Dr. Vishwanath Karad
MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

SYLLABUS

DR. VISHWANATH KARAD
MIT - WORLD PEACE UNIVERSITY

FACULTY OF MANAGEMENT- UG

BACHELOR OF BUSINESS ADMINISTRATION

Computer Application

BATCH – 2019-2022

Dr. Kalyan Swarup
Dean, Management (UG)

PROGRAMME STRUCTURE

Preamble:

- BBA (CA) is a three-year Nine Trimester full time programme designed to give rise to "future professionals" rather than mere 'degree holders'.
- BBA (CA) programme is meant to heighten technological know-how, to train students to become industry specialists, to provide research-based training and to encourage Software development.
- This program aims to shape computer professionals with the right moral and ethical values and can prepare students to face the challenges and opportunities in the IT industry by building strong foundations.

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VISION AND MISSION OF THE PROGRAMME

VISION:

- To be an innovative, vibrant and acclaimed premier educational program engaged in promoting and grooming talents through our recital, our people and commitment to our core values, thereby producing enduring learners who are able to compete globally.
- To be a world leader in computer education, research and engagement, helping to create a better knowledge society.
- To ensure that every student gets the best opportunity to build career.
- To build the culture of research, innovation & excellence while being firm on Values.

MISSION:

- To provide high-quality, affordable and accessible educational programmes, which will enhance the quality of the human resources available to the job markets.
- To empower students to be successful by helping them develop the knowledge, skills and abilities needed to enter or progress within the work force and to adapt and thrive in our increasingly diverse and ever-changing world through continuous learning.
- Offering the best professional development and career management opportunities for our students.
- Committing to continuous improvement through stakeholder engagement, industry relations, and assurance of learning across all programs

PROGRAMME EDUCATIONAL OBJECTIVES

BBA (CA) is a 3 years full time professional credit based course designed to bridge the gap between the industry and the academia. The programme offers courses which are a blend of management, commerce and computer applications. This course aims at inculcating essential skills as demanded by the global software industry through interactive learning process. The curriculum has been designed to cater to the ever-changing demands of information technology along with necessary inputs from the Industry. BBA (CA) course is meant to heighten technological knowhow, to train students to become industry specialists, to provide research-based training and to encourage software development.

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PROGRAMME SPECIFIC OUTCOMES

1. To provide sound academic base from which an advanced career in Computer Application can be developed.
2. To provide basic understanding about Commerce and Management Education among the students.
3. To develop academically competent and professionally motivated personnel, equipped with objective, critical thinking, right moral and ethical values that compassionately foster the scientific temper with a sense of social responsibility.
4. To develop students to become globally competent.
5. To inculcate entrepreneurial skills among students.

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PROGRAMME STRUCTURE:

(a) PROGRAMME DURATION: 03 years full time course

(b) SYSTEM FOLLOWED: Trimester pattern

(c) CREDIT SYSTEM:

Sr No	Year	Credits
1	First Year	40
2	Second Year	38
3	Third Year	42
4	Additional Credit Programmes	09
	Total Credits	**129**

(d) CREDITS FOR ACTIVITIES OTHER THAN ACADEMICS:

Sr. No.	Year	Particulars	Credits
1	First Year	Certification Course 1	03
2	Second Year	Certification Course 2	03
3	Third Year	Certification Course 3	03
		Total	**09**

(e) ASSESSMENT CRITERIA:

Pattern of Examination:

The evaluation scheme comprises of:

a) University Evaluation

b) Concurrent Evaluation

For each credit course –

a) 50 marks shall be evaluated by the University and

b) 50 marks shall be evaluated on the basis of Concurrent evaluation.

Passing Criteria:

As per MIT-WPU norms.

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(h) MANDATORY ATTENDANCE TO APPEAR FOR EXAMINATION: 75 %

1. It is obligatory on the part of the student to attend each and every Lecture, Tutorial, and Laboratory practical sessions in a course for the academic excellence. However, on account of late registration or illness or any other contingencies, the attendance requirement will be a minimum of 75% of the classes scheduled/ held.
2. In case of extraordinarily genuine cases, the requirement of attendance can be further condoned up to 15% by the Executive President/Vice-Chancellor on the recommendations of the Head of the Department concerned. An application on prescribed format for condoning limited shortage of attendance (up to 15% only) should be made by the student at least one week prior to the examination.
3. Any candidate who fails to meet the attendance criteria indicated as above in any course shall not be allowed to take the Midterm/ End term examination of that course unless he/she fulfills the minimum attendance criteria.
4. The attendance records will be announced/ displayed periodically to sufficiently warn the students who are falling short of attendance.
5. The final attendance records for the entire trimester /semester / one year will be displayed by the respective faculty/course instructor handling a course, with the approval of the Heads of Departments (Principal/Director), before the last day of classes in the current trimester /semester / one year, or on the date as mentioned in the Academic Calendar.

(i) MEDIUM OF INSTRUCTION AND EXAMINATION:

i. Medium of Instruction: English.

ii. Examination:

Pattern of Examination:

The evaluation scheme comprises of:

a) University Evaluation

b) Concurrent Evaluation

For each credit course –

a) 50 marks shall be evaluated by the University.

b) 50 marks shall be evaluated on the basis of Concurrent evaluation.

(k) ELIGIBILITY CRITERIA FOR ADMISSION TO THE PROGRAMME

Eligibility for Admission -

In order to be eligible for admission to Bachelor of Business Administration - Computer Application candidate must have passed.

a) HSC (10+2) from any stream with English as passing Subject with minimum 50% marks in aggregate.

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b) Two years/ three years Diploma of Board of Technical Education, conducted by Government of Maharashtra or its equivalent.
c) MCVC.

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MIT-WPU-BBA Computer Application
2019-2022

A. Definition of Credit:-

45 lectures per programme	3 Credits
30 lectures per programme	2 Credits

B. Credits:-

Total number of credits for three year undergraduate BBA Computer Application Programme would be 129.

C. Structure of Credits for Undergraduate BBA Computer Application programme:-

Total number of credits for Three year undergraduate Programme would be 129

d) Credits System

e)

SR. NO.	YEAR	CREDITS
1	FY BBA (CA)	40
2	SY BBA (CA)	38
3	TY BBA (CA)	42
4	Additional Credit Programmes	09
TOTAL		**129**

(d). Credits for activities other than academics

In addition, every student will also complete the following

Sr. No.	Particulars	Total Credits
1	Certification Course 1	3
2	Certification Course 2	3
3	Certification Course 3	3
	TOTAL	**09**

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D. Course Code and Definition:-

Course Code	Definitions
L	Lecture
P	Practical
WP	Peace Programs

E. Grading Scheme:

The marks shall be converted to grade points and grades using Table-I:

Table-I: Points Grading System

Marks Out of 100	Grade	Grade Point
80-100	O: Outstanding	10
70-79	A+: Excellent	9
60-69	A: Very Good	8
55-59	B+: Good	7
50-54	B: Above Average	6
45-49	C: Average	5
40-44	Pass	4
0-39	Fail	0
AB	Absent	NA

The performance of a student will be evaluated in terms of two indices, viz.

a) Trimester Grade Point Average (TGPA) which is the Grade Point Average for a trimester.
b) Cumulative Grade Point Average (CGPA) which is the Grade Point Average for all the completed trimesters at any point in time.

Trimester Grade Point Average (TGPA):

At the end of each trimester, TGPA is calculated as the weighted average of GPI of all courses in the current trimester in which the student has passed, the weights being the credit values of respective courses.

TGPA = Grade Points divided by the summation of Credits of all Courses.

$$GPA\ (Si) = \sum (Ci * Gi)/\sum Ci$$

Where Ci is the number of credits of the ith course and Gi is the grade point scored by the student in the ith course.

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Cumulative Grade Point Average (CGPA): Cumulative Grade Point Average (CGPA) is the grade point average for all completed trimesters. CGPA is calculated as the weighted average of all GPA of all courses in which the student has passed up to the current trimester.

Cumulative Grade Point Average (CGPA) for the Entire Course

$$CGPA=\sum (Ci * Si)/\sum Ci$$

Where Si is the SGPA of the ith trimester / semesters / one year and Ci is the total number of credits in that trimester / semesters / one year.

The GPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.

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BBA Computer Application (First Year) (Batch 2019-2022)

Trimester 1			Trimester 2			Trimester 3		
Sr. No.	**Course Title**	**Number of Credits**	**Sr. No.**	**Course Title**	**Number of Credits**	**Sr. No.**	**Course Title**	**Number of Credits**
	Core Courses			**Core Courses**			**Core Courses**	
BBC101A	Computer Fundamentals	03	BBC105A	Advanced Computer Fundamentals	03	BBC109A	Organizational Behavior	03
BBC102A	Business Communication and Personality Development	03	BBC106A	Statistics	03	BBC110A	Basics of Financial Accounting	03
BBC103A	Business Mathematics	03	BBC107A	Database Management Systems	03	BBC111A	Advanced C Programming	03
BBC104A	Programming Principles and Algorithms	03	BBC108A	C Programming	03	BBC112A	Advanced Database Management Systems	03
2	**Other Courses**							
PC1	World Famous Philosophers, Sages, Saints and Scientists	02				PC2	Study of Languages , Peace in Communications and Human Dynamics	02
TOTAL		**14**	**TOTAL**		**12**	**TOTAL**		**14**
TOTAL CREDITS FOR FYBBA (CA) – 14+12+14= 40								

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BBA(Computer Application) COURSE STRUCTURE

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COURSE STRUCTURE Trimester I

Course Code	BBC101A			
Course Category	Compulsory Subject			
Course Title	Computer Fundamentals			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs.	6	30	15	3

Pre-requisites: Knowledge of computers is not a prerequisite to follow the contents of this tutorial. This tutorial assumes no background in Computers or Computer programming.

Course Objectives:

1.Knowledge (i) To understand concepts of Computer Fundamentals in respect of:
(ii) Give you a general understanding of how a computer works
(iii) Introduce you to assembly-level programming
(iv) Prepare you for future courses.
(v) Learn different phases or generations of computers and improvement per generation

2.Skills **(i)** How to use personal computer.
(ii)Basic knowledge of inbuilt programs.
(iii)Knowledge of all programming languages: Assembly, Low level, High Level
(iv)Hands on skills in Applications software like Ms office
(v)Learn how to use internet and other tools for professional work

3.Attitude To develop following:
(i)Good technical background to learn programming languages
(ii)Awareness of Operating system
(iii) Digital and electronic communication

Course Outcomes:

1. Fundamental knowledge of computers will prepare students to learn advance concept and high level programming languages. Practical knowledge of application programs like Ms Word, PowerPoint, and Excel will help them to outshine in their professional carrier.

Course Contents:

Introduction to Computer :Introduction, Digital & Analog Computers, Characteristics of Computer, History of Computers, Generations of Computer, Classification of Computers, The Computer System, Applications of Computer

The Computer System Hardware: Introduction, Central Processing Unit ,Memory Unit, Interconnecting the units of a computer, Instructions Format, Set & Cycle

Computer Memory: Introduction, Memory Representation, Memory Hierarchy, CPU Registers, Cache Memory, Primary & Secondary Memory, Access Types of Storage Devices, Magnetic Tape & Discs, Optical Discs, Using Computer Memory

Interaction of User & Computer: Introduction, High Level & Low Level Languages , Types of Software, System Software, Application Software, Software Acquisition

Data Communication & Computer Network: Introduction, Importance of Networking, Data Transmission Media, Data Transmission Across Media, Data Transmission & Data Networking,

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Computer Network Wireless Networking

Laboratory Exercises / Practical:Yes

Learning Resources:

Text Book:

B1: Computer Fundamentals; Anita Goel, Pearson, 2017

Reference Books: Computer Fundamentals with Ms Office Applications; Saravanan, Paperback – 2008

Supplementary Reading:

Web Resources:

Weblinks: : *http://ecomputernotes.com/fundamental, https://www.edutechlearners.com/computer-fundamentals-p-k-sinha-free-pdf/*

MOOCs:*https://gradeup.co/notes-on-computer-fundamental-i-324242b2-d967-11e5-be7b-4cda88ef8eae ,* *https://www.edutechlearners.com/computer-fundamentals-p-k-sinha-free-pdf/*

Pedagogy:

Case studies, Videos on related topics, practical demonstration of hardware devices, Lab sessions on application software

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

Prepared By	Checked By	Approved By
Prof.Gautam Bapat	**Prof.Geetika Parmar**	**Prof.Shalaka Ghodke**

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COURSE STRUCTURE Trimester I

Course Code	BBC102A			
Course Category	Compulsory Subject			
Course Title	Business Communication and Personality Development			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs.	6	45	--	3

Course Description: This course exemplifies the importance of communication and helps students to acquaint with application of communication skills in the world of business. Along with that this course also focuses on personality development of students. It gives better understanding of the concept of personality development and its significance.

Course Objective

a) To help students to acquaint with communication skill in the world of business
b) To help students learn and practice business communication skills – kinds of business correspondence, handling various business situations
c) **Skills:** To develop skills of effective business communication - both written and oral.
d) To understand various traits of personality development.

Course Outcomes:

Develop good communication skills and a good, impressive personality to become successful future managers

Unit 1: Introduction to Business Communication (8)

- Process of communication – changing modes, channels of communication
- Types of communication- formal- informal, oral-written, verbal-non-verbal etc.
- Barriers to communication - overcoming communication barriers
- Cross cultural communication

Unit 2: Business Communication- I (10)

- Business Letters- Format and Layout, Components of a Business Letter
- Writing Business Letters- Purchase Order, Quotation, Invitation etc.
- Notice, Agenda, and Minutes
- Recruitment Correspondence- Application Letter, Curriculum Vitae, Appointment Letter, Resignation Letter
- Writing E-mails

Unit 3: Business Communication - II (08)

- Group Discussion
- Presentation Skills
- Interview Techniques

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Unit 4: Personality (08)

- Meaning and Definition of Personality.
- Factors affecting Personality Development: Biological, Home Environment and Parents, School Environment and Teachers, Peer Group, Sibling Relationships, Mass Media, Cultural & Spiritual.

Unit 5: Personality Development- (11)

- Pillars of Personality Development- Introspection, Self-Assessment, Self- Appraisal, Self-Development, Self- Introduction
- Team Building-Concept of group-group dynamics, team building practices - through group exercises, team task / role play, ability to work together
- Business Etiquettes- ABC'S of etiquettes, Developing culture of Excellence
- Role of good manners in Business

Learning Resources:

Sr. No.	Name of book	Author
1	Business Communication	K. K. Sinha
2	Essentials of Business Communication	Rajendra Pal and J. S. Korlhalli
3	Communication for Business	Shirley Taylor
4	Personality Development	Dhanashri Ghate

Pedagogy:

Discussion, Interaction, Use of Audio-Visual Aids, Peer Learning, Group Learning etc.

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

Prepared By	Checked By	Approved By
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COURSE STRUCTURE Trimester I

Course Code	BBC103A			
Course Category	Compulsory Subject			
Course Title	Business Mathematics			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs.	6	45	---	3

Course Objectives:

1. To understand applications of matrices in business.
2. To understand the concept and application of Permutations & Combinations in business.
3. To use the concept of L.P.P. and its applications in business.
4. To understand the concept of Transportation problems & its applications in business world.
5. To understand the concept of Assignment problems & its applications in business world.

Course Outcomes:

Course Contents:

Unit I: - Matrices and Determinants (up to order 3 only): (13)

1.1. Multivariable data, Definition of a Matrix, Types of Matrices,
1.2. Algebra of Matrices, Determinants, Adjoint of a Matrix,
1.3. Inverse of a Matrix via adjoint Matrix,
1.4. Homogeneous System of Linear equations, Condition for Uniqueness for the homogeneous system, Solution of Non-homogeneous System of Linear equations (not more than three variables).
1.5. Condition for existence and uniqueness of solution, Solution using inverse of the coefficient matrix,
1.6. Numerical sums

Unit II: - Permutations and Combinations: (07)

2.1. Permutations of 'n' dissimilar objects taken 'r' at a time (with or without repetition). nPr = n! / (n-r)! (Without proof).
2.2. Combinations of 'r' objects taken from 'n' objects. nCr = n! / r! (n-r)! (Without proof)
2.3. Numerical sums with applications.

Unit III: - Linear Programming problem (L.P.P.): (07)

3.1. Meaning of LPP, Formulation of LPP,
3.2. Solution by graphical method, Simplex method and Big M method, problems relating to maximum three variables only.

Unit IV: - Transportation problem (T.P.): (08)

4.1. Statement and meaning of T.P.
4.2. Methods of finding initial basic feasible solution by
   a. North West corner Rule,
   b. Matrix Minimum method and
   c. Vogel's approximation method.

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4.3.Simple numerical problems (concept of degeneracy is not expected)

Unit V: - Use of Computer in Numerical solutions (10)

- Solution of numerical sums using computer for Unit I to Unit IV. (Use of MS Office)

Reference Books:None

Text Book:

1) Business Mathematics by Dr. Amarnath Dikshit & Dr. Jinendra Kumar Jain.
2) Business Mathematics by Padmalochan Hazarika – Sultan chand & sons, Delhi
3) Business Mathematics by Bari - New Literature publishing company, Mumbai
4) Operations Research by V.K. Kapoor - Sultan chand & sons
5) Operations Research by Dr. S. D. Sharma – Sultan Chand & Sons.
6) Operations Research by Dr. J. K. Sharma – Sultan Chand & Sons.

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

Prepared By	Checked By	Approved By
Prof.Vinaya Nimbolkar	Prof.Geetika Parmar	Prof.Shalaka Ghodke

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COURSE STRUCTURE Trimester I

Course **Code**	**BBC104A**			
Course Category	Compulsory Subject			
Course Title	**Programming Principles & Algorithms**			
Teaching Scheme and Credits	**L**	**T**	**Laboratory**	**Credits**
Weekly load hrs.	**6**	**45**	**--**	**3**

Pre-requisites: : This course is aimed at students with little or no prior programming experience, but a desire to understand computational approaches to problem solving

Course Objectives:

1.Knowledge: (i) Define the concept of programming and describe the basic Features of a Program.

(ii) Introduce the basic concepts relating to algorithms, Flowcharts and Programming.

(iii) Enumerate the role of an algorithm in problem solving and how it relates to a program.

(iv).Explain the program development life cycle and different problem solving techniques.

2.Skills :(i) Learn the fundamental data structures like data types, arithmetic Operations, arrays, programming constructs (like loops, if-else-if etc.), Recursion etc.

(ii) Expose the basics of measuring the efficiencies of algorithms and how to identify basic operations within an algorithm.

3.Attitude To develop following:

(i)Analytical skills

(ii)Problem solving attitude

Course Outcomes:

1.Problem solving through the efficient use of algorithms & flowcharts and subsequent implementation of the algorithm in any language of choice that is suitable to the application area.

2.Expose the basic relationships that exist between algorithms and program development.

3.Discuss the fundamental data structures, data types, arithmetic operations, programming constructs etc

4.Develop algorithms to perform some basic sorting, such as Merge Sort, Selection sort, Bubble Sort, Quick Sort, etc. on some data, and evaluate the performance of each algorithm.

5.Develop algorithms to perform some basic searching such as binary and sequential search and evaluate the performance of each algorithm

Course Contents:

Introduction to Programming

1.1 Meaning and Significance of Programming

1.2. Levels of Programming Languages

1.3 Features of Programming Languages

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1.4. Programming Methodologies and Application Areas
1.5. Language Translators
1.6. The Programming Environment
1.7. Program Development Cycle
1.8. Program Execution Stages
1.9. Problem Solving Techniques

Algorithms & Flowcharts
2.1. Introduction to Algorithms.
2.2. Characteristics of Algorithms.
2.3. Introduction to Flowcharts.
2.4. Symbols used in Flowcharts.
2.5. Concepts of variables, constants, operators and conditional branching.
2.6. Algorithms and flowcharts covering above topics.

Loops
3.1 Introduction
3.2 The while-loop Looping constructs
3.3 The do-while loop Looping constructs
3.4 The for-loop Looping constructs
3.5 Nested loops Looping constructs
3.6 Continue and break statement Looping constructs
3.7 The goto-statement Looping constructs
3.8 exit-statement Looping constructs
3.9 Algorithms and flowcharts covering above topics Looping constructs

Arrays
4.1 Introduction: Arrays
4.2 Types of arrays
4.3 Declaring and accepting 1-D array using loops
4.4 Declaring and accepting 2-D array using loops
4.5 Algorithms on 1-D and 2-D arrays.

Searching and sorting
5.1 Introduction to Searching & Sorting
5.2 Big – O Notation: Time and Space complexity
5.3 Insertion Sort, Selection Sort, Bubble Sort
5.4 Comparing bubble sort, selection sort and insertion sort
5.5 Linear Search and its performance
5.6 Binary search and its performance

Lab Practicals/Exercises:

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Learning Resources:

Text Book:

Introduction to algorithms - Cormen, Leiserson, Rivest, Stein

Reference Books :

- Programming Principle & Algorithm - Paritosh BansalDigital Electronics : Anil Kumar
- Principles Of Programming And Algorithm - BhavanaChaudhari, Rajesh S.Yemul

Pedagogy:

Participative learning, group discussions, presentation, demonstrations, regular assignments (class & home), conceptual and contextual learning, practical (Lab) sessions, regular tests and surprise tests.

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

Prepared By	Checked By	Approved By
Prof.Shalaka Godke	**Prof.Geetika Parmar**	**Prof.Shalaka Ghodke**

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COURSE STRUCTURE Trimester II

Course Code	BBC105A			
Course Category	Compulsory Subject			
Course Title	Advanced Computer Fundamentals			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs.	6	30	15	3

Pre-requisites: This course is used to students with basic knowledge of computers

Course Objectives:

1.Knowledge: To understand concepts of Computer Fundamentals in respect of:

(i)Give you a general understanding of how a computer works
(ii)Introduce you to assembly-level programming
(iii)Prepare you for future courses.
(iv)Learn different phases or generations of computers and improvement per generation.

2.Skills:

(i)How to use personal computer.
(ii)Basic knowledge of inbuilt programs.
(iii)Knowledge of all programming languages: Assembly, Low level, High Level
(iv)Hands on skills in Applications software like MS office
(v)Learn how to use internet and other tools for professional work

3.Attitude To develop following:

(i)Good technical background to learn programming languages
(ii)Awareness of Operating system
(iii) Digital and electronic communication.

Course Outcomes:

Fundamental knowledge of computers will prepare students to learn advance concept and high level programming languages. Practical knowledge of application programs like Ms Word, PowerPoint, and Excel will help them to outshine in their professional carrier.

Course Contents:

Operating Systems: Introduction, Objectives of Operating Systems, Types of OS , Functions of OS, Process Management, CPU Scheduling, Process Synchronization, Deadlock, Memory Management, Memory Allocation, Virtual Memory, File Management, Device Management, Protection and Security.

The Internet & Internet Services: Introduction, History of Internet ,Internetworking protocol, The Internet architecture Managing the Internet, Connecting to Internet, Internet connections, Dial up access, Leased line, Integrated services Digital Network ISDN, Digital subscriber line DSL, Cable modem, Internet address, Internet services, World wide web www, Web browser, Uniform resource locator URL, Internet search engines, www development languages, Electronic mail, Email address, Email message format, Email services, How email works, File transfer protocol FTP, How FTP works, Terminal network TELNET, News, Internet Relay Chat (IRC)

Information Systems : Introduction, Data information and knowledge, Characteristics of information, Information system, Computer Based information system, Need for efficient

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information system, Categories of information system, Operations support system ,Transaction processing system, Office automation system, Management support system ,Management information system, Decision support system, Executive information system, Specialized information system , Expert systems, Enterprise resource planning , Electronic Commerce, Careers in information systems.

Basic Computer Security : Introduction, Security threat and security attack, Malicious software, Virus, Worms, Trojan horses, Hacking, Packet sniffing, Password cracking, Email hacking.

Advance Computer Security : Security Services, Security mechanism, Cryptography, Secret key Cryptography, Public key Cryptography, Hash functions, Digital signature, Firewall, Types of Firewall, Packet filter Firewall, Circuit filter Firewall, Application level Gateway.

Laboratory Exercises / Practical:

1. Create a MS-Excel worksheet to calculate the balance of customer from bank after depositing withdrawing some amount (take 10 suitable records).

Acc_no	Withdraw	Deposits	Balance

2. Prepare MS-PowerPoint presentation slide which shows the rising sun using auto shape, clip art, custom animation.
3. Create a MS-Excel worksheet to calculate the monthly total salary of an Employee if basic salary is given (take 10 suitable records).

Emp_no	Basic_salary	HRA	DA	I.T.	P.F.	Net Salary

Total salary =Basic salary+hra+da HRA=15% of basic salary
DA=150% of basic salary P.F. = 8.33% of basic salary
IT =30% of basic salary Net salary=Basic salary+HRA+DA-(IT+PF)

4. Prepare MS-PowerPoint presentation slide on “Merry Christmas”. The slide should contain information about when it is celebrated, reson for celebration, how it is celebrated. (Use hyperlink, animation and images).

5. Create a MS-Excel worksheet Display a Pie Chart for following data

Roll No	Marks out of 500
1	432
2	300
3	400

6. Prepare MS-Excel worksheet to store the Marks of 5 students in 3 subjects. Table should contain given fields [Roll no, Name, Address, Marks, Total, Percentage and Grade]. Use

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formula to calculate the total marks & percentage .Make use of logical function IF() to assign grade.

7. Prepare a score card for following information and create Pivot table and Pivot Chart.

Players	**Centuries**	**Wicket**	**Sixes**	**Fours**
Sachin Tendulkar	64	15	80	90
Virendra Sehwag	50	20	50	65
Yuwaraj Singh	20	30	35	45
Mahendra sing Dhoni	25	24	45	55

8. Following worksheet contains test score of student using VLOOKUP function assign a letter grade to test score.

Student	**Score**	**Grade**
Adams	36	
Bracker	68	
Joy	50	
Jackson	77	
Bob	92	
Alice	100	
Kathy	74	
William	45	
Thomson	60	
Wilson	89	
Daizy	99	
Rozy	91	
Martha	59	

Score	**Grade**
0	F
40	D
70	C
80	B
90	A

9. Prepare MS-PowerPoint presentation which displays information about explorer activities (use hyperlink, animation and images).
10. Prepare MS-PowerPoint presentation which explains courses under computer science department in your college.

Learning Resources:

Text Book:

Computer Fundamentals; Anita Goel, Pearson, 2017

Reference Books :

- Computer Fundamentals with Ms Office Applications; Saravanan, Paperback – 2008

Supplementary Reading:

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Web Resources: https://gradeup.co/notes-on-computer-fundamental-i-324242b2-d967-11e5-be7b-4cda88ef8eae
https://www.edutechlearners.com/computer-fundamentals-p-k-sinha-free-pdf/

Weblinks:: http://ecomputernotes.com/fundamental, https://www.edutechlearners.com/computer-fundamentals-p-k-sinha-free-pdf/ :

Pedagogy:

Case studies, Videos on related topics, practical demonstration of hardware devices, Lab sessions on application software

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

Prepared By	Checked By	Approved By
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COURSE STRUCTURE Trimester II

Course Code	BBC106A			
Course Category	Compulsory Subject			
Course Title	Statistics			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs.	6	45	--	3

Course Objectives:

Knowledge: Explain the concept and role of *cost accounting* in the business management of companies. Define the costs and their impact on value creation in the companies.

Skills: To develop proficiency and to use various techniques and methods effectively in the Costing.

Attitude: To develop an ability to analyze cost & master the skill to control and reduce cost

Course Outcomes:

1.Express the place and role of cost accounting in the modern economic environment
2.Select the costs according to their impact on business
3.Differentiate methods of schedule costs per unit of production
4.Differentiate methods of calculating stock consumption
5.Interpret the impact of the selected costs method
6. Identify the specifics of different costing methods.

Course Contents:

Population and Sample

1.1 Definition of Statistics, Scope of Statistics in Economics, Management Sciences and Industry.
1.2 Concept of population and sample with illustration.
1.3 Methods of Sampling – SRSWR, SRSWOR, Stratified, Systematic.(Description of sampling procedures only)
1.4 Data Condensation and graphical Methods: Raw data, attributes and variables, classification, frequency distribution, cumulative frequency distributions.
1.5 Graphs - Histogram, Frequency polygon. Diagrams - Multiple bar , Pie ,Subdivided barMultivariable data.

Averages or Measure of central tendency. (Sessions 12)

2.1Introduction
2.2Requisites of a good average.
2.3various measure of central tendency
2.4Arithmetic mean, step deviation method for computing A.M. Mathematical properties of A.M merits and demerits of A.M.
2.5Median, Computation of median, merits and demerits of median, partition values, Graphical method of locating partition method.
2.6Mode, Computation of mode, merits and demerits of mode, Graphical location of mode.

Measure of dispersion (Sessions 12)

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3.1Measures of Dispersion
3.2 Concept of dispersion, characteristics of good measure of dispersion.
3.3 Range : Definition, merits and demerits
3.4 Measures of dispersion for comparison: coefficient of range, coefficient of quartile deviation and coefficient of mean deviation, coefficient of variation (C.V.)

Theory of probability
4.1Introduction, random experiment, sample point, sample space, event, types of events.
4.2Permutation and Combination
4.3Classical or priori approach of probability, Limitations of Classical Definition: Theorems of probability (Addition and multiplication)
4.4Conditional probability
4.5Concept of probability distribution and its properties

Laboratory Exercises / Practical:NA

Learning Resources:
Text Book: DBMS- Henry Korth **.**

Pedagogy:
Case discussion, understanding data pattern, Problem solving, assignment, conceptual and contextual learning.

Assessment Scheme:
Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

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COURSE STRUCTURE Trimester II

Course **Code**	**BBC107A**			
Course Category	Compulsory Subject			
Course Title	**Database Management System**			
Teaching Scheme and Credits	**L**	**T**	**Laboratory**	**Credits**
Weekly load hrs.	**6**	**45**	**--**	**3**

Course Objectives:

1.Knowledge (i)To understand applications of DBMS in industry.
(ii)To understand the concept and application of Relational Algebra
(iii)To understand use and application of Data models

2.Skills (i)Hands on experience on different types of queries.
(ii)Drawing ERD
(iii)To understand select, project operations

3.Attitude (i)Image case studies related to normalization & database structures tables
(ii)Various queries

Course Outcomes:

To learn and practice case studies, understand normalization, relation algebra

Course Contents:

File System

1.1 Introduction, Logical and physical Files
1.2 File Structure
1.3 File Operations
1.4 File Organization
1.5 Record Types, Types of organizations

DBMS

2.1 Introduction, Def of DBMS
2.2 Comparison bet file system and dbms
2.3 Advantages & Disadvantages of DBMS
2.4 Users of DBMS
2.5 Capabilities of good DBMS, System structure

Data Models and relational database

3.1 Introduction to data models
3.2 Terms- Relation, Tuple,
3.3 attributes, Degree, domain, cardinality
3.4 Examples for attributes, Degree, domain, cardinality
3.5 Select operation and examples
3.6 Project operation and examples
3.7 Cartesian product
3.8 Examples- Cartesian product
3.9 Natural Join

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3.10 Examples -Natural Join

SQL and Relational Database Design

4.1 Definition
4.2 Introduction
4.3 History of SQL
4.4 Basic Structure
4.5 DDL & DML
4.6 Simple Queries
4.7 Simple Queries
4.8 Nested Queries
4.9 Nested Queries

Laboratory Exercises / Practical: Not Applicable

Learning Resources:

Text Book:

DBMS- Henry Korth

Reference Books :

DBMS- Bipin Desai

Supplementary Reading:

SQL, PL/SQL- BPB Publications, Author IVAN Bayros

Pedagogy:

Case discussion, Group Discussion, Problem solving, assignment, conceptual and contextual learning.

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

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COURSE STRUCTURE Trimester II

Course **Code**	**BBC108A**			
Course Category	Compulsory Subject			
Course Title	**C Programming**			
Teaching Scheme and Credits	**L**	**T**	**Laboratory**	**Credits**
Weekly load hrs.	**6**	**30**	**15**	**3**

Pre-requisites: This course is used to students with basic knowledge of computers.

Course Objectives:

1.Knowledge: (i).This course is designed to provide a comprehensive study of the C programming Language.

(ii).It stresses the strengths of C, which provide students with the means of writing efficient, maintainable, and portable code.

(iii) The nature of pointers is emphasized in the wide variety of examples and applications.

(iv) To learn and acquire art of C Processor.

2.Skills: C is the language of compilers, interpreters, editors, operating systems and embedded programming. When you learn to program in C you almost have to gain an understanding of how programs execute.

3.Attitude To develop following:

(i) Programming skills

(ii) Problem solving attitude

Course Outcomes:

1)Understand the concepts of C Programming, data types and array data structure.

2)Analyze algorithms and determine their time complexity.

3)Understand the dynamics of Memory by the use of pointers.

4)Understand and apply various concepts such as strings to solve various computing problems using C-programming language.

5)Able to implement and know when to apply C Processor and Bitwise operators.

6)Able to effectively choose the data structure that can create/update the files

Course Contents:

Introduction & Language Fundamentals

1.1Introduction to C, history, Structure of C program

1.2Language Fundamentals – keywords, identifiers, character sets, tokens

1.3Data types, Variables and constants

1.4Qualifiers

1.5Operators, types of operators – unary, binary, relational, conditional, logical, arithmetic

1.6Bitwise operators

1.7Operator precedence & associativity

1.8Console based I/O and related built-in I/O functions: printf(), scanf(), getch(), getchar() and basic formatting

1.9Type casting

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Decision making and loops

2.1Decision making structure – if statement, it-else statement, nested if-else statement, conditional operator, switch statements
2.2Loop control structures – while loop, dowhile loop, for loop, nested loops
2.3Jump statements – break, continue, goto, exit

Arrays in C
3.1Introduction to 1-D array, definition, declaration, initialization
3.2Accessing and displaying 1-D array elements
3.3Introduction to 2-D array, definition, declaration, initialization
3.4Accessing and displaying 2-D array elements
3.5Multidimensional Arrays

Functions in C
4.1Introduction – purpose, definition, declaration, main () function
4.2Function prototype and calling a function
4.3Variables – local and global, scope(local, global, file) and lifetime of a variable
4.4Arguments, parameters, formal & actual parameters, Function return type
4.5Call by value, call by reference
4.6Arrays and functions
4.7Command line arguments
4.8Storage classes

C Preprocessors
5.1 Definition of preprocessor
5.2 Macro substitution - #define
5.3 File inclusion - #include
5.4 Conditional Compilation - #if, #else, #elif
5.5 Other preprocessors - #undef, #ifdef, #ifndef, #error
5.6 Parameterized macros

Laboratory Exercises / Practical:Yes

Learning Resources:

Text Book: Let us C-YashwantKanetkar

Reference Books :

- Programming in C- Balguruswamy

Supplementary Reading:

- The C programming Lang., Pearson Ecl – Dennis Ritchie
- Structured programming approach using C-Forouzah&Ceilberg Thomson learning publication.

Web Resources: Tutorials point

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Pedagogy:

Participative learning, presentation, demonstrations, regular assignments (class & home), conceptual and contextual learning, practical (Lab) sessions, regular tests and surprise tests.

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

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COURSE STRUCTURE Trimester III

Course Code	BBC109A			
Course Category	Compulsory Subject			
Course Title	Organisational Behaviour			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs.	6	45	--	3

Pre-requisites: This course is used to students with basic knowledge of computers.

Course Objectives:

1.Knowledge:

1. To equip the students to understand the impact that individual, group & structures have on their behavior within the organizations.
2. To help them enhance and apply the knowledge they have received for the betterment of the organization

Course Outcomes:

1) Understand the concepts of C Programming, data types and array data structure.
2) Analyze algorithms and determine their time complexity.
3) Understand the dynamics of Memory by the use of pointers.
4) Understand and apply various concepts such as strings to solve various computing problems using C-programming language.
5) Able to implement and know when to apply C Processor and Bitwise operators.
6) Able to effectively choose the data structure that can create/update the files

Course Contents:

1.Introduction of Organizational Behavior

1.1 Fundamentals of Organizational Behavior - Definition,
1.2 Key elements of OB,
1.3 Nature and scope of OB,
1.4 Fields contributing to OB,OB Process, Model of OB

2.Leadership and Motivation

1 Leadership – concept, functions and leadership Styles.
2.Motivation –Definition ,Need and Importance of Motivation,
Motivation Theories - Maslow's Need Hierarchy Theory, McGregcrs's Theory 'X' and Theory 'Y' Herzberg's Two factor theory of Motivation,David C.McClelland"s Three need theory.

3.Perception and Attitudes-

1. Perception- Meaning, definition, Perceptual Process, Factors Affecting Perception.
2. Attitude –Meaning definition, Formation of Attitudes, Types of Attitude.

4.Foundation of Group Behaviour and Team Building-

Group Behaviour -Definition and characteristics of Group, Types of Groups. Team Building-Definition and Meaning of Team, Types of Team, Team building process.

5. Job Stress –

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Meaning and definition of Stress, causes or Sources of Stress, How to Manage or cope with stress.

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

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COURSE STRUCTURE Trimester III

Course Code	BBC110A			
Course Category	Compulsory Subject			
Course Title	Basics Of Financial Accounting			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs	6	45	--	3

Pre-requisites: This course will not require you to have previous experience in any particular area but you should have a high school reading level. No books will be required

Course Objectives:

1.Knowledge: (i) To understand the basic process of Accounting
(ii)To understand the Final Accounts of sole trading concern
(iii)To understand computers & financial application

2.Skills: To learn process of recording transactions-Journal Entries.
(i)To understand the different concepts of Accounting.
(ii)To understand the preparation of Final Accounts & Bank reconciliation statement.

3.Attitude To develop following:
(i)Analytical skills
(ii)Problem solving attitude

Course Outcomes:

•Understanding basics of Accounting: Students will know the basic concepts in Accounting so that they will be able understand the application of accounting rules in preparation of Journal, Ledge, Trial Balance, Subsidiary books & Final Accounts.
•Problem Solving: students will learn to solve sums on Journal & Ledger book preparation, Trial Balance & subsidiary books preparation. Students will prepare final accounts which is the basic objective of financial accounting.
•Competence in the use of the different accounting software packages with the help of learning basic concepts of accounting.
•By completing this module, the students should be able to understand the day to day use of accounting in household & business as well.

Course Contents:

Introduction:
1.1 Financial Accounting- Definition, Scope, Objectives & Limitations
1.2 Accounting Concepts, Principles & Conventions
1.3 Branches of Accounting

Recording of Transactions:
2.1 Types of Accounts,
2.2 Books of Accounts, Journal – Rules of Journalizing.
2.3 Ledger Accounts, Preparation of Trial Balance

Subsidiary Books:
3.1 Sub division of Journal, Cash Book with Cash Bank and Discount Column.

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3.2 Bank Reconciliation Statement

Preparation of Final Accounts:
4.1 Preparation of Trading Account and Profit and Loss A/c.
4.2 Preparation of Balance Sheet of Sole Proprietorship.

Computerized Accounting:
5.1 Computers and Financial application, Accounting Software packages.

Laboratory Exercises / Practical:NA

Learning Resources:
Text Book: Fundamentals of Accounting & Financial Analysis; Anil Chowdhry

Reference Books :
- Accounting Made Easy; Rajesh Agarwal & R Srinivasan

Supplementary Reading:
- Learning material provided by Faculty-PPTs, handouts.
- Financial accounting; Jane Reimers
- Financial Accounting for Management; Amrish Gupta

Pedagogy: Practical, Problem solving, assignment, conceptual and contextual learning.

Assessment Scheme:
Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

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COURSE STRUCTURE Trimester III

Course Code	BBC111A			
Course Category	Compulsory Subject			
Course Title	Advanced C Programming			
Teaching Scheme and Credits	L	T	Laboratory	Credits
Weekly load hrs	6	30	15	3

Pre-requisites: This course is used to students who have a knowledge in C programming

Course Objectives:

1.Knowledge:

(i) This course is designed to provide a comprehensive study of the C programming language

(ii). It stresses the strengths of C, which provide students with the means of writing efficient, maintainable, and portable code.

(iii) The nature of pointers is emphasized in the wide variety of examples and Applications.

2.Skills:

(i).To learn and acquire art of C Processor.

(ii). To know about some File Handling Functions and how to choose

(iii) Command Line Arguments for solving a problem.

3.Attitude To develop following:

(i)Analytical skills

(ii)Problem solving attitude efficient, maintainable, and portable code.

(iii) The nature of pointers is emphasized in the wide variety of examples and Applications.

Course Contents:

File Handling in C

1.1Introduction – defining files

1.2Creating files & types of files

1.3File opening modes

1.4Input & output operations on files using standard library

1.5Copying ad appending files

1.6Reading & Writing binary files

1.7Random access files – fseek, ftell, rewind

Pointer in C

2.1Introduction to Pointers – definition, declaration and initialization

2.2Indirection operator and address of operator, accessing variable through pointers

2.3Pointer –Memory allocation

2.4Array of pointers

2.5Pointer to Pointer

2.6Constant pointer and pointer to constants

2.7Pointer arithmetic

2.8Pointer to functions

Structures & Union

3.1Introduction to structure

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3.2Declaring, defining and accessing members
3.3Structure operations
3.4Array of Structures
3.5Nested Structures
3.6Pointers to Structures, pointer as member of structure
3.7Introduction to union
3.8Declaring, defining and accessing members
3.9Difference between structures and unions
Pointer & Memory Management
4.1Dynamic Memory allocation (DMA)
4.2malloc, calloc, realloc, free
4.3malloc Vs calloc
4.4Heap Memory
4.5Stack Memory – Pitfalls
4.6Dangling Pointers
4.7DMA – Errors
4.8DMA – Unspecified Behavior
Introduction to Graphics in C
5.1Introduction to graphics in C
5.2Graphics drivers & mode initialization
5.3Graphics.h header file
5.4Colors in C Graphic programming
5.5Simple c Graphics program to draw shapes – circle, rectangle, eclipse, square
5.6Simple programs to draw lines using graphics.h

Laboratory Exercises / Practical:Yes

Learning Resources:

Text Book:

The C Programming Language by Brian W. Kernighan, Dennis Ritchie

Reference Books :

Let us C by Yashwant Kanetkar
Programming in C by Balguruswamy

Supplementary Reading:

Web Resources:
Tutorials Point

Pedagogy:

Case studies, Videos on related topics, , Lab sessions on Advanced Programming

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

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Term End Examination : (50 marks)
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COURSE STRUCTURE Trimester III

Course Code	BBC112A			
Course Category	Compulsory Subject			
Course Title	Advanced Database Management Systems			
Teaching Scheme and Credits Weekly load hrs.	L	T	Laboratory	Credits
	6	30	15	3

Course Objective:

1.Knowledge: (i)To understand advance database management system's applications.
(ii)To understand the concept and application of parallel databases
(iii)To understand use and application of RDBMS

2.Skills: (i)Client server tech
(ii)Distributed transactions
(iii)Relational algebra

3.Attitude To develop following:
(i)Object oriented database
(ii) Basic control structures

Course Outcomes:

To learn and practice case studies, understand normalization, relation algebra

Advance Database Management System-Concepts and Architectures

1.1 Introduction
1.2 Architecture
1.3 Issues in Application Development
1.4 Centralized
1.5 Client-Server Architecture
1.6 Server System
1.7 Parallel Database
1.8 Distributed Database
1.9 Web Based Systems

Distributed Database

2.1 Introduction , Architectures
2.2 Homogeneous and Heterogeneous Databases
2.3 Distributed Data Storage
2.4 Distributed Transactions
2.5 Commit Protocols
2.6 Availability
2.7 Cloud Based Database
2.8 Concurrency Control and Recovery in Distributed Databases
2.9 Directory Systems

Specialty Databases and Applications , Parallel Databases

3.1 Object Oriented Database – OR and OO
3.2 Temporal Databases
3.3 Spatial Data and Geographic Database
3.4 Multimedia Data
3.5 Mobility and Personal Databases

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3.6 Introduction to Parallel Databases, Architecture, Input-Output Parallelism
3.7 Interquery and Intraquery Parallelism, Interoperational and Intraoperational Parallelism
3.8 Design of Parallel Systems
3.9 Parallelism on Multicore Processors

Introduction to RDBMS

4.1 Introduction to RDBMS
4.2 Difference between DBMS & RDBMS
4.3 Relational Algebra
4.4 Overview of Control Structures

Laboratory Exercises / Practical: NA

Learning Resources:

Text Book: DBMS-Henry Korth

Reference Books :

DBMS- Bipin Desai

Supplementary Reading:

- Concurrency Control and Recovery in Database Systems Addison-Wesley Pub.
- Database System Implementation Hector Garcia-Molina, Jeffrey Ullman, and Jennifer Widom

Pedagogy:

Participative learning, discussions, demonstrations, assignment, conceptual and contextual learning, practice sessions.

Assessment Scheme:

Internal evaluation of each subject will be for 200 marks (which will be converted to 50 marks); divided as follows:

Mid Term Examination	50
Attendance and Class Participation	50
Assignments	50
Presentations/ Practical/ Viva/Project	50
Total Marks	200

Term End Examination : (50 marks)

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