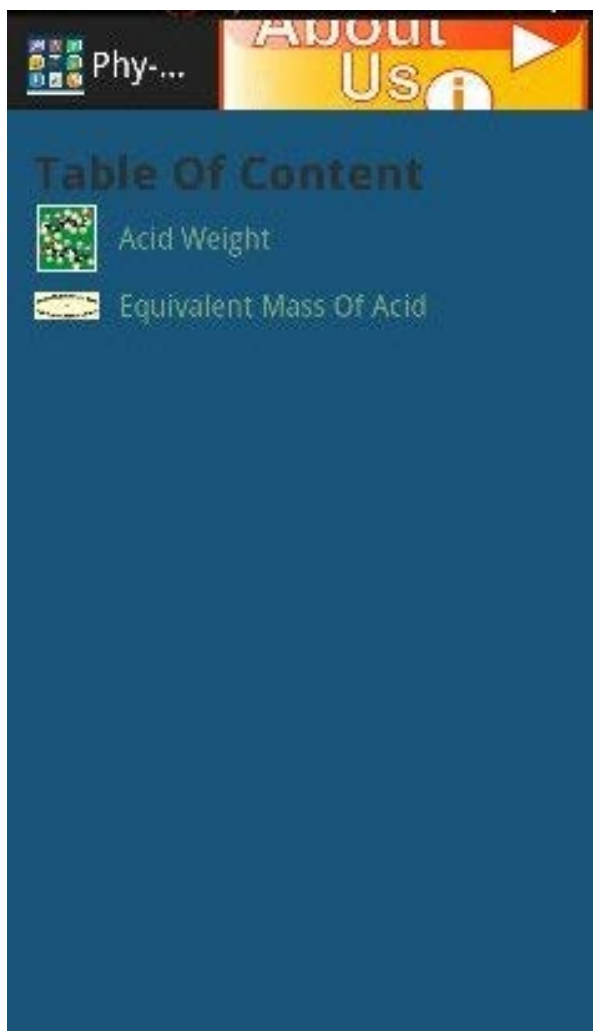
Provides a UI for formula calculation where the formula is mentioned below the textview's and user need to provide values according to the text-boxes like in above case it provides $F = \text{Mass} \times \text{Acceleration}$ so user need to put in values for 'Mass' and 'Acceleration' or vice versa. If Mass is to be found out then provide values for 'Force' and 'Acceleration' respectively And later on similarly for Acceleration.

5) Category in Chemistry Screen



Provides a detailed view of the categories within the Chemistry which includes the primary levels of main topics which may contain sub-topics within itself like within 'Atomic Structure' it may involve sub categories within it's list menu(Same for each topic shown above)user can slide through any option available above. .(NOTE-In this manual we will see a Detailed explanation of **one module** only which is 'Acid &Bases,the procedure of performing the steps remains t similar for all the topics in Chemistry).

6) Sub –categories within the Chemistry Category Screen



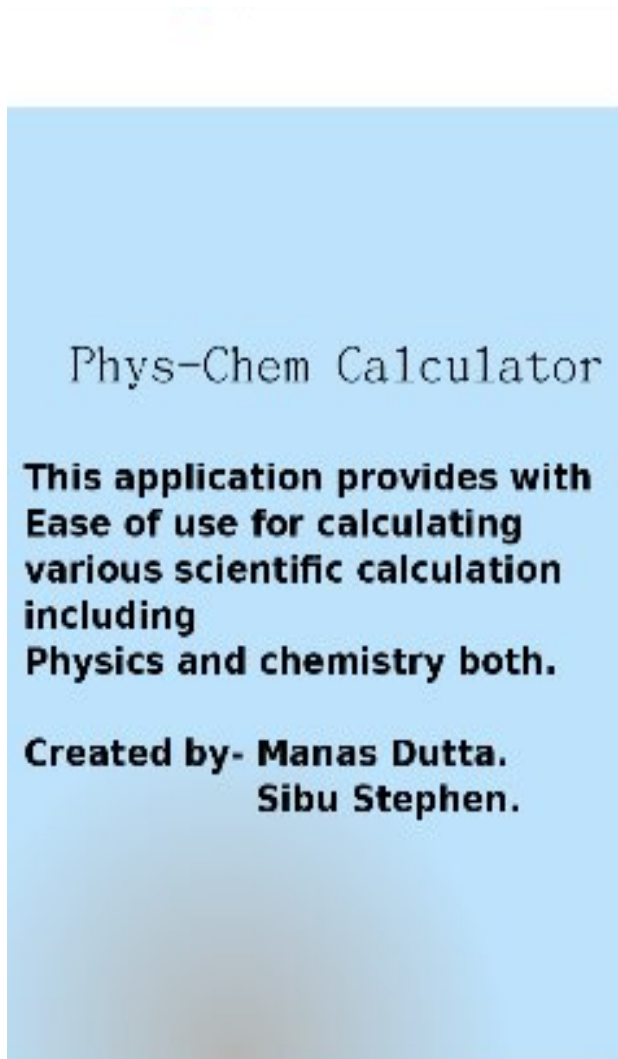
Provides a UI with sub-Category Acid Bases where there are formulae's within the each section shown above which helps further in calculating the formulae's as such, for each list's shown above provides a detailed formula manipulation.. User can switch to another category by switching back and selecting the appropriate topic.

7) Calculation Screen

The screenshot shows a mobile application interface with a dark blue background. At the top, there is a header bar with a logo on the left and a yellow banner on the right that says 'ABOUT Us' with an information icon. Below the header, there are three input fields, each with a label on the left and a text box on the right. The first row is labeled 'Acid Weight' and the text box contains 'Enter S7 value of Acid Weight'. The second row is labeled 'Molecular Wt' and the text box contains 'Enter S7 value of Molecular Wt'. The third row is labeled 'Basicity' and the text box contains 'Enter S7 value of Basicity'. To the right of each text box is a small blue square button with a white checkmark. Below these input fields is a yellow button labeled 'Find Result'. At the bottom of the screen, there is a text area with the heading 'Formula :' followed by the equation 'Acid Weight = Molecular Weight / Basicity'.

. Provides a UI for formula calculation where the formula is mentioned below the textview's and user need to provide values according to the text-boxes like in above case it provides " Acid Weight=Molecular weightW/Basicity " so user need to put in values for ' Molecular weight' and ' Basicity' or vice versa. Similarly if Basicity is to be found then provide values for Molecular weight and Acid weight respectively and similarly for Molecular weight calculation.

8) About Us Screen



Provides a detailed information about the phy-chem application.