

BANGLADESH TECHNICAL EDUCATION BOARD



SYLLABUS FOR NATIONAL SKILL STANDARD BASIC (360 HOURS)

ON

Computer Programming

Total Duration: 360 hours

Course Title: Computer Programming

Contents

Introduction:	3
Objectives:	3
Course Outline:	4
COMPETENCIES:	4
Contents:	5
English.....	7
Programming Concepts	8
Programming in C#.net (Theoretical)	8
Programming in C# .net (Practical)	12
Asp.net Technology (Practical):.....	15
MVC	17
Web API	17
Mobile Application Development.....	18
Freelancing	19
JOB LIST:	19
Entry qualification:	20
Employment opportunity	20
List of Tools Equipment's Required.....	21
REFERENCE BOOK	21
Teaching Learning Process	22
Evaluation/Assessment Process.....	22

Course Name: Computer Programming (C#.NET, Asp.net and Basic Mobile App)

Introduction:

Bangladesh Technical Education Board is authorized by parliament of our country to introduce, control and develop technical (vocational) curriculum.

In this regard BTEB has approved a short course on Basic Computer Programming The syllabus is prepared as per present need in the job markets.

Objectives:

1. Describe the core syntax and features of C#.
2. Create and call methods, catch and handle exceptions, and describe the monitoring requirements of applications.
3. Implement the basic structure and essential elements of a typical desktop application.
4. Create classes, define and implement interfaces, and create and use generic collections.
5. Use inheritance to create a class hierarchy, extend a .NET Framework class, and create generic classes and methods.
6. Read and write data by using file input/output and streams, and serialize and deserialize data in different formats.
7. Create and use an entity data model for accessing a database and use LINQ to query and update data.
8. Web Forms Architecture
9. ASP.Net and HTTP
10. State Management and Web Applications
11. ASP.Net Server-side controls
12. Caching in ASP.Net
13. ASP.Net application configuration and Debugging, Diagnostics of application
14. Connectivity with Database using ADO.Net/Entity Framework and Data Access Controls
15. Introduction to MVC and List of Versions of ASP.NET MVC
16. Differences between versions of ASP.NET MVC
17. MVC Architecture and implementations
18. introduced to REST and RESTful concepts with discussions on synchronous and asynchronous programming
19. Learn how to effectively use application architectures to build variety of Mobile Apps.
20. Explain the factors to consider when designing software for multiple platforms
21. Free lancing basics concept including profile creation, communicate with client and payment systems

Course Outline:

Name of Course	Duration of Course	Entry Qualification
Computer Programming	Total 360 hrs	Minimum SSC Paoiss
	<ul style="list-style-type: none">• 6 days per week• Per day 3 hours	
	<ul style="list-style-type: none">• Theory = 1 hour, per lesson• Practical = 2 hrs. per practical class	

COMPETENCIES:

Basic Competencies:

a) Receive and respond, Participate and Lead to workplace communication:

1. Work with others, Team Environment and Lead small Teams:
2. Demonstrate work values, Practice career professionalism and Develop & Practice Negotiation skills.
3. Practice housekeeping procedures. Occupational health and safety procedure and Solve problems related to work Activities:
4. Use Mathematical Concepts & Techniques and Use Relevant Technologies:
5. Personal Manner

a) (ii) Efficiently communicate in English

1. Speak in English with confidence.
2. Communicate with target persons effectively.
3. Understand the speech of English users.
4. Achieve better professional performance

Common Competencies :

At the end of the course students will be able to apply the knowledge of programming concept to achieve core competencies Apply the knowledge of programming language and translator software. Apply the knowledge of programming technique and steps Use identifier, variables, constants and data types. Apply the knowledge of If. Else and looping, array, pointer and string on core competency practice session.

Core Competencies:

At the end of the course students will be able to:

1. Prepare, compile and execute program for solving different arithmetic and Logical problem using C#.net
2. Apply the concept of operator, array, function and structure using if. Else & loop statement to develop interactive software in C#.net
3. Manage files using C#.net.
4. Create image and shape with color composition (graphics) using C#.NET.
5. Prepare user interface using Asp.net.
6. Develop custom software using c# .net & asp.net.

Contents:

(i) Basic Competencies

Period	Topics	Remarks
1. Receive and Respond, Participate and Lead to workplace communication:		
1	a) Explain & follow routinary speaking & messages in a workplace.	
2	b) Follow routinary Speaking & message.	
3	c) Perform work duties following written notices.	
2. Developing effective work place and group collaboration		
1	a) Develop effective workplace relationship.	
4	b) Contribute to work group activities.	
3. Demonstrate work values, Practice career professionalism and Develop & Practice Negotiation skills		
5	a) Define the purpose of works.	
6	b) Apply work values/ethics.	

7	c) Deal with ethical problems.	
8	d) Maintain integrity of conduct in the workplace.	
4. Practice housekeeping procedures, Occupational health and safety procedure and Solve problems related to work Activities:		
9	a) Sort and remove unnecessary items.	
10	b) Arrange items.	
11	c) Maintain work areas, Tools and Equipments.	
12	d) Follow standardizes work process and procedures.	
13	e) perform work spontaneously.	
14	a. Use Mathematical Concepts & Techniques and Use Relevant Technologies:	
5. Personal Manner:		
15	a) Show good Manner.	
16	b) Respect honorable person (Sir, Senior, Trainees).	
17	c) Cooperate & Thinking to each and other about practical works.	
18	d) Maintain sequence in practical works.	
19	e) Own Responsibility & Duties of practical works.	
20	f) Observation of all practical works.	

a) (ii) Communicative English - 30 hours (Practical)

a) Interpret the meaning of given words (by the teachers) - Vocabulary.

b) Speaking on a specific situation.

c) Public speaking.

d) Exchanging views with target persons.

e) Introducing one self.

f) Describing & narrating events, places, objects etc.

English

Communicative English - 30 hours

Related Subject-10 hours and General Subject- 20 hours 1 hour/period On the completion of this course trainees will be able to:

Speak in English with confidence Communicate with target persons effectively. Understand the speech of English users. Achieve better professional performance.

No. of period	Tropics- Conversational Situation	Hours
01	Speaking English – Getting Information & Finding one's way	1
02	Speaking English – About Tools and Equipment's	1
03	Speaking English – About meeting someone & participating in class.	1
04	Speaking English – Daily Activities & Asking About Activities	1
05	Speaking English – Evening Activities and about theoretical contents.	1
06	Speaking English – Meeting at the Train station & Asking Question at the Train station.	1
07	Speaking English – Meeting at the Airport & Getting information at the Airport's	1
08	Speaking English – About different type of Measuring Tools and Cutting Tools	1
09	Speaking English – Getting to the Hotel & Asking direction.	1
10	Speaking English – Asking about Buses & Traveling by bus.	1
11	Speaking English - About Practical Class.	1
12	Speaking English – Going by Taxi and Asking the time.	1
13	Speaking English – Arriving early or late and Time and the calendar.	1
14	Speaking English – Living in an Apartment.	1
15	Speaking English – Using the Telephone.	1
16	Speaking English – Getting help in stores and talking about shopping.	1
17	Speaking English – Sending and Receiving Letters.	1
18	Speaking English – Talking about the Weather & Trips and sight seeing.	1
19	Speaking English – Talking about Eating & Dinner Conversation.	1
20	Speaking English – About Machines and Materials.	1
21	Speaking English – Common Health problem and Quitting & Finding Jobs.	1
22	Speaking English – Office Details and Office Conversation.	1
23	Speaking English – About Practical Job.	1
24	Speaking English – On a specific situation & Public speaking.	1
25	Speaking English – About Exchanging view with a Persons & Introducing oneself.	1
26	Speaking English – Describing and Narrating events, place, Objects etc.	1
27	Speaking English – About different type of computer, operating system, system and operating software, add remove software, DBM, Email and internet .	4

Practical:

Speaking on a specific Situation. Public Speaking. Exchanging views with target persons. Introducing one self. Describing & Narrating events, places, objects etc. Producing the meaning of given words (by the teachers)-Vocabulary. Prepared Speech. Common and Core Competencies: Theoretical

Programming Concepts

Programming Concepts			
Period	Topics	Competencies	Hours
1-2	1.1 Programming concept	1.1 What is Flow chart. 1.2 Flow chart Symbols, 2.1 How to make a basic flowchart, Example: Flow chart for adding, subtracting, multiplying and dividing two variable. 2.2 Flow chart for conditions with example, Flowchart for iteration (loop) with example, 2.3 Flow chart for function call with example. Practices.	6

Programming in C#.net (Theoretical)

Common and core Competencies : Programming in C#.net			
Period	Topics	Competencies	Hours
3-4	2.1. Programming concept and Programming structure in C#.NET	Define Computer Program and Programming Language Mention the Types of Programming language with example Define High level, Mid level and Machine Language Lists some popular High level language Define Assembler, Interpreter and Compiler State the program format and programming style in C#.net Define Class File Describe the use of class file Define keywords in C#.net Name the keyword in C#.net	2
5-6	2.2.0 Identifiers, Variables Constants and operators	2.2.0 .1 Define Identifiers, Variables and Constructor, Adaptor etc. 2.2.0.2 Describe Naming convention of variables, constants and other identifiers Define Data types Mention the uses and ranges of data types State the procedure of declaring variables of different data types 2.2.0.6 State the procedure of assigning values to variables Define Operator 2.2.0.7 Classify operator and symbols with example	2

7-10	2.2 Input/Output functions and associate term in C#.NET	Define input/output function in C#.netState the syntax /format and prototype of input/output functionsState the using process of Comments in C#.NET programState the using process of Variable directives in writeline() and readline() functionDefine C#.NET operatorsClassify C#.NET operator and symbols with exampleDefine Type conversion and Type definition.Define Local and Global variable2.2.9 Define Storage class and their function2.2.10 State the Precedence of arithmetic operator.2.2.11 Write sample C#.NET program using input/output functions.	4
11	2.3 Library functions	Basic concept of Library Function.	1
12-14	2.4. Decision making statements and Branching in C#.NET	State the meaning of branching Draw the flowchart of if, if...else, if...elseif ..else statementsState the general and C#.NET format of if, if...else, if...elseif ..else statementsDefine switch() statement.State the format of switch() and Case Statement.State the use of break with switch() statementsState the advantages of switch statements over if.....else statements Name and define mathematical functions Define Preprocessor statementsState the use of goto and continue statement in C#.NET program Prepare sample Program using decision making statements.	4
15-16	2.5 Loop and for loop in C#.net	2.5.1 Define Loops 2.5.2 State the Purpose of loops in program2.5.3 Mention the types of looping statements2.5.4 Write the general format of for ,do...while and while loop2.5.5 State the format of for loop in C#.NET program2.5.6 State the method of Initialization, termination, and increment /decrement techniques in C#.NET program using for loop.Prepare sample Programs using "for" loop to find out the arithmetic operation of summation/ multiplication/subtraction/division of series of numbers.	2
17-18	2.6 while and do...while loops in C#.Net	2.6.1 State the difference on "while" and "do...while" loop2.6.2 State the procedure of initialization, termination, and increment/decrement in while and do...while loop in C#.NET State the use of nested loop Prepare sample Programs using various looping strategies.	2

19-21	2.7 Array and use of array in C#.NET	Define array State the difference between one and multidimensional array State the advantages of using array. State the procedure of Array declaration in C#.NET program. State the techniques for assigning values in arrays Prepare program for reading user inputs and storing them in an one dimensions array using loop. State the technique of declaration of two dimensional array in C#.NET program Prepare program for reading user inputs and storing them in a two dimensional array using loops. Prepare program for showing various array manipulation techniques such as linear and binary search in one/two dimensional array.	4
22-25	2.8. Sorting process in C#.Net	Define sorting State the types of sorting Prepare the algorithm of bubble/quick/heap/merge sorts. Prepare programs for Sorting data in a one/two dimensional array using Bubble/quick/heap/Merge Sort algorithm.	3
26-29	2.9 Functions in C#.net	State the advantages of modular coding technique Define functions State the types of functions Define library functions State the need of function prototype Define user defined functions State the form of user define function State the Importance of main() function State the significance of "void" Prepare programs to find out the grade of students for obtaining different marks using user define functions.	4
30-31	2.10 Passing arguments and returning values	State the advantage of user defined functions Define Parameters or Arguments State the Value returning and Non-returning Functions State the procedure of passing arguments and returning values in a function. State the method of defining and accessing a function Prepare sample programs using local and global variables and user defined function to find out the arithmetic operation.	4
32-35	2.11 Recursive functions.	2.11.1 Define Recursive function. 2.11.2 Describe the recursion process Prepare sample program using recursive function to find out the value of factorial number. Prepare programs using function with no arguments and no return value/ with arguments but no return values/ with arguments and return values	2

36-37	2.12 programs using character string	2.12.1 Define string State the procedure of declaring and initializing string variables. Write strings to screen. Prepare sample program to read a series of words from a Terminal using readline() function. Prepare sample program for printing sequences of "characters in a given shape using for loop. State the meaning of arithmetic operations on characters Prepare Sample program for arithmetic operations on characters. Prepare sample program for sorting strings in alphabetical order.	2
38-43	2.13 Programs using structure	2.13.1 State the meaning of User defined data types Define Structures State the meaning of members State the procedure of Giving values to members Access State the procedure of structure initialization and use of array within structures State the procedure of assigning arrays to structure member Prepare program for creating a pseudo-database to store records of students/sales/stock/library using structures.	4
44-47	2.14 programs using pointers	Define Pointer State the declaration and initialization procedure of pointers. State the method of accessing the address of a variable State the method of accessing a variable through pointer State the use pointer in arrays State the meaning of memory address of an array element. Prepare sample programs for swapping numbers using pointer. 2.15.8 Prepare program using pointers. arrays and function	4
48-51	2.15 Windows Form Application	State the meaning of form application Creating a Form Design the form with various tools like Label, Text Box and Combo box. Enter Data in the above box. How to add data in combo box list. Button definition and event management like Click event. How to write simple code in Button Click event. How to preview data in textbox and others tools. How to display various kind of Message Box like Information, warning, question etc.	3
52-57	2.16 GUI in C#.net	2.16.1 Define Graphical User Interface. State resolution State the format /syntax of Graphics statement for creating point, line, circle, arc and Polygon State the format /syntax of Graphics statement for creating point, line, circle, arc and Polygon, Bar chart and Pie chart. State the format /syntax of Graphics statement for selecting color and filling shapes by colors.	5

		Mention the use of text of different size and fonts. State the procedure of graphics initialization and declaration in C#.net Prepare Sample program using graphics statement in C#	
58-60	2.17 Printer Object.	3.12.1 Mention the print routine variables with their meaning 3.12.2 Define the meaning of crystal reporting 3.12.3 Design a simple report using crystal report 3.12.2 Mention a sample print code to view a crystal report 3.12.3 Describe how to print the report.	3

Programming in C# .net (Practical)

Practical: Core Competencies: Programming in C# .net			
Period	Topics	Competencies	Hours
1-14	Familiar with C#.NET Environment	1.1 Installation of the Visual Studio .Net Software . 1.2 Invoke to the C#.NET Software. 1.3 Select the Windows Form Application from Windows Tab. 1.4 Entering the project and file name after select the project location. 1.5 Explanation about the 1.6 Solution Explorer, Properties and ToolBox. Design a simple form using some tools like TextBox, Combox, Button by drag and drop from ToolBox. Explanation of the properties of various tools. Save the project.	12
15-26	Use of readline() and writeline() functions and Coding Start	2.1 Prepare sample programs for displaying interactive messages using readline() and writeline() function and associate prototype. 2.2 write the source code into the C#.NET editor 2.3 Build and execute/Run the programs . 2.4. Show the debugging procedure using Tracing Mode (F10,F11) 2.5. Practice and show the use of each Menu and submenu of C#.NET 2.6 Save the programs.	8
27-30	Use of common library functions	3.1 Show the way how the library function works.Save the programs	4

31-42	Use of Decision making (if..else) statements	<p>4.1 Prepare sample programs (like to find out the largest and smallest number) using if, if...else, if...else if ..else statements.</p> <p>4.2 Write the source code into the C#.NET editor Debug and execute/Run the programs . Save the programs.</p>	8
43-46	Use of switch statements.	<p>5.1 Prepare sample programs using switch() statements to find out the grade of students for obtaining different percentage of marks. write the source code into the C#.NET editor Compile the program . show the debugging procedure using Tracing Mode (F10,F11)</p> <p>4.5 Run and Save the program.</p>	4
47-56	Use of Operators for interactive arithmetic operation	<p>6.1 Prepare sample programs using all types of Arithmetic Operators and readline(), writeline() statements where the values will be taken from keyboard after execution of the program (like to convert Fahrenheit temperature to centigrade/ find out the roots of a quadratic equation using if...else if..else/ switch statements.)Write the source code into the C#.NET editorBuild the program .Show the debugging procedure using Tracing Mode (F10,F11)Run and Save the program.</p>	8
57-66	Use of 'for loop'	<p>7.1 Prepare sample programs using for loop to find out the arithmetic operation like summation/ Average/ multiplication of a series of numbers. write the source code into the C#.NET editor Build the program . Run and Save the program</p>	10
67-76	Use of while and do... while loops	<p>8.1 Prepare sample programs using while and do... while loops to find out the arithmetic operation like power of a base number/Generate a set of digit/square value/ cubic value of a series of numbers.</p> <p>8.2 write the source code into the C#.NET editor</p> <p>8.3 Build the program .</p> <p>8.4 Run and Save the program.</p>	8

77-86 7-96	Searching program in C#.NET using array manipulation techniques in one and two dimensional array.	9.1 Prepare program for showing various array manipulation techniques such as linear / binary search in one/two dimensional array. 9.2 write the source code into the C#.NET editor Build the program .Run and Save the program.	10
97-108	Sorting program in C#.NET using array manipulation techniques in one and two dimensional array.	10.1 Prepare sample program for sorting data in a one/two dimensional array using Bubble/quick/ heap/ Merge Sort algorithm 10.2 write the source code into the C#.NET editor 10.3 Build the program. 10.4 Run and Save the program.	10
109-150	Programming with user defined function	11.1 Prepare and execute sample programs using local and global variables and user defined function to find out the multiplication/division of numbers.	8
151-160	Program using character /string	12.1 Prepare and execute sample program to read a series of words from a Terminal using writeline() function.	8
161-172	Program using structure	13.1 Prepare and execute programs for creating a pseudo-database to store records of students/sales/ stock/library using structures	8
173-184	Programs using pointers.	14.1 Prepare and execute sample programs for swapping numbers using pointer in a user defined function. Prepare and execute programs using pointers, arrays and functions	8
185-196	Storing Data in Database from Windows form application	15.1 Write code to connect with database. 15.2 Show the technique to insert a data in database from the designed form. 15.3 Write the code to Delete the data from database. 15.4 Discussion about SQL (Structured Query Language)	12
197-200	Graphics using C#.net	16.1 Show how to change the background color, Font color of the tools. 16.2 Show how to set background picture of a form.	4

Asp.net Technology (Practical):

Period	Topics	Competencies	Hours
1-8	Concept of Asp.net	1.1 Definition of asp.net. Basic knowledge of web based application 1.2 Introducing with the environment of asp.net. 1.3 Creation of a web site solution using C#.Net Basic concept of html. 1.4 Basic concept of style sheet (CSS) 1.5 Web.config file definition and explanation.	8
9-16	Design a web form and style sheet	2.1 Design a web form using tools like TextBox, DropDownList, Button, Calendar, Panel etc. 2.2 Creation of a Class and Object. 2.3 Using of the Class and Object. 2.4 Creation of a new Style Sheet. 2.5 Use of the style sheet. 2.6 Change font size, color etc using style sheet.	10
16-22	Use of Ajax	3.1 Basic concept Ajax Control Toolkit 3.2 Adding system of ajax in asp.net project. 3.3 Use of Ajax control like Tool Script Manager, Combo Box, Calendar Extender etc. in the web form.	4

23-32	Connect with SQL Server and Manipulate the Database	<p>4.1 Explanation of Importing 'System Class' to use their object.</p> <p>4.2 Create a class and object to build up a Connectivity with SQL Server Database.</p> <p>4.3 Basic concept of Connection open, connection close, Data table, Data Set, Reader and SQL Query.</p> <p>4.4 Write code to Insert Data in SQL Server Database.</p> <p>4.5 Write code to Retrieve the from Database.</p> <p>4.6 Write code to Edit the data.</p> <p>4.7 Write code to Delete the data from the database table.</p>	10
33-38	Use of IIS to Host the Project	<p>5.1 Basic idea of Internet Information Service (IIS).</p> <p>5.2 Configuration of IIS using Programs & Feature option from Control Panel of the Windows.</p> <p>5.3 Hosting system explanation with Port, Static IP etc.</p>	4
39-40	Tutorial Searching System Using Social Media	<p>6.1 Basic concept of Google, youtube etc for searching tutorial about related topics.</p> <p>6.2 Useful links to get help for any kind of programming problem and how to get solution from there.</p> <p>6.3 Searching way about the programming knowledge.</p>	4

MVC

Period	Topics	Competencies	Hours
1-8	Understand the MVC architectural pattern	7.1 Know about models, controllers, views, routers and the benefit of MVC pattern.	4
9-16	Build forms with server-side and client-side validation	8.1 Building blocks of MVC architectural pattern in action and a view to build a new page where display the name , build modern and responsive forms. 8.2 Learn about common HTML helpers like Label For, ext Box For, Drop Down List For, Check Box For, and so on.	4
16-22	Use Entity Framework to query or update data	9.1 Model binding and how it works. how to persist data using Entity Framework.	3
23-32	Build and deploy applications	10.1 Creating a package for the Debug build configuration. 10.2 Creating a package for the Release build configuration. 10.3 Transforming Web. con fig file settings for the destination environment.	3
33-38	Manage client / server dependencies	11.1 Dependency Injection (DI) Inversion of Control (IoC) ependency Inversion Principle (DIP)	2
39-40	Implement CRUD operations	12.1 Create a sample MVC Application	4

Web API

Period	Topics	Competencies	Hours
1-8	Build RESTful services using ASP.NET Web API	1.1 Web APIs and their benefits along with some real-world examples.	2
9-16	Implement authentication and authorization using ASP.NET Web API	2.1 various ways to authenticate users and various authentication options	4
17-23	Create and customize build configurations	2.2 different environments to host our application: development, testing, staging and production. how to create custom build configurations for different	4

		environments.	
24-29	Test APIs	3.1 Create a sample a REST API	8

Mobile Application Development

Period	Topics	Competencies	Hours
1-8	Basic Terminologies of mobile application development and its benefit	1.1 Introduce mobile application development tools, Creating Environment ,Installation of Xamarin	4
9-16	Application Architecture	2.1 Understanding of Application life cycle	2
16-22	UI Elements	2.2 Introduce and implement different type of components and UI elements and create layouts.	4
23-32	Practice Example	2.3 Connect UI elements with code and give example for the elements.	4
33-38	Creating A simple APP	2.4 Create a full functional App as an Example	6

Freelancing

Period	Topics	Competencies	Hours
1-8	Introduction with Fiver And up work	1.1 Introduction of the Fiver and Up work marketplace	2
9-16	Creating Profile	2.1 Give example with creating marketplace profile	2
16-22	Title, skills, overview, portfolio and all other section	3.1 Develop the portfolio by adding skills, experiences, qualifications and working examples.	3
23-32	Up work Exam and Job selection	4.1 How to choose the best job in marketplace and how to take the relevant exams in up work.	2
33-38	How to submit offers to Buyer Requests, What to write in Buyer Request	5.1 How to apply jobs, write proposals to the clients and maintain the time frame.	1
39-40	Payment Method	6.1 Understanding How to withdraw the earning payment through the local bank account or other relevant payment methods.	1

JOB LIST:

Programming in C#.net & asp.net.

1. Familiarize with the overall layout environment and menu of the C#.NET.
2. Prepare sample programs for displaying messages using writeline() function and associate prototype.
3. Prepare sample programs for displaying interactive messages using writeline() and readline() function and associate prototype.
4. Prepare sample programs (like to find out the largest and smallest number) using if, if...else, if...else if ..else statements.
5. Prepare sample programs using switch() statements to find out the grade of students for obtaining different percentage of marks.
6. Prepare sample programs using all types of Arithmetic Operators and writeline(), readline() statements where the values will be taken from keyboard after execution of the program (like to convert Fahrenheit temperature to centigrade/ find out the roots of a quadratic equation using if...else if..else/ switch statements.)

7. Prepare sample programs using for loop to find out the arithmetic operation like summation/ Average/ multiplication of a series of numbers
8. Prepare sample programs using while and do... while loops to find out the arithmetic operation like power of a base number/Generate a set of digit/square value/ cubic value of a series of numbers.
9. Prepare sample programs using for loop to find out the arithmetic operation like summation / Average / multiplication of a series of numbers.
10. Prepare sample programs using while and do... while loops to find out the arithmetic operation like power of a base number/Generate a set of digit/square value/ cubic value of a series of numbers.
11. Prepare sample program for sorting data in a one/two dimensional array using Bubble/quick/ heap/ Merge Sort algorithm
12. Prepare and execute sample programs using local and global variables and user defined function to find out the multiplication/division of numbers
13. Prepare and execute programs to find out the grade of S.S.C students using user define functions
14. Prepare programs using function with no arguments and no return value with arguments but no return values with arguments and return values
15. Prepare and execute sample program for printing sequences of "characters in a given shape using for loop.
16. Prepare and execute sample program for arithmetic operations on characters
17. Prepare and execute sample program for sorting strings in alphabetical order
18. Prepare a form containing a textbox, a combo Box and a button where the data from these tools will be insert to a sql database. And retrieving from the database.
19. Create a web application using the combination of C#.net and Asp.net and host the project using IIS.

Entry qualification:

Minimum SSC

Employment opportunity

1. Able to employed as a trainee programmer in public and private Organization
2. Able to develop small custom software as a software developer.
3. Helpful to be an entrepreneur in software field.
4. Will be useful to get job in foreign countries

Training Facilities for 20 students:

Physical facilities	Size (in ft)	Area (in Sq. ft)
Class Room cum Laboratory	15 X 20	300
Office Room cum Library	15 X 20	300

Toilet	4 X 7	28
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List of Tools Equipment's Required

Tools	Quantity
Personal Computer System and Accessories(Minimum CoreI5)	20
Server PC	01
scanner	01
Printer	02
projector	01
UPS/IPS/Generator (Uninterrupted Power Backup)	10
Modem	01
LAN Card	20
RJ 45 Connector	20
Twisted pair	30 meter
Switch (16 port)	01
DVD Writer (External)	01
MS Office CD	01
Windows 7, 10 DVD	01
Bijoy Bayanno /Avro	01
Internet Connection	01 (Broadband/Dial-up)
First Aid Kit	01
Pendrive (16gb minimum)	01

REFERENCE BOOK

Guide to C# .net - by Bruce Barstow and Tony Martin
C# Programming by Ahmedur Rob (Bangla)

C# & Asp.net Tutorial in web site.

Trainer's qualification:

Diploma in Engg. (4 Years) in Computer Technology or Bachelor of Computer Sc. / Engg. or
Bachelor/Masters in any discipline with 1 Year training certificate in computer technology

No. of Trainers : 02

Demonstrator cum Mechanic : 01

Teaching Learning Process

(a) TPD (Topic Precedent Diagram) Understanding of the topic heading Present lecture on selected topic
Ask question to student Answering Assignment Exam/Test Making Performance Sheet

(b) Job Sheet

(c) Lab Sheet

(d) Work Sheet

(e) Check List (Sample)

Evaluation/Assessment Process

(a) Exam System:

Total Marks: 5001. Continuous Assessment: (From Institute) Practical Continuous: 200

Job Assessment: 80% Job Assessment Report: 10% Interview/Oral Test: 10% Pass Marks: 120 (60%)

Final Assessment: 260

2. Practical Final: 200 (Arranged by Board on Center)

Pass Marks: 120 (60%)

3. Online Test/Paper Based Test: (Arranged by Board on Center)

Total marks: 60 Type of question: Knowledge Question & MCQ (Multiple Choice Question)/Written
Pass marks: 36 (60%)

(The Candidate must be passed in all the portions of exam separately)

(b) Sample Question:

MCQ:

Written:

Practical:

(c) Marks distribution:

Unit	Contact Hours	Total Session	Practical Continuous(200)	TestContinuous(40)	Practical Final (200)	Online Test (60)
	360	6 Month				

(d) Grading System:

Grade Level	Mark Range	Grade Point	Performance Level
A+	90% or above	4.00	Excellent
A	80% to 89%	3.75	Very Good
B+	70% to 79%	3.50	Good
B	60% to 69%	3.25	Satisfactory
F	Below 60%	0.00	Fail

Certification:

Certification candidates must pass one or more proficiency exams in order to earn Computer Operator/ Data Entry Operator certification and follow the grading system.

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