

## Teachers' Training Curriculum (Secondary & Higher Secondary)

**Total 144 hours, Duration-1 Month, Everyday 6 hours**

<b>Hours</b>	<b>Theory &amp; Lab</b>	<b>Notes</b>	<b>Module</b>
15	<p><b><u>Multimedia: Text</u></b></p> <ol style="list-style-type: none"> <li>1. Search engine experience</li> <li>2. Short introduction to:               <ol style="list-style-type: none"> <li>a. Computer</li> <li>b. Internet</li> <li>c. Search engine</li> </ol> </li> <li>3. Bengali search engine (using Avro)               <ol style="list-style-type: none"> <li>a. google.com</li> </ol> </li> <li>4. Wikipedia</li> </ol> <p><b><u>Multimedia: Image</u></b></p> <ol style="list-style-type: none"> <li>5. Google image search</li> <li>6. Google earth/map</li> <li>7. Street view</li> </ol> <p><b><u>Multimedia: Video</u></b></p> <ol style="list-style-type: none"> <li>8. youtube.com</li> <li>9. khanacademy.com</li> <li>10. shikkhok.com</li> </ol>	<p>The goal of this module is to excite the teachers by showing how to use ICT to learn ICT itself and learning materials such as biography, geography, etc.</p> <p>Follow the guidelines below:</p> <ol style="list-style-type: none"> <li>1. <b>a.</b> Hold this session in lab. Tell the teachers to ask any questions.</li> <li><b>b.</b> Choose 3 questions from teachers and answer within 5 to 10 mins using Google search.</li> <li><b>c.</b> Alternatively, choose 3 topics and show interesting information on those topics using Google search.</li> <li><b>d.</b> Go to each teacher's computer and help them search on the internet. Take as much time as needed.</li> <li><b>e.</b> Give the teachers a very brief introduction to Computer, Internet and Search engine.</li> <li><b>f.</b> Encourage teachers to excite their students in the same way.</li> <li><b>g.</b> Search and read.</li> <li>2. Show that ICT can be used to learn other topics. For example, use Wikipedia to learn biography of different individuals or Google map to learn geography.</li> <li>3. Ask the teachers where they want to travel (e.g. Australia, Kenya, Amazon, etc.) and show these using street view or google earth.</li> </ol>	1. Internet (Goal: Excite)

<b>Hours</b>	<b>Theory &amp; Lab</b>	<b>Notes</b>	<b>Module</b>
3	<ol style="list-style-type: none"> <li>1. Importance of ICT               <ol style="list-style-type: none"> <li>a. Agriculture</li> <li>b. Business/Office</li> <li>c. Government</li> <li>d. Study</li> <li>e. Medicine</li> </ol> </li> <li>2. ICT use               <ol style="list-style-type: none"> <li>a. Learn/knowledge gathering</li> <li>b. Documentation</li> <li>c. Communicate</li> <li>d. Create</li> <li>e. Earn (e.g. jobs or freelancing)</li> <li>f. Tools</li> <li>g. Entertainment (e.g. game or music)</li> </ol> </li> </ol>	<p>The goal of this module is to motivate the teachers by describing the importance and use of ICT.</p> <p>Follow the guidelines below:</p> <ol style="list-style-type: none"> <li>1. Make them realize that a person using a proper tool effectively becomes more advanced than a person without a tool.</li> <li>2. Show what a great tool ICT components can be by explaining that ICT can be used in every aspect of life.</li> </ol>	2. ICT & Its Importance (Goal: Motivate)

<b>Hours</b>	<b>Theory &amp; Lab</b>	<b>Notes</b>	<b>Module</b>
12	1. Introduction to: <ol style="list-style-type: none"> <li>a. Computer hardware</li> <li>b. Software</li> <li>c. Mobile cellphone technology</li> <li>d. Computer networks</li> </ol>	Follow the guideline below: <ol style="list-style-type: none"> <li>1. Display computer's hardware parts i.e., RAM, Hard Disk, USB port, etc.</li> <li>2. Teach how to connect monitor to CPU, and discuss safety of devices.</li> <li>3. Demonstrate how to install/uninstall a software.</li> <li>4. Discuss known computer troubleshooting &amp; its solutions.</li> <li>5. Discuss mobile phone maintenance.</li> <li>6. Show how to file transfer from USB pendrive to computer.</li> <li>7. Briefly discuss mobile phone technology: base station, bandwidth, 2G, 3G, 4G, modem, wifi, wimax, bluetooth, GSM, etc.</li> <li>8. Discuss computer networking, switch, router, base station, IP address, network address, MAC address, network topology, bandwidth, etc.</li> <li>9. Present a high-level architecture of a cell phone network.</li> </ol>	<b>3. ICT &amp; Its Use (Goal: Enable Use of ICT)</b> <b>3a. Hardware and Software (Installation and Maintenance)</b>

<b>Hours</b>	<b>Theory &amp; Lab</b>	<b>Notes</b>	<b>Module</b>
48	<ol style="list-style-type: none"> <li>1. Word Processing               <ol style="list-style-type: none"> <li>a. MS word/ Open office</li> <li>b. Bangla (using Avro)</li> </ol> </li> <li>2. Power point presentation</li> <li>3. Spreadsheet</li> <li>4. Paint</li> <li>5. Microsoft access</li> <li>6. Bangla processing (fonts, layouts, etc.)</li> <li>7. Publish content               <ol style="list-style-type: none"> <li>a. ShikkhokBatayan</li> <li>b. BlogSpot/Blog creation</li> </ol> </li> <li>8. Collaborative creation of content               <ol style="list-style-type: none"> <li>a. Google doc</li> <li>b. Wikipedia</li> </ol> </li> </ol>	<p>Follow the guidelines below:</p> <ol style="list-style-type: none"> <li>1. Discuss basic use of file &amp; folder (e.g. how to create, save, print and close a file). Show how to find help (e.g. pressing F1 or help button or by googling).</li> <li>2. Topics covered in word processing           <ol style="list-style-type: none"> <li>a. Typing</li> <li>b. Font</li> <li>c. Formatting</li> <li>d. Insert table</li> <li>e. Insert figure</li> <li>f. Print a document</li> </ol> </li> <li>3. Make the teachers compile a new document from different website on a topic of his/her own choice. List the corresponding website address as reference, and call it ‘quick essay’. Mention that the copy-paste work should always go with proper references.</li> <li>4. Topics covered in preparing presentation           <ol style="list-style-type: none"> <li>a. Create basic slide</li> <li>b. Add text</li> <li>c. Add figure</li> <li>d. Edit image</li> <li>e. Simple animation</li> <li>f. Basic guidelines for preparing a good presentation</li> </ol> </li> <li>5. Topics covered in spreadsheet           <ol style="list-style-type: none"> <li>a. Add row/column</li> </ol> </li> </ol>	3b. Content Creation

		<ul style="list-style-type: none"> <li>b. Remove row/column</li> <li>c. Simple calculation</li> <li>d. Plot graphs (sum, average, etc.)</li> </ul> <p>6. Topics covered in Microsoft access</p> <ul style="list-style-type: none"> <li>a. Create a table</li> <li>b. Add a column</li> <li>c. Add multiple rows</li> <li>d. Delete a row</li> <li>e. View data</li> <li>f. Design simple queries</li> </ul> <p>7. Introduce collaborative content creation</p>	
18	<ul style="list-style-type: none"> <li>1. Communication technologies: Fixed phone, cell phone, sms, fax &amp; email.</li> <li>2. Email <ul style="list-style-type: none"> <li>a. Create account (e.g.gmail)</li> <li>b. Compose an email</li> <li>c. Send an email</li> <li>d. Check email in inbox</li> <li>e. Other features (cc, bcc, signatures, etc.)</li> </ul> </li> <li>3. Social media</li> <li>4. Weather/news subscription using cellphone</li> </ul>	<p>Follow the guidelines below:</p> <ul style="list-style-type: none"> <li>1. Discuss importance of email.</li> <li>2. Compare Phone, Fax, SMS, and Email – their pros &amp; cons.</li> <li>3. Make sure everyone can create their own email account successfully.</li> <li>4. Ask the teachers to email each other.</li> <li>5. Make sure to show the use of cc, and bcc in email.</li> </ul>	3c. Communicate

<b>Hours</b>	<b>Theory &amp; Lab</b>	<b>Notes</b>	<b>Module</b>
9	<ol style="list-style-type: none"> <li>1. Virus &amp; anti-virus</li> <li>2. Email spam</li> <li>3. Password &amp; pin for protection</li> <li>4. Hacking</li> <li>5. Lottery</li> <li>6. Scam               <ol style="list-style-type: none"> <li>a. Phone</li> <li>b. Email</li> </ol> </li> <li>7. Mobile banking scam</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss           <ol style="list-style-type: none"> <li>a. Safety issues caused by Virus</li> <li>b. Malware, Trojan horse, etc.</li> <li>c. Safe way to surf Internet/ browsing</li> <li>d. Filtering the email</li> <li>e. Safe way to communicate using email</li> </ol> </li> </ol>	<p><b>4. Security and Ethics (Goal: Enable Privacy and Security)</b></p> <p><b>4a. Safe &amp; Secure Use of ICT</b></p>
9	<ol style="list-style-type: none"> <li>1. Intellectual property rights           <ol style="list-style-type: none"> <li>a. Patent</li> <li>b. Copyright</li> </ol> </li> <li>2. ICT laws</li> <li>3. Plagiarism</li> <li>4. Cyber crimes</li> <li>5. Social media &amp; its importance           <ol style="list-style-type: none"> <li>a. Privacy</li> <li>b. Identity impersonation</li> <li>c. Harassment</li> <li>d. Ethical use &amp; its impact on society</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss misuse of social media           <ol style="list-style-type: none"> <li><b>a.</b> Inform the teachers that anyone can create a fake image and fake social networking account, hence everyone should judge the authenticity of materials before spreading them.</li> <li><b>b.</b> Inform the teachers that they have greater responsibility to resolve these issues.</li> </ol> </li> </ol>	4b. Ethics

<b>Hours</b>	<b>Theory &amp; Lab</b>	<b>Notes</b>	<b>Module</b>
30	<ol style="list-style-type: none"> <li>1. Advanced logic               <ol style="list-style-type: none"> <li>a. Basic number systems (Binary, Octal, Hexadecimal, Code--BCD, ASCII code)</li> <li>b. Conversion of binary numbers</li> <li>c. Boolean algebra</li> <li>d. Logical inference</li> </ol> </li> <li>2 Learning for fun               <ol style="list-style-type: none"> <li>a. Concept of programming language (C, C++, Java, Python, etc.)</li> <li>b. Introduction to compiler and IDE                   <ol style="list-style-type: none"> <li>i. Microsoft visual studio</li> <li>ii. Codeblocks</li> </ol> </li> <li>c. Structure of a simple program</li> <li>d. Flow chart</li> <li>e. Simple 'hello world' program</li> <li>f. Scratch (<a href="http://scratch.mit.edu">http://scratch.mit.edu</a>)</li> </ol> </li> <li>3. Introduction to programming               <ol style="list-style-type: none"> <li>a. Website creation (using HTML)</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Teach and enable coding and execution of simple computer programs. For example, searching using array using C programming language.</li> </ol>	5. Advanced Topics (Goal: Learn Underlying Mechanisms)

	<ul style="list-style-type: none"><li>b. Google sites creation</li><li>c. Operating systems (e.g. Windows, Linux, Android)</li></ul> <p>4. Introduction to Algorithm (basic data structure)</p> <ul style="list-style-type: none"><li>a. Array</li><li>b. Searching</li><li>c. Sorting</li><li>d. Simple puzzle game</li></ul>		
--	--	--	--