

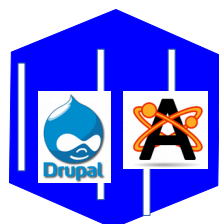
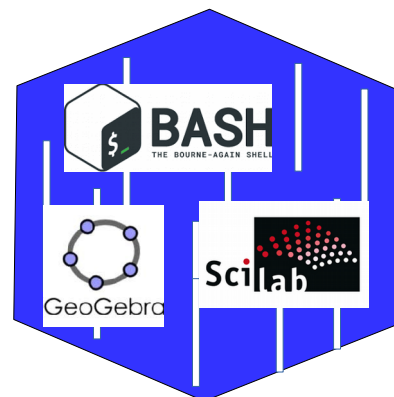


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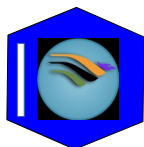
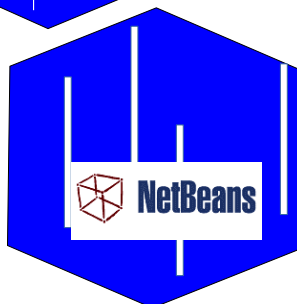
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IIT Bombay



# E-Brochure



Arduino    QCad  
 Advanced    DWSIM    Drupal  
 Python    C++    Ruby    Scilab    eSim  
 Ngspice    Blender    HTML    PERL    Tux  
 Linux AWK    Koha    Typing  
 GIMP    Libreoffice    Bio  
 Linux    OpenFOAM    Latex    Python  
 Inkscape    BASH    C/C++    Java  
 OpenModelica    GIT    Jmol    Application    Xfig  
 GeoGebra    ExpEYES    Avogadro  
 Moodle    NetBeans    GChemPaint  
 Cell Designer    PHP & MySQL

### Basic Computer Skills & Office Automation

Software / FOSS name	Applications / Skills & Employability
<b>Introduction to Computers</b>	How to use computers for day-to-day activities.
<b>LibreOffice – Writer, Calc, Impress, Base, Draw, Math</b>	Office Automation system – Documentation, Spreadsheet, Slide making.
<b>Linux, Linux AWK, Ubuntu, BOSS</b>	Free and Open source operating system. Actively being taken up by E-Governance programs and SMEs.
<b>Firefox</b>	Web browser. Used for all internet browsing purposes.
<b>Tux Typing</b>	Teaches 10 Finger typing.

### Programming Languages / Information Technology

<b>C / C++, Advance C++, Java, Java Business Application, Netbeans</b>	C is the most popular language worldwide. <b>Java</b> is also popular with ability to run the same program on different systems relevant to World Wide Web <i>software</i> . <b>NetBeans</b> is an open-source integrated development environment ( <b>IDE</b> ). Smooth JavaScript editor, Templates profiler & GUI Design tool. <b>JBA</b> is used to create business applications and provide domain expertise.
<b>Ruby</b>	Ruby is an object oriented scripting language use widely for developing web applications.
<b>GIT</b>	GIT is a version-control system for tracking changes in computer files and coordinating work on those files among multiple people.
<b>Android App using Kotlin</b>	Learn to architect and develop Android apps in the Kotlin programming language. With these techniques you'll create apps in less time, writing less code, and with fewer errors.
<b>HTML</b>	Hypertext Markup Language is the standard markup language for documents designed to be displayed in a web browser.

### Modelling and Simulation

<b>DWSIM</b>	DWSIM is a software for modeling, simulation, and optimization of steady-state chemical processes, Use in Chemical industry.
<b>OpenModelica</b>	OpenModelica is used for Simulating, Optimising, Analysing complex dynamic systems. Eg. In power plant, water treatment, automotive processes optimization.

### Mathematics / Statistics

<b>GeoGebra</b>	Dynamic Mathematics Software (DMS) for teaching and learning mathematics from middle school through college level.
<b>R (like SPSS)</b>	Programming language used for statistical computing and graphics.
<b>Biopython</b>	Tool for Computational Biology and Bioinformatics.

### Multimedia / Drawing

<b>GIMP (like Photoshop)</b>	GIMP is a graphics editor used for image retouching and editing, free-form drawing etc.
<b>Inkscape (like Corel Draw)</b>	Inkscape designs and creates a wide variety of graphics such as illustrations, icons, logos, diagrams, maps and web graphics.
<b>Blender (like Maya 3D)</b>	Blender is a 3D computer graphics software toolset used for creating animated films, visual effects, art, 3D printed models, games.
<b>QCad</b>	QCAD is used to create technical drawings such as plans for buildings, interiors, mechanical parts or schematics and diagrams.
<b>Synfig</b>	Synfig Studio eliminates the need to create animation frame-by frame, allowing you to produce 2D animation of a higher quality with fewer people and resources.

### Scripting Languages / Web Development

<b>Python</b>	Used for web programming eg. Django, Zope, Google App Engine, Desktop applications, Web Development sites eg. Facebook, Google search, Wikipedia.
<b>PERL</b>	Perl is a general-purpose programming language useful as a Glue language for tying together systems – hence invaluable to System Administrators and for Web Development.
<b>PHP &amp; MySQL</b>	Used as Web development and Database Management Systems package.
<b>Drupal</b>	Drupal is a content management system (CMS) written in PHP and distributed under the GNU General Public License. Useful for website-building and web applications.

### Mechanical / Civil / Electrical – Engineering disciplines

<b>Open Foam</b>	Data processing and visualisation. Aerodynamics, Building constructions.
<b>Oscad (eSim)</b>	Tool for circuit design, simulation, analysis and PCB design.
<b>QGIS</b>	QGIS is an application that supports viewing, editing, and analysis of geospatial data. It allows users to analyse and edit spatial information, in addition to composing and exporting graphical maps.

### Chemistry / Bio-Chemistry

<b>Avogadro</b>	Avogadro is a molecule editor and visualizer.
<b>GChemPaint</b>	GChemPaint allows you to draw and display 2D chemical structures. Very useful to teach and learn abstract chemistry concepts.
<b>Cell Designer</b>	Cell designer is a drawing tool – a structured diagram editor for biochemical networks & gene-regulatory drawings.
<b>Jmol Application</b>	It is used for molecular modelling chemical structures in 3 dimensions. eg. In molecular biology pertinent structures.

### Electronics / Physics

<b>Arduino</b>	Arduino is an open source platform used for building electronics projects. Or creating interactive objects or environments. eg. Used in Robotics
<b>Ngspice</b>	It is a program used in integrated circuit and board-level design to check the integrity of circuit designs and to predict circuit behavior.
<b>ExpEYES</b>	ExpEYES stands for Experiments for Young Engineers and Scientists. A tool for learning science by exploring and experimenting.
<b>Single Board Heater System(SBHS)</b>	The application of this device is in the Control Systems area of Engineering.

### Learning Management System

<b>Moodle</b>	Moodle is a learning management system or an online platform for customized learning, assignment and assessment purposes.
<b>LaTeX</b>	The best tool for Technical writing. eg. Math typesetting for Science, Engineering, Technology writing of theses, projects, journal articles, books etc. LaTeX has automatic generation of high quality PDF reports.
<b>Scilab (like MATLAB)</b>	Scientific computation package for Advanced mathematical computations. Use for academics in Physics, Engineering, Applied mathematics, Statistics & in Data Analytics companies and departments.

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<http://spoken-tutorial.org>