II	Q.2 (A) Short / Medium Questions (With Internal Option)	06	15
	Q.2 (B) Medium / Long Questions. (With Internal Option)	09	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	15
	Q.3 (B) Medium / Long Questions. (With Internal Option)	09	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	07	17
	Q.4 (B) Medium / Long Questions. (With Internal Option)	08	

KSKV Kachchh University
Program: BCA
Semester: IV
Syllabus with effect from June 2017

Course Type	Course Code	Name of the Course	T/P	Credit	Exam Duration In Hrs	Components Of Marks		
						Internal	External	Total
Core Courses	CCCS415	Advanced Web Development using PHP	T	5	2.5	40	60	100
	CCCS416	Introduction to windows programming using VB.Net	T	5	2.5	40	60	100
	CCCS417	Practical based on CCCS415	P	4	2.5	40	60	100

	CCCS41 8	<mark>Practical based on</mark> <mark>CCCS416</mark>	P	4	2.5	40	60	100
Foundation Courses	<mark>FCCS40 5</mark>	Computer Oriented Numerical Methods	T	4	2.5	40	60	100
Elective Courses (Any One)	CECS40 7	System Analysis and Design	T	2	2.5	40	60	100
	CECS40 8	Computer Graphics and Multimedia	T	2	2.5	40	60	100
Total				**24**		**240**	**3600**	**600**

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CCCS415	**Total Credit :** 2
Title of Paper: Advanced Web Development using PHP	**Total Marks :** 60 **Time :** 2.5 Hrs

Unit	Description	Weighting
I	**Introduction to PHP:** PHP configuration in IIS &Apache Web server PHP Variable: Static & global variable, GET & POST method PHP Operator: Conditional Structure & Looping Structure, Array User Define Function: argument function, default argument, variable function, return function Variable Length Argument Function: func_num_args, func_get_arg, func_get_args Variable Function: Gettype, settype, isset, unset, strval, floatval, intval, print_r String Function: Chr, ord, strtolower, strtoupper, strlen, ltrim, rtrim trim, substr, strcmp, strcasecmp, strops,strrpos, strstr, stristr, str_replace, strrev, echo, print	25%
II	Math Function: Abs, ceil, floor, round, fmod, min, max, pow, sqrt, rand Date Function: Date, getdate, setdate, Checkdate, time, mktime Array Function: Count, list, in_array, current, next, previous, end, each, sort, rsort, assort, arsort, array_merge, array_reverse Miscellaneous Function: define, constant, include, require, header, die File handling Function: fopen, fread, fwrite, fclose, file_exists, is_readable, is_writable, fgets, fgetc, file, file_get_contents, file_putcontents, ftell, fseek, rewind, copy, unlink, rename, move_upload_file	25%
III	PHP GD Library PHP Regular expression function Cookies Session Server variable Database Connectivity with MySQL (Using PhpMyAdmin)	25%
IV	PHP with OOPS: Class, constructor, inheritance, serialize objects PHP with XML	25%
Basic Text & Reference Books :-		
1.	Beginning PHP5	
2.	PHP Bible	

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CECS415		Total Credit : 4
		Total Marks : 60
Title of Paper: Advanced Web Development using PHP		Time : 2.5 Hrs

Unit	Description		Total Marks
I	Q.1 (A) Answer the Following. (Definitions, Blanks, Full Forms, True/False, Match the Following)	06	15
	Q.1 (B) Medium / Long Questions. (With Internal Option)	09	
II	Q.2 (A) Short / Medium Questions (With Internal Option)	06	15
	Q.2 (B) Medium / Long Questions. (With Internal Option)	09	
III	Q.3 (A) Short / Medium Questions (With Internal Option)	06	15
	Q.3 (B) PHP Programs. (With Internal Option)	09	
IV	Q.4 (A) Short / Medium Questions (With Internal Option)	07	17

Q.4 (B) Medium / Long Questions. (With Internal Option)	08

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CCCS416	Total Credit : 4
Title of Paper: Introduction Windows Programming with VB.Net	**Total Marks :** 60 **Time :** 2.5 Hrs

Unit	Description	Weighting
I	.NET Architecture, .NET Languages, Microsoft Intermediate Language (MSIL), The Just-In-Time (JIT) compiler, Working with Assemblies, The.NET framework class library VB.NET - introduction, applications and types of project Introduction to Visual Studio IDE Creating simple Windows Application using VB.NET Variables, data types, constants and operators Type casting, Boxing and Unboxing,	25%
II	Working with arrays and strings Creating simple Windows Application using VB.NET Use of conditional statement (if), multibranaching statement (select) and With…End With statement, Looping Statement: DO, FOR, FOR EACH..NEXT and WHILE, Working with EXIT, CONTINUE and WITH statements Working with procedures – introduction, types, use of parameters, parameter passing, calling procedures OOP concepts - Encapsulation, Inheritance, Interfaces and Polymorphism	25%

Unit			
III	Working with modules, classes (partial) and namespaces Working with Windows Forms – introduction, life cycle, basic properties, methods and events, use of simple windows forms control. Working with SDI and MDI forms Working with basic controls – Button, CheckBox, CheckedListBox, ComboBox, DateTimePicker, GroupBox, HScrollBar, RadioButton, VscrollBar, Label, ListBox, PictureBox, TextBox and Time controls. Working with advanced controls – LinkLabel, RichTextBox, ColorDiolog, FontDialog, TreeView		25%
IV	Working with modules, classes (partial) and namespaces ADO.NET – introduction and applications ADO.NET – architecture (connected and disconnected) Database connectivity using ADO.NET Use of Data sources, Server Explorer and working with DataSet Populating data in a DataGridView Error Handling: exception, structured exception using try…catch and final statement		25%

Basic Text & Reference Books :-	
1.	Mastering VB.Net, by E.Petroutsos
2.	VB.Net Black Books, by Steven Holzner.

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CCCS416	Total Credit : 4
Title of Paper: Introduction Windows Programming with VB.Net	Total Marks : 60 Time : 2.5 Hrs

Unit	Description		Total Marks
	Q.1 (A) Multiple Choice Question.	07	15

All	Q.1 (B) Answer the following. (With Internal Option) (Definitions, Blanks, Full Forms, True/False, Match the Following)	08	
I, II	Q.2 (A) Short / Medium Questions (With Internal Option)	06	15
	Q.2 (B) Medium / Long Questions. (With Internal Option)	09	
II, III	Q.3 (A) Short / Medium Questions (With Internal Option)	07	15
	Q.3 (B) VB.Net Program. (With Internal Option)	08	
III, IV	Q.4 (A) Short / Medium Questions (With Internal Option)	07	15
	Q.4 (B) VB.Net Program. (With Internal Option)	08	

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CCCS417	Total Credit : 4
Title of Paper: Practical based on CCCS415	**Total Marks :** 60 **Time :** 2.5 Hrs

1. Write a PHP program to display "Hello World" Message on Screen.
2. Write a PHP program to display the today's date and current time.
3. Write a PHP program to read the employee detail using form component.
4. Write a PHP program to display the Fibonacci series.
5. Write a PHP program to calculate sum of given number.
6. Write a PHP Program that will use the concept form.
7. Write a PHP program to send Mail from PHP Script.
8. Write a PHP Program for Create, Delete, and Copying file from PHP Script.
9. Write a PHP Program to Recursive Traversals of Directory.
10. Write a PHP Program to Validate Input Data.
11. Write a PHP Program to Upload File.
12. Write a PHP program to demonstrate the use of array.
13. Write a PHP program to prepare student Mark sheet.
14. Write a PHP program to generate the multiplication of matrix.
15. Write a PHP program to perform demonstrate the college Website.
16. Write a PHP program to add new rows in a Table.
17. Write a PHP program to modify the rows in a Table.
18. Write a PHP program to delete the rows in a Table.
19. Write a PHP program to fetch rows in a Table.
20. Develop an PHP application to make following Operation
    i. Registration of user.
    ii. Insert the details of user.
    iii. Modify the details.
    iv. Transaction Maintained like the use of session and cookies variable.
21. Write program to read XML file using PHP and display the data in proper format.
22. Write program to use Server Variable using PHP.
23. Use Regular expression for validation of E-Mail, contact number and URL.
24. Write program to demonstrate the Inheritance concept in PHP.
25. Write program to demonstrate the constructor chain in PHP.
26. Write program to make watermark using GD library.
27. Write program to draw simple objects like rectangle, circle, etc. using GD library.
28. Write program to display page count for the webpage using session and cookie.

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CCCS417	Total Credit : 2
Title of Paper: Practical based on CCCS415	**Total Marks :** 60 **Time :** 2.5 Hrs

Unit	Description		Total Marks
	Q.1 Practical based on PHP	40	60
	Q.2 Viva – Voce	20	

KSKV Kachchh University

Program: BCA
Semester: IV

Paper Code: CCCS418	Total Credit : 4
Title of Paper: Practical based on CCCS416	**Total Marks :** 60
	Time : 2.5 Hrs

1. Create a Visual Basic.Net program which used to find Area of Circle.
2. Create a Visual Basic .Net program which used to find area of rectangle. Area of rectangle.
3. Create a Visual Basic.Net program which used to find Area of Triangle.
4. Create a Visual Basic .Net program which used to find perimeter of rectangle
5. Create a .NET Program that store number of integers in an array and & string also apply add remove, indexing, sort operations.
6. Create a.NET Program that performs operations of simple calculator using if then statement with proper UI.
7. Create a .NET program which used to determine that student is pass or fail. Marks of student input by user. As given below.
8. Create a.NET program which used to display name of day based on input value by user. For example if user enters1I then display Sun, 2 then Mon as on. Using if statement.
9. Create a Visual Basic .Net program which used to determine that given number is numeric or not? Print result in a label.
10. Create a .NET application that checks the number in different cases. case 1: number is even or odd, case 2: number is positive or negative, case 3: number is prime or not. us select case structure.
11. Create a Visual Basic .Net program which used to determine that input string is valid date or not.
12. Create a .NET application to print factorial of a number using for loop.
13. Create a .NET application to print Fibonacci series using while loop.
14. Create a.NET application to print list of 10 student's name and roll numbers using for each loop.
15. Perform EXIT, CONTINUE, WITH Command on Loops.
16. Create a Visual Basic .Net program which used to display 1 to 10 in a textbox using various Do loop Display using Do while entry controlled as well as exit controlled Display using Do until entry controlled as well as exit controlled
17. Create a Visual Basic .Net program which will print even and odd numbers up to given number. Also print sum of even numbers and odd numbers using Function.
18. Create a .Net Application Called BMI calculator using classes and objects. Print output with resultant image in picture box.
19. Create a .NET application that illustrates concepts of inheritance in .NET.
20. Create an MDI application that register new user. After register successfully using login form, welcome form should be open with red fore colored label displaying welcome + user name.
21. Create a.NET application to change different back color of button every time when clicked it.
22. Create a.NET application to change sad smiley to happy smiley when checkbox is checked and vice versa.
23. Create a.NET application to categories country, states & district using combo box.
24. Create a.NET application to select number of items in 1 checklist box and pass it nu another.

Paper Code: CCCS418	Total Credit : 2
Title of Paper: Practical based on CCCS416	Total Marks : 60 Time : 2.5 Hrs

Unit	Description		Total Marks
	Q.1 Practical based on VB .Net	40	60
	Q.2 Viva – Voce	20	

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: FCCS405	Total Credit : 2
Title of Paper: Computer Oriented Numerical Methods	Total Marks : 60 Time : 2.5 Hrs

Unit	Description	Weighting

I	**Computer Arithmetic & Iterative Methods** Absolute, Relative and Percentage error The method of successive bisection, an algorithm of bisection method to find a root and examples The method of false position The method of iterative procedure Secant method, illustration and algorithm The method of successive approximations, illustrations and algorithm	25%
II	**Interpolation with Equal and Unequal Intervals** Interpolation with equal intervals-finite difference table The Gregory- Newton formula for forward and backward interpolation corresponding algorithms and examples Interpolation for unequal intervals using Newton's formula for divided differences Lagrange interpolation, Central difference formulae Extrapolation and corresponding examples	25%
III	**Probability** Introduction and various related terms of probability, Conditional probability, Baye's Rule, Application of Baye's rule in Computing Science	25%
IV	**Regression** Introduction to Regression, Difference between correlation and regression, Regression lines for various data Numerical based on regression	25%

Basic Text & Reference Books :-	
1.	Salaria R S : Computer Oriented Numerical Methods, Khanna Book Publishing Co. Ltd., 2000(3)
2.	Sastry S. S. : Introductory Methods of Numerical Analysis, Prentice Hall of India Pvt. Ltd., 1986(2)
3.	Fundamentals of statistics by S.C. Gupta, Himalaya Publishing House (6)

KSKV Kachchh University

Program: BCA
Semester: IV

Paper Code: FCCS405	Total Credit : 2
Title of Paper: Computer Oriented Numerical Methods	**Total Marks :** 60 **Time :** 2.5 Hrs

Unit	Description		Total Marks
I	Q.1(A) Medium Questions (With Internal Option)	07	15
	Q.1(B) Medium Questions / Long Questions (With Internal Option)	08	
II	Q.2(A) Medium Questions (With Internal Option)	06	15
	Q.2(B) Medium Questions / Long Questions (With Internal Option)	09	
III	Q.3(A) Medium Questions / Long Questions (With Internal Option)	06	15
	Q.3(B) Medium Questions / Long Questions (With Internal Option)	08	
IV	Q.4(A) Medium Questions / Long Questions (With Internal Option)	07	15

		08	
Q.4(B) Medium Questions / Long Questions (With Internal Option)			

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CECS407	Total Credit : 2
Title of Paper: System Analysis and Design	Total Marks : 60 Time : 2.5 Hrs

Unit	Description	Weighting
I	Overview of systems analysis & Design, role of systems analyst, user clientele, categories of business systems - TPS, MIS , DSS OAS, Strategic information systems. System development strategies - classical, structured and Prototyping. Reasons for systems project initiation, Project selection and review - Committee methods, project requests. Preliminary investigation - scope of project, feasibility study, institutional v/s end-user applications.	25%

II	Requirement determination - process, data used, information produced, schedule, controls, transaction and decision requirements etc. Fact finding techniques - interview, questionnaires, document scanning, observation. Tools for specifications - decision trees, decision tables, structured English. Structured analysis - Physical and logical data flow diagrams, process charts, data directories. Application prototyping - rationale, suitability, steps, uses. Tools for prototyping - 4GL, report generators, application generators, screen generators. strategies for prototyping	25%
III	Modelling object classes, attributes & relationships. Automated tools - front end, back end, integrated tools. CASE tools- functionality and benefits. Objectives in system design. Components to be designed - output, files, database, input, controls, procedures, codes, program specifications. Management of Design Process. Output Design - needs, types of output, presentation of outputs. Printed outputs. Input and controls - capture of input data, source documents, coding methods. Input validation - batch controls, transaction controls, check digit system, and hash totals. Data Entry forms design. User interface design purpose, characteristics, actions to be incorporated, navigation, message display, dialogue design	25%
IV	Development and testing. Tools for documentation - HIPO, Structured flowcharts, warnier/orr diagrams. quality assurance - testing, verification and validation . Testing strategies. Creation/conversion of master files. Loading the database. Preparation of system documentation. User training, conversion from old system to new system. Post implementation review. System Development Management - estimation of development time, team management. Hardware/ software selection - selection criteria, benchmarking, purchase/ lease/ rent options	25%
Basic Text & Reference Books :-		
1.	Analysis and Design of Information Systems, James Senn, McGraw Hill, 1989.	
2.	Systems analysis and Design , elias awad, Galgotia , 1997	

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CECS407	Total Credit : 2
Title of Paper: System Analysis and Design	Total Marks : 60 Time : 2.5 Hrs

Unit	Description		Total Marks
I	Q.1(A) Medium Questions (With Internal Option)	07	15
	Q.1(B) Medium Questions / Long Questions (With Internal Option)	08	
II	Q.2(A) Medium Questions (With Internal Option)	06	15
	Q.2(B) Medium Questions / Long Questions (With Internal Option)	09	
III	Q.3(A) Medium Questions / Long Questions (With Internal Option)	06	15
	Q.3(B) Medium Questions / Long Questions (With Internal Option)	08	
IV	Q.4(A) Medium Questions / Long Questions (With Internal Option)	07	15
	Q.4(B) Medium Questions / Long Questions (With Internal Option)	08	

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CECS408	Total Credit : 2
Title of Paper: Computer Graphics and Multimedia	Total Marks : 60 Time : 2.5 Hrs

Unit	Description	Weighting
I	**Overview of Computer Graphics System:** A survey of Computer Graphics Over View of Computer Graphics System Video display devices Raster Scan and random scan system Input devices Hard copy devices	25%
II	**Output Primitives and Attributes** Drawing line, circle and ellipse generating algorithms Scan line algorithm Character generation – attributes of lines, curves and characters **Two Dimensional Graphics Transformation** Two dimensional geometric transformations Windowing and Clipping Clipping of lines	25%
III	**Three Dimensional Graphics Transformation** Three dimensional concepts – representations Polygon table, Quadric surfaces, Splines, Besier curves and surfaces Geometric and Modeling transformations Viewing Parallel and perspective projections.	25%
IV	**Multimedia** Introduction, Definition, Multimedia Hardware, Multimedia Software, Multimedia Networking, Multimedia Application, Multimedia Environments, Multimedia Computer Components, Multimedia Standards, Multimedia PC. Overview of latest multimedia software	25%
Basic Text & Reference Books :-		

1.	Tay Vaughan, "Multimedia making it works", 4th Edition Tata McGraw Hill Edition, 2000.
2.	Hearn, D. and Pauline Baker, M., "Computer Graphics", 2nd Edition, Prentice Hall of India, 1995. S e c t i o n s : 1.1-1.8,2.1-2.3,2.5,2.6,3.1-3.7,3.11,3.14,4.1,4.2,4.5,5.1-5.5,6.1-6.7,9.1,9.2, 10.1-10.4, 10.6-10.8, 11.1-11.7, 12.1,12.3, 13.1-13.9, 13.12, 16.1-16.6)
3.	Neuman, W.M., and Sproull, R.F., "Principle of Interactive Computer Graphics", McGraw Hill BookCo., 1979.

KSKV Kachchh University
Program: BCA
Semester: IV

Paper Code: CECS408	Total Credit : 2
Title of Paper: Computer Graphics and Multimedia	Total Marks : 60 Time : 2.5 Hrs

Unit	Description		Total Marks
I	Q.1(A) Medium Questions (With Internal Option)	07	15
	Q.1(B) Medium Questions / Long Questions (With Internal Option)	08	
II	Q.2(A) Medium Questions (With Internal Option)	06	15
	Q.2(B) Medium Questions / Long Questions (With Internal Option)	09	

III	Q.3(A) Medium Questions / Long Questions (With Internal Option)	06	15
	Q.3(B) Medium Questions / Long Questions (With Internal Option)	08	
IV	Q.4(A) Medium Questions / Long Questions (With Internal Option)	07	15
	Q.4(B) Medium Questions / Long Questions (With Internal Option)	08	

KSKV Kachchh University
Program: BCA
Semester: V
Syllabus with effect from June 2018

Course Type	Course Code	Name of the Course	T/P	Credit	Exam Duration In Hrs	Components Of Marks		
						Internal	External	Total
Core	CCCS519	Object Oriented Programming with Java	T	5	2.5	40	60	100
	CCCS520	Data Communication and Networks	T	5	2.5	40	60	100