5S: Computer Application (Vocational)

.Net Technology

Unit I: Introduction to VB.NET, Programming Platform -.NET Framework,.NET Architecture, CLR, MSIL, The Just-in-time compiler, CTS, .NET framework class library, VB6 and VB .NET Differences

UNIT II: VB.NET Development Environment, Creating Application,
Introduction to Controls in VB.NET: Label, TextBox, Button, Checkbox, RadioButton, ComboBox, ListBox, ImageList, PictureBox, Timer

UNIT III: VB.NET Language –datatypes, Variables, Declaring variables, scope of variables, Constants, and Operators, Functions and Subroutine.

UNIT IV: Programming Styles: Array in VB.NET, Types of array, controlling program flow, Conditional Statements:- if and select-case statements, Looping Statements:- The while, do, for, and for Each statements, flow control Statements:- goto, break, continue, and exit statements, Exception Handling- Unstructured Error Handling, Structured Exception Handling.

UNIT V: Object Oriented Programming: Class basics, Class Properties, Inheritance, Interface, Polymorphism, Constructors and Destructors, Introduction to Multithreaded Programming.

UNIT VI: Data Access with ADO.Net: What are Database, Overview of ADO.Net, ADO.NET object-Connection object, Command Object, Data Adapter Object, Dataset object, Data Reader Object.

Boo s Recommended :

1) Beginning Visual Basic 2005 - Thearon willis, bryan Newsome - Wiley Publishing, INc
2) A Programmer's Introduction to Visual Basic.NET - SAMS
3) "Beginning VB.NET 2005", WROX Publication Books :

Practical : Minimum 16 Practical base on
Lab I: Unit II and Unit III (Minimum 8 practical)
Lab II: Unit IV, Unit V and Unit VI (Minimum 8 practical)

B.Sc.Part-III (Semester-VI)

The Examination in vocational subject Computer Application of Sixth Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks. The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of mar s for practical e amination is as under:

1. Program based on Computer lab I	: 15 Marks
2. Program based on Computer lab II	: 15 Marks
3. Practical record	: 10 Marks
4. Viva Voce (based on lab I & lab II)	: 10 Marks
Total	**50 Mar s**

S: Computer Application (Vocational)

PHP Programming

UNIT I: Introduction to PHP: Evolution of PHP, Features of PHP, Server Introduction of PHP, Installation & Configuration of PHP, PHP Ethics, **Fundamentals of PHP:** Keywords in PHP, Variables (Predefined, User defined), Constants, data types in PHP ,

UNIT II: Operators: Arithmetic/math operators, Assignment Operators, Comparison Operators, Logical Operators, Bitwise Operators, String Operator **Control Structures:** if, if..else, if..else..if, Loops in PHP: while, do.. while, for.

UNIT III: Introduction to arrays: What is array, Declaration of array, **Types of array:** Numeric array, Associative array, Multidimensional Array, Array Functions: print_r(), explode (), implode(), array_merge(),

UNIT V: String Handling: Introduction to strings in PHP, Manipulation on string: Concatenation Operator for string, strlen(),strrev(),substr(),strops(), Date Function, Math Function

UNIT VI: Coo ies: Anatomy, Setting Cookies with PHP, Accessing Cookies, Deleting Cookies, Session – Starting PHP session, Detroying PHP Session, Sessions without Cookies, Error Handling, Sending Emails.

Boo s Recommended :

1. The Complete Reference PHP :
2. Learning PHP , My SQL & Java Script – Robin Nicson (Orelly)
3. PHP for Web – Visual Quickstart Guide- Larry Ullman
4. PHP & My SQL Web Development – A.Martin, S. Mathews
5. Beginning PHP5
6. PHP Bible
7. Professional PHP5

Practical : Minimum 16 Practical base on
Lab I: Unit I , Unit II and Unit III (Minimum 8 practical)
Lab II: Unit IV, Unit V and Unit VI (Minimum 8 practical)

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NOTIFICATION

No. 57 / 2019

Date: 27 / 6/2019

Subject : Additional chances for the failure students of old course

It is notified for general information of all concerned that the authorities of the University has provided the three additonal chances for the failure students, in the subjects Geology and Computer Science/Computer Application/ Information Technology/Computer Application(Vocational) of B.Sc. Part-III Sem-V & VI, which will be as given below :

Sr.No.	E amination	Subjects	Additional Chances Provided
1	B.Sc.-III Sem-V	Geology	Winter-2019 to Winter-2020
2	B.Sc.-III Sem-VI	Geology	Summer-2020 to Summer-2021,
3	B.Sc.-III Sem-V	Computer Science/Computer Application/Information Technology/ Computer Application (Vocational)	Winter-2019 to Winter-2020
4	B.Sc.-III Sem-VI	Computer Science/Computer Application/Information Technology/ Computer Application (Vocational)	Summer-2020 to Summer-2021,

Sd/-
(Dr.T.R.Deshmukh)
Registrar
Sant Gadge Baba Amravati University

PRACTICAL EXAMINATION:

The Practical Examination will be four hour duration and carries 50 marks. The distribution of marks will be as follows-

I	Plotting of Ground water provinces on outline map of India.	08 Marks
II	Ground water table contour maps	06 Marks
III	Problems on determination of Aquifer Parameters.	10 Marks
IV	Interpretation of Aerial Photographs and Satellite Imageries.	06 Marks
VI	Field Work.	10 Marks
VII	Practical Record	05 Marks
VIII	Viva Voce	05 Marks
		50 Marks

Te t Boo s for Sem VI :

1. Todd, D.K. (1980) Ground Water Hydrology. John Wiley and Sons Inc. New York.
2. Karanth, K.R. (1989) Hydrogeology. Tata McGraw Hill Pub.Co.Ltd., New Delhi.
3. Nagabhushaniah, H.S. (2001) Groundwater in Hydrosphere (Groundwater Hydrology) CBS Publisher, New Delhi.
4. Karanth K.R. Groundwater, Assessment, Development and Management. Tata McGraw Hill Pub. Co. Ltd., New Delhi.
5. Raghunath : Ground Water Hydrology, New Age Publication, Pune.
6. P. Arul Murugan, R.R. Krishnamurthy, .in groundwater targeting and coastal hydrogeological studies"
7. Pande, S.N. (1987) Principles and Applications of Photogeology . Wiley Eastern Limited.
8. . Sabisn, F.F. (2000) Remote Sensing Principles and Interpretations. W.H. Freeman and Company, USA
9. . Lilesand, T.M. and Kiefer, R.W.(2000) Remote Sensing and Image Interpretation. John Wiley and Sons Inc.,New York.
10. Drury, S.A. (1997) Image Interpretaton in Geology. Chapman and Hall, London.
11. Dr.AFZAL An Introduction to Remote Sensing ;SHARIEFF ;Sarup book Publishers PVT.LTD. , New Delhi.
12. Text Book of Engineering Geology - Parbin Singh, Katson Publishing, Ludhina.
13. R B Gupte, Text Book of Engineering Geology,Published by Pune Vidyarthi Griha Prakashan
14. Hand book of analysis of water sample

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APPENDIX-B

Syllabus prescribed for B.Sc. Part III (Semester-V & VI) Computer Science to be implemented from the Academic Session 2019-20 & onwards.

B.Sc.Part-III (Semester-V)

The Examination in Computer Science of Fifth Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks. The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of mar s for practical e amination is as under:

1. Program writing / execution (on group A & B)	: 30 Marks
2. Practical record	: 10 Marks
3. Viva Voce	: 10 Marks
Total 50 Mar s	

5S: Computer Science

. Net Technology and ava Programming

Unit I: Introduction to .NET Framewor : NET framework, MSIL, CLR, CLS, CTS, Namespaces, Assemblies The Common Language Implementation, Assemblies, Garbage Collection, The End to DLL Hell - Managed Execution

Unit II: Introduction to visual programming : Concept of event driven programming - Introduction to VB.Net environment, The .NET Framework and the Common Language Runtime. Building VB.NET Applications, The Visual Basic Integrated Development - Basic Language - Console application and windows application, Data types, Declaring Variables, scope of variables, operators and statements.

Unit III: Decisions and loop : Making Decisions with If . . . Else Statements, Using Select Case, Making Selections with Switch and Choose, Loop statements - Do Loop, for, while - The With Statement - Handling Dates and Times - Converting

Unit V : Classes and inheritance: Class, Object, Method, Overloading Method, Constructor, Constructor Overloading, this Keyword, **Inheritance:** Introduction to Inheritance, Super, Multilevel Hierarchy, method overriding, Abstract class, Using Final (variables , methods and classes).

Unit VI : String, Pac age and Interface: String: String operation, String comparison, Searching and modifying string, **Pac age:** Package concept, Defining Package, Finding Package, Java In-built Packages **Interface:** Interface concept, Defining, and Implementing of Interface.

Boo s Recommended:

1) .NET Framework, OREILY Publication.
2) Steven Holzner, Visual Basic .NET Black Book
3) Rebecca Riordan, VB.NET for Developers, Keith Franklin, SAMS
4) Jason Beres, Sams Teach Yourself Visual Studio .NET 2005 in 21 Days,
5) Jesse Liberty, Learning Visual Basic .NET
6) The Complete Reference JAVA2 by Herbert Schildt (Tata McGraw)
7) The Complete Reference JAVA by Patrik Noughton
8) Programming with JAVA - A Primer : By E.Balguruswamy (Tata McGraw)
9) Programming in JAVA : By S.S.Khandare (S.Chand)
10) Teach Yourself 'Java' in 2 Hrs : By Sams.
11) Java for You : By P. Koparkar

Practical : Minimum 16 Practical base on
A: Unit II and Unit III (Minimum 8 practical)
B: Unit IV, Unit V and Unit VI (Minimum 8 practical)

B.Sc.Part-III (Semester-VI)

The Examination in Computer Science of Sixth Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks. The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of mar s for practical e amination is as under:

1. Program writing / execution (on group A & B)	: 30 Marks
2. Practical record	: 10 Marks
3. Viva Voce	: 10 Marks
Total 50 Mar s	

S: Computer Science
Advanced ava and VB.net

Unit I : E ception Handling and Multithreading : E ception Handling: Concept of Exception handling, Type of Exception, Try, Catch, and Finally. Multiple Catch blocks, Nested Try Statements, throw, throws. **Multithreading:** Multithreading concept, life cycle, creating and running thread, thread priority.

Unit II : Applet: Introduction to Applet, Applet life cycle, HTML applet tag with all attributes, Running the applet, Passing parameters to applets, Displaying using applet viewer, getDocumentBase() and getCodeBase() methods, Applet context, Applet vs Application, Graphics introduction, Graphic class, draw lines, circle, rectangle, ellipse.

Unit III: Event Handling and AWT: Introduction, Event delegation model, Java AWT event description, sources of event, Event listener interfaces, Adapter classes, Inner classes. AWT (Abstract Window Toolkit): Introduction, AWT Controls Label, Button, Checkboxes, Lists, ScrollBar, TextField, TextArea, Layout manager.

Unit IV: Windows Applications: Forms: Adding Controls to Forms, Handling Events, MsgBox, InputBox , Working with Multiple Forms, Setting the Startup Form, SDI & MDI Forms, Handling Mouse & Keyboard Events, **Common controls:** Text Boxes, Rich Text Boxes, Labels, Buttons, Checkboxes, Radio Buttons, Group Boxes, List Boxes, Checked List Boxes, Combo Boxes, Picture Boxes, Scroll Bars, Tool Tips, Timers, properties – methods

UNIT V: Object Oriented Programming: Classes and Objects: Class definition, Creating objects, Defining Member functions, Methods and Events, Attaching a class with form, Delegates. **E ceptions Handling:** Exception classes in .net framework, Structured and Unstructured exceptions, Imaginary errors, breakpoints, watch, Quick watch

Boo s Recommended:

1. Steven Holzner, Visual Basic .NET Black Book
2. Rebecca Riordan, VB.NET for Developers, Keith Franklin, SAMS
3. Jason Beres, Sams Teach Yourself Visual Studio .NET 2005 in 21 Days,
4. Jesse Liberty, Learning Visual Basic
5.The Complete Reference JAVA2 by Herbert Schildt (Tata McGraw)
6.The Complete Reference JAVA by Patrik Noughton
7.Programming with JAVA - A Primer : By E.Balguruswamy (Tata McGraw)
8.Programming in JAVA : By S.S.Khandare (S.Chand)
9.Teach Yourself 'Java' in 2 Hrs : By Sams.
10.Java for You : By P. Koparkar

Practical : Minimum 16 Practical base on
A: Unit I , Unit II and Unit. III (Minimum 8 practical)
B: Unit IV, Unit V and Unit VI (Minimum 8 practical)

Syllabus prescribed for B.Sc. Part III (Semester-V & VI) Computer Application /Information Technology to be implemented from the Academic Session 2019-20 & onwards.

B.Sc.Part-III (Semester-V)

The Examination in the subject Computer Application/Information Technology of Fifth Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks. The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of mar s for practical e amination is as under:

1. Program based on Computer lab I	: 15 Marks
2. Program based on Computer lab II	: 15 Marks
3. Practical record	: 10 Marks
4. Viva Voce (based on lab I & lab II)	: 10 Marks
Total	**50 Mar s**

5S: Computer Application/ Information Technology
.Net C

UNIT-I : Introduction to C # : Evaluation of C#, characteristics of C#, application of C#, difference between C++ and C#, Introduction to C# environment : The .NET strategy, the origins of the .NET technology, the .NET framework, .NET, .NET languages, benefits of the .NET approach, C# and .NET.

UNIT-II: Overview of C#: Programming structure of C#, editing, compiling and executing C# programs, namespace, comments, using aliases for namespace classes, using command line argument, maths function.

Literals, variables and data types : literals, variables, data types, value types, reference type, declaration of variables, initialization ofvariables, default values, constant variables, scope of variables, boxing and unboxing.

UNIT-III: Operators and expression : arithmetic operators, relational operators, logical operators, assignment operators, increment and decrement operators, conditional operators, Bitwise operators, special operators, arithmeticexpressions, evaluation ofexpression, precedenceof arithmetic operators, type conversions, operator precedence and associativity, mathematical functions.

Decision making and branching : if statement, if....else statement, nesting of if....else statement, the else if ladder, switch statement, the ?: operator, Decision making and looping : while statement, do statement, for statement, for each statement, jumps in loops.

UNIT-IV : Methods in C# : declaring methods, the main method, invoking methods, nestingofmethods, methodsparameters, pass by value, pass by reference, the output parameters, variable arguments list, method overloading, Arrays : 1-D array, creating an array, 2-Darray, variable size arrays, the system, arrayclass, arraylist class, String handling: creating strings, strings method, inserting strings using systems, comparing strings, finding substrings.

UNIT-V: Structuresand enumeration: structures, structs with methods, nested structs, difference between classes

UNIT-VI : Interfaces : MultipleInheritance: defining an interface, extending an interface, implementing interface, interface & inheritance, explicit interface implementation, abstract class and interface, Operator overloading : overloadable operators, need for operator overloading, defining Operator overloading, overloading unary operators, overloading binary operators, overloading comparision operator. Delegates and Events : Delegate, delegate seclaration, delegate methods, delegates instantiation, delegate invocation, using delegates, multicast delegates, events, Managing Console I/O operations : console class, console input, console output, formatted output, numericformatting, standard numeric format, custom numeric format.

Te t Boo s:-

1.Programming in C# : E. Balguruswamy
2.Mastering in C# : BPB Publication
3.Programming C# : TMH Publication
4.Programming C# : PHI Publication

Practical: Minimum 16 programs should be prepared on above syllabi.

B.Sc.Part-III (Semester-VI)

S: Computer Application/ Information Technology

Computer Graphics, Multimedia & Animation

Unit-I : Overview of Graphics Systems: Refresh Cathode-Ray Tubes (CRT), Raster-Scan Display, Random-Scan Display, color CRT monitor, Flat-Panel Displays,3D viewing system, stereoscopic and virtual realitysystem, raster scan system, graphics monitor and workstations, Input Devices, keyboards, mouse, trackball and spaceball, joysticks, image Scanners, Touch panels, light pen, voice system

Unit-II : Output Primitives: Points and lines, line drawing algorithm, DDAalgorithm, Bresenham's LineAlgorithm, parallel line algorithm, loading the frame buffer, line function ,circle generating algorithm, Attributes: line Attributes ,line type, line width, pen and brush option, line color, curve Attributes, color and grayscale level, color tables, grayscale

Unit-III : Areas fill Attributes, character Attributes, basic transformation, matrix representation, composite transformation: translation, rotation and scaling

Unit-IV : IntroductiontoMultimedia:Whatismultimedia,multimedia and hypermedia, overview of multimedia, software tools: music, sequencing and notation, digital audio, graphics and imageediting,videoediting,Animation, multimediaauthoring, fileformat:GGIF, JPEG,PNG,TIFF,EXIF, graphics,animation files, PS and PDF, WindowWMF, Window BMP.

Unit-V : Multimedia Compression: IZW,DCT run length coding, JPEG MPEG, Hypertext, MHEG, Hypermedia, Document
architecture, SGML, ooa Augmentedand virtual realityand multimedia: Concept, VR devices, VR chair, CCD, VCR, 3D Sound System, head mounted display.

Unit-VI : Animation: Introduction, History of Animation, Anatomy study, Basic Sketching, Introduction to 2D animation, Animation with flash –Tweening,Motion tweening, Shape twining

Te t Boo s:-

1.Computer graphics – C Version", Hearn D and Baker M.P , 2nd Edition, Pearson Education
2.Multimedia Computing, Communications andApplications , Ralf Steinmetz, Klara steinmetz, Pearson education, 2004.
3.Multimedia in Practice: TechnologyandApplication –Judith (PHI)
4.Fundamental of Multimedia byDREW-Pearson(Practical Ap- proach)
5.Multimedia : Making it Work: T. Vaughan
6.Multimedia programming :Siamon J. Gibbs and Dionysios C. Tsichritzis, Addison Wesley, 1995.
7.Multimedia Graphics : John Villamil, Casanova and Leony Fernanadez, Eliar, PHI, 1998.

Practical: Minimum 16 programs should be prepared on above syllabi.

Syllabus prescribed for B.Sc. Part III (Semester-V & VI) Computer Application (Vocational) to be implemented from the Academic Session 2019-20 & onwards.

B.Sc.Part-III (Semester-V)

The Examination in vocational subject Computer Application of Fifth Semester shall comprise of one theory paper of 80 Marks of three hours duration and internal assessment of 20 Marks. The practical examination will be of 4 Hrs. duration and carry 50 Marks.

The distribution of mar s for practical e amination is as under:

1. Program based on Computer lab I : 15 Marks
2. Program based on Computer lab II : 15 Marks
3. Practical record : 10 Marks