PARUL UNIVERSITY - FACULTY OF IT & COMPUTER SCIENCE

Department of Computer Application

SYLLABUS FOR 1st Sem BCA PROGRAMME

Fundamentals of Computer & PC Software (05101101)

Type of Course: BCA

Prerequisite: Basic knowledge of Computer and IT

Rationale: The objective of this course is to familiarize students with concepts of fundamentals of information technology and detailed working of computer and its application

Teaching and Examination Scheme:

Teaching Scheme (Hrs./Week)			Credit	Examination Scheme					Total
				External		Internal			
L	T	P		Theory	Practical	Theory	*C.E.	Practical	
3	0	2	4	60	30	20	20	20	150

L-Lectures; **T-**Tutorial; **P-**Practical; **C.E.-**Continuous Evaluation

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Overview**: • Introduction • Characteristics computers • Evolution computers Generation of computers • Classification of computers • Application of computers • Computer Architecture • Computer Peripherals	13%	6
2	**Input devices:**: • Introduction, • Types of input devices, • Optical character recognition, • Optical Mark Recognition, • Magnetic ink character recognition, • Bar code reader, Output devices: • Introduction, • Classification of output devices, Computer software: • Introduction, • software definition, • relationship between software and hardware, • software categories, Computer languages: • Introduction, • Evolution of programming languages, • classification of programming languages, • Features of a good programming language,	13%	6
3	**Number System:**: • Introduction- Decimal, Binary, Octal and Hexadecimal. • Inter- Conversions, Addition, Subtraction, Multiplication and Division in Binary Number System. • 1‘s and 2‘s Complement method in Binary Number System. Subtraction using 1‘s and 2‘s Compliment • Weighted Number System - Binary Coded Decimal (BCD), Addition of BCD Numbers. • Non-Weighted Number System – Applications, Excess-3, Gray code Conversions - Gray and Binary Codes • Fixed point and Floating point	21%	11
4	**Computer and Communication Fundamentals of Gates:**: • Basic gates, Derived gates and Universal gates (Design). Combinational and Sequential logic circuits • Half adder, Full adder, • Half -subtractor and Full-subtractor. Flip-Flops – • SR, D, JK, JK Master Slave, T Flip-flops, • Encoders, decoder Multiplexer- and Demultiplexer 4 to 1 line.	19%	9
5	**Memory Organization**: Primary memory: Introduction, • memory representation, • memory hierarchy, • Random access memory, • Types of RAM, Read-only memory, • Types of ROM. Secondary Storage: • Introduction, • classification, • magnetic tape, • magnetic disk, • Optical disk, • Magneto-optical disk, • Memory stick, Universal serial bus, • Mass storage devices.	15%	7
6	**Internet basics:**: • Evolution, Basic internet terms, • getting connected to internet, • internet Applications • Types of Network • Topologies	6%	3

7	**Microsoft office**: Microsoft office	13%	6

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Digital Logic and Computer Design (TextBook)
   Morris Mano; PHI
2. Introduction to Information Technology
   ITL Education Solution Limited; PearsonEducation; 2012
3. MS OFFICE 2007
   Vikas Gupta; Wiley
4. Computer Fundamentals
   Anita Goel; Pearson Education; 2011
5. Digital Fundamentals
   Thomas L Floyd; Pearson

List of Practical:

1. Case study on salary calculation
2. Formatting alignment and creating table
3. Word art and clip art
4. Macro
5. Invitation letter format
6. Work sheet exercise
7. Table exercise
8. Table column exercises
9. Insert remove columns of table
10. Math functions
11. Table formatting using background color
12. Calculate total sale and commission
13. Filter data of excel sheet
14. Conditional formatting
15. Sorting
16. Typing excercise
17. Water mark and header footer
18. Power point presentation
19. PPT
20. Access create data base, tables
21. Access,relations between tables

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Department of Computer Application

SYLLABUS FOR 1st Sem BCA PROGRAMME

Fundamentals of Programming (05101102)

Type of Course: BCA

Prerequisite: Basic approach of problem solving methods

Rationale: The objective of this course is to familiarize students with concepts of fundamentals of information technology along with developing the logic for solving a given problem using the procedure oriented language C for construction of code

Teaching and Examination Scheme:

Teaching Scheme (Hrs./Week)			Credit	Examination Scheme					Total
				External		Internal			
L	T	P		Theory	Practical	Theory	*C.E.	Practical	
3	0	4	5	60	30	20	20	20	150

L-Lectures; **T-**Tutorial; **P-**Practical; **C.E.-**Continuous Evaluation

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Overview of C**: • History • Algorithm and flowchart • Structure of C • Elements of C : Character set, C Tokens, Keywords Identifiers, Variables, Constant Data Types, Comments • C Programming Applications and Importance	20%	12
2	**Operators**: • What is operator, Types of operator • Built-in operators: Input/output operators • Concept of header files	17%	10
3	**Preprocessors & Storage Classes**: • Introduction • Different preprocessors:#include , #define • Importance Storage Classes: • Automatic, • External, • Static and • Register Variables	17%	10
4	**Decision Making :**: • Control Statements : If , If..else, nested if , Switch • Looping statements: For, Nested for ,While , Do..while, • Other statements: Break, Continue, goto, exit	22%	13
5	**Array**: • Declaration • Initialization • Access of one dimensional & two dimensional arrays. • Programs using one and two dimensional arrays. • Adding multiplying, transposing matrices, sorting and searching arrays	24%	15

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Programming in ANSI C
   E. Balaguruswamy; Tata McGraw-Hill
2. The C Programming Language (TextBook)
   Brian W. Kerningham and Dennis M. Ritchie; PHI
3. Programming with C
   K.R. Venugopal and Sudeep R Prasad; Tata McGraw-Hill Education
4. Let Us C
   Yeshavant Kanetkar; BPB Publications

List of Practical:

1. hello world
2. Print a Integer
3. Add Two Integers
4. Floating Point Numbers
5. ASCII Value of a Character
6. Find Quotient and Remainder
7. Size of int, float, double and char
8. Swap Two Numbers
9. Calculate Area and Circumference of Circle
10. Area of Scalene Triangle
11. Area of Equilatral Triangle
12. Area of Right angle Triangle
13. Area of Circle
14. Area of Rectangle
15. Area of Square
16. Simple interest
17. Sum of 5 subjects and Find percentage
18. Gross salary
19. Number is Even or Odd
20. Vowel or Consonant
21. Largest Number Among Three Numbers
22. Roots of a Quadratic equation
23. Check Leap Year
24. Check Whether a Number is Positive or Negative
25. Check Whether a Character is an Alphabet or not
26. Find a grade
27. Switch statement
28. Sum of Natural Number
29. Factorial of a Number
30. Multiplication Table
31. Fibonacci Series
32. GCD of two Numbers
33. LCM of two Numbers
34. Display Character from A to Z Using Loop
35. Count Number of Digits of an Integer
36. Reverse a Number
37. Power of a Number
38. Check Whether a Number is Palindrome or Not
39. Check Whether a Number is Prime or Not
40. Prime Numbers Between Two Intervals
41. Check Armstrong Number
42. Display Armstrong Number Between Two Intervals
43. Display Factors of a Number
44. Code To Create Pyramid and Structure

45. Make a Simple Calculator
46. To Create Pyramid and Pattern
47. to print half pyramid as using *
48. print half pyramid as using numbers
48. print triangle of characters
49. print inverted half pyramid using *
50. print inverted half pyramid as using numbers
51. print pyramid using *
52. print the pyramid of dig
53. display reverse pyramid
54. Draw Pascal's triangle
55. display Floyd's Triangle

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SYLLABUS FOR 1st Sem BCA PROGRAMME

Fundamentals of Web Development (05101103)

Type of Course: BCA

Prerequisite: Basic approach of Web Development

Rationale: The objective of this course is to familiarize students with concepts of fundamentals of web development and website designing

Teaching and Examination Scheme:

Teaching Scheme (Hrs./Week)			Credit	Examination Scheme					Total
				External		Internal			
L	T	P		Theory	Practical	Theory	*C.E.	Practical	
3	0	2	4	60	30	20	20	20	150

L-Lectures; **T-**Tutorial; **P-**Practical; **C.E.-**Continuous Evaluation

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Internet and WWW**: • Internet Basics: Concept of Internet, • Eevolution, Specification and establishment details, • Intranets and extranets. • Internet Applications: Email, Telnet, FTP World Wide Web: • Concept, Web page: static, Dynamic, Active Scripting languages: Server side, Client Side. • Web: Designing, Development and Publishing, HTTP, URL registration, browsers, Web server	16%	8
2	**Starting with HTML**: • Introduction to HTML, • Basic block of HTML, • Setting up the Document Structure, • Formatting Text by using Tags, • Using Lists and Backgrounds, • Creating Hyperlinks and Anchors	25%	12
3	**Style Sheets and Graphics**: • Introduction to Style Sheets, • Formatting Text by Using Style Sheets, • Formatting Paragraphs by Using Style Sheets, • Displaying Graphics	25%	12
4	**Page Layout and Navigation**: • Creating Navigational Aids, • Creating Division- Based Layouts, • Creating and Formatting Tables, • Creating User Forms, • Including Java Script and External Content	21%	10
5	**Publishing on Web**: Publishing Pages, HTML for Email	13%	6

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Internet for everyone (TextBook)
   Alexis Leon, Mathews Leon; Leon Tech World
2. World Wide Web design with HTML
   C Xavier; TMH
3. Step by Step HTML 5
   Faithe Wempen; Microsoft Press and PHI Learning; South Asian Edition
4. HTML: A Beginner's Guide 5/E
   HTML: A Beginner's Guide 5/E; McGraw Hill; 5th
5. HTML Black Book
   Steven Holzner; Dreamtech Press

6. Teach yourself Java Script in 24
Michael Moncur Publisher; Pearson Education

List of Practical:

1. Print your name
2. set title
3. set title
4. bold, italic, underline and break tag
5. print names in different colors
6. different style font
7. use different font size
8. underlined, italic and bold
9. different heading size
10. use superscript
12. different heading size
13. lists
14. unordered list
15. definition list
16. horizontal lines
17. preformatted text
18. definition list
19. links
20. images
21. image with border
22. link to a search engine
23. display the image in the browser
24. links to various search engines
25. link at the bottom of the page
26. link at the top of the page
27. hyperlinks on mail
28. using special character
29. inline stylesheet
30. internal stylesheet
31. external stylesheet
32. CSS Comment
33. font property by using external stylesheet
34. class selector
35. ID Selector
36. HTML Selector
37. insert an image via css
38. text property by using inline stylesheet.
39. list property by using external stylesheet
40. margin property by using internal stylesheet
41. padding property by using external stylesheet

42. border property by using external stylesheet
43. border
44. border only 3 side
45. thumbnail
46. hyperlink CSS Style
46. table
48. table
49. table formatting with background color
50. table
51. table
52. web page
53. web page
53. web pages
54. validation

PARUL UNIVERSITY - FACULTY OF IT & COMPUTER SCIENCE

Department of Applied Science & Humanities

SYLLABUS FOR 1st Sem BCA PROGRAMME

Elementary Mathematics (05101130)

Type of Course: BCA

Prerequisite: Basics knowledge of Trigonometry and Geometry

Rationale: To acquire fundamental knowledge and apply in Bachelor of Computer Application discipline

Teaching and Examination Scheme:

Teaching Scheme (Hrs./Week)			Credit	Examination Scheme					Total
				External		Internal			
L	T	P		Theory	Practical	Theory	*C.E.	Practical	
3	0	0	3	60	0	20	20	0	100

L-Lectures; **T-**Tutorial; **P-**Practical; **C.E.-**Continuous Evaluation

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Trigonometry**: Measurement of Angles (Degree to Radian and Radian to Degree), Standard and Allied Angles, Multiple and Sub multiple Angles	15%	7
2	**Functions**: Definition of function, Types of function , Composite function and Inverse function	10%	4
3	**Limits**: Definition of limit, meaning of ‘x tends to 0’ , ‘x tends on infinity’, Right and Left hand limit , working rules of limit , Standard formula of limit and Example	20%	10
4	**Differentiation**: Definition, Rules of Sum, Product, Quotient of functions, Chain rule, Derivative of Implicit function and Parametric functions, Logarithmic differentiation, Successive differentiation up to second order. Maxima and Minima	20%	10
5	**Integration**: Concept , Integral od standard functions , Working rules of Integration , Integration by parts , Integration by substitution method , Definite integral	20%	10
6	**Co–ordinate Geometry**: Point : Distance formula in R2, Mid-point , Section formula Line : Forms of equation of straight line, slope point form, Two point form, Parallel and perpendicular lines	15%	7

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Applied Mathematics (TextBook)
   H.K.Das; S.Chand Publication
2. Elementary Calculus
   P.R. Masani, R. C. Patel, D. J. Patil
3. Differential Calculus
   Shantinarayan; S.Chand Publication

Course Outcome:

After Learning the course the students shall be able to:

1. Solve Problems based onElements of Differentiatial Calculus
2. Learn Partial Differentiation

PARUL UNIVERSITY - FACULTY OF IT & COMPUTER SCIENCE

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SYLLABUS FOR 1st Sem BCA PROGRAMME

Financial Accounting (05101131)

Type of Course: BCA

Prerequisite: Basics knowledge of commercial business terms

Rationale: To acquire fundamental knowledge of accounting and its application.

Teaching and Examination Scheme:

Teaching Scheme (Hrs./Week)			Credit	Examination Scheme					Total
				External		Internal			
L	T	P		Theory	Practical	Theory	*C.E.	Practical	
3	0	0	3	60	0	20	20	0	100

L-Lectures; **T-**Tutorial; **P-**Practical; **C.E.-**Continuous Evaluation

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Basic Accounting**: • Introduction, Definition, Advantages and Limitations • Importance and scope, concepts and conventions, generally accepted accounting principles • Branches of Accounting - Financial Accounting, Cost Accounting and Management Accounting	17%	8
2	**Basic Concepts**: • Double entry framework, Types of Account, Rules of Debit-Credit and • Basic Accounting Terms,Basic concepts of Journals, ledgers, purchase book, sales book, cashbook.	27%	13
3	**Preparation of financial statements**: • Journal • Ledger • Trial Balance • Trading Account • Profit and loss account • Balance sheet	35%	17
4	**Application of computers in accounting**: • Tally Accounting Software - Features	21%	10

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Accounting for management (TextBook)
   Bhattacharya & Deaden; Tata McGraw Hill; 5th
2. Elements of Book Keeping & Accountancy
   B.S. Shah & Sons; B.S. Shah & Sons
3. Accounting With Tally
   Nadhani; K. K -BPB Publications
4. Financial Accounting
   R.L Gupta & V.K Gupta
5. Fundamental Accountancy
   S.N. Maheshwari

PARUL UNIVERSITY - FACULTY OF IT & COMPUTER SCIENCE

Department of Applied Science & Humanities

SYLLABUS FOR 1st Sem BCA PROGRAMME

Basic Mathematics (05191101)

Type of Course: BCA

Prerequisite: Knowledge about basic arithmetic operations and geometry

Rationale: The course provides basic knowledge of mathematics which will be useful in computer application.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Scheme					Total
				External		Internal			
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/ Week		T	P	T	CE	P	
4	0	0	4	60	-	20	20	-	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Set theory**: Introduction, Representation of sets, Types of Sets, Venn Diagrams, Operations on Sets, Cartesian Product of two Sets	12%	6
2	**Determinants and Matrices**: Determinants, Expansion of a determinant, Properties of determinants, Minors and Cofactors, Cramer's Rule Matrices, Types of matrices, Arithmetic operations on Matrices , Cramer's rule , Determinants of a Square Matrix, Adjoint of Matrix, Inverse of matrix (up to 3x3 matrix using adjoint matrix)	26%	12
3	**Arithmetic and Geometric Progression**: Concept of a sequence , Concept of Series, The sum of an arithmetic series, General term of an A.P, Sum upto 'n' terms of an A.P, General term of a G.P, Sum upto 'n' terms of a G.P, Sum upto infinite terms of a G.P**.**	12%	6
4	**Permutations and Combinations**: Introduction of Factorial, Fundamental Principle of Counting, Permutation vs. Combination, Types of Permutations, Circular Permutations, Combinations**,** Different formulas on combination & its Applications.	17%	8
5	**Trigonometry**: Measurement of Angles (Degree to Radian and Radian to Degree), The trigonometric functions, Graphs of circular functions, Trigonometric identities , Applications of trigonometry.	17%	8

6	**Co–ordinate Geometry**: Point : Distance formula, Mid-point formula, Section formula. Line : Forms of equation of straight line, slope point form, Two point form, Parallel and perpendicular lines.	16%	8

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. B.C.A. Mathematics VOL II
   J.P. Chauhan; Krishna Prakashan Media (P) Ltd.,Meerut
2. SystematicModern Mathematics- Part-I & Part-II
   L.R. Dhanda, G.K. Saini and Suranjan Saha; Kalyani Publishers.

Course Outcome:

After Learning the course the students shall be able to:

After learning the course the students will be able to:
1. Ability to know and to understand various types of sequences and series.
2. Study about set theory.
3. Solve Problems related to Determinant and Matrices.
4. Understand concept of geometry.

PARUL UNIVERSITY - FACULTY OF IT & COMPUTER SCIENCE

Department of CDC

SYLLABUS FOR 1st Sem BCA PROGRAMME

COMMUNICATION SKILLS - I (05193102)

Type of Course: BCA

Prerequisite: Knowledge of english language studied till 12th Std

Rationale: Basic Communication skills are essential for all graudates

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Scheme					Total
Lect Hrs/ Week	Tut Hrs/ Week	Lab Hrs/		External		Internal			
				T	P	T	CE	P	
2	2	-	4	-	-	0	100	0	100

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical

Contents:

Sr.	Topic	Weightage	Teaching Hrs.
1	**Determiners and Articles**:	5%	2
2	**Industry Expectation**:	5%	3
3	**Nouns and Pronouns**:	5%	2
4	**Motivation**:	5%	3
5	**Prepositions**:	5%	2
6	**Ice Breaker + Introducing your friend**:	10%	3
7	**Pronoun-Antecedent Agreement**:	5%	2
8	**Debate**:	10%	3
9	**Subject-Verb Agreement**:	5%	2
10	**Extempore**:	10%	3
11	**Verbs**:	5%	2
12	**Tourism Pitch**:	5%	3
13	**Lifeboat**:	5%	3
14	**Listening skills**:	5%	3
15	**Story Mason**:	10%	3
16	**Play Teacher**:	5%	3

17	**Reporter**:	5%	3

***Continuous Evaluation:**

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Reference Books:

1. Word Power Made Easy
   Norman Lewis; Goyal Publishers
2. Understanding and Using English Grammar
   Betty Azar & Stacy Hagen; Pearson Education

Course Outcome:

After Learning the course the students shall be able to:

1 Comprehend day to day English
2 Respond to familiar issues / topics in English
3 Speak confidently on stage