

Teachers' Training Curriculum (Secondary & Higher Secondary)

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

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

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

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

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48	<ol style="list-style-type: none"> 1. Word Processing <ol style="list-style-type: none"> a. MS word/ Open office b. Bangla (using Avro) 2. Power point presentation 3. Spreadsheet 4. Paint 5. Microsoft access 6. Bangla processing (fonts, layouts, etc.) 7. Publish content <ol style="list-style-type: none"> a. ShikkhokBatayan b. BlogSpot/Blog creation 8. Collaborative creation of content <ol style="list-style-type: none"> a. Google doc b. Wikipedia 	<p>Follow the guidelines below:</p> <ol style="list-style-type: none"> 1. Discuss basic use of file & 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). 2. Topics covered in word processing <ol style="list-style-type: none"> a. Typing b. Font c. Formatting d. Insert table e. Insert figure f. Print a document 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. 4. Topics covered in preparing presentation <ol style="list-style-type: none"> a. Create basic slide b. Add text c. Add figure d. Edit image e. Simple animation f. Basic guidelines for preparing a good presentation 5. Topics covered in spreadsheet <ol style="list-style-type: none"> a. Add row/column 	3b. Content Creation

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

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

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

	<ul style="list-style-type: none">b. Google sites creationc. Operating systems (e.g. Windows, Linux, Android) <p>4. Introduction to Algorithm (basic data structure)</p> <ul style="list-style-type: none">a. Arrayb. Searchingc. Sortingd. Simple puzzle game		
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