

**NORTH MAHARASHTRA UNIVERSITY, JALGAON**



NAAC Re-accredited  
'B' (CGPA 2.88)

**Faculty of Commerce and Management**

**Syllabus**

**BACHELOR IN COMPUTER APPLICATION  
(BCA)**

**With effect from June- 2014-15**



**NORTH MAHARASHTRA UNIVERSITY, JALGAON**  
**BACHELOR IN COMPUTER APPLICATION**  
**STRUCTURE**  
**(W.E.F. June 2014)**

<b>Course Name:</b>	Bachelor in Computer Application
<b>Short Title of Degree:</b>	B C A
<b>Faculty to which assigned:</b>	Commerce and Management
<b>Duration:</b>	3 years full time
<b>Pattern:</b>	Semester
<b>Examination Pattern:</b>	60 (External) + 40 (Internal)
<b>No of paper per semester:</b>	4 Theory + 3 Practical
<b>Eligibility:</b>	Passed Higher Secondary Examination in Any Stream

**OR**

Diploma recognized by Board of Technical Education with  
minimum Duration of 3 years

**Medium of Instruction:** English

**Objectives:**

- To enable students for pursuing respectable career through Self- Employment, Executive Employment, Entrepreneurship, Professional Career in the field of service sectors such as e-Banking, Marketing, Investment, Insurance hospitality and other avenues.
- To develop inter-twining competence in the field of Commerce and Management, Computing Skill and Computational tools.
- To develop abilities for data analysis and interpretation Using ICT.
- To develop the basic programming skills to enable students to build Utility programmes.
- To develop the foundation for higher studies in the field of Computer Application.
- To provide specialization in Management with technical, professional and communications skills.
- To train future industry professionals.
- To impart comprehensive knowledge with equal emphasis on theory and practice.
- To keep the students up-to-speed on all the latest and cutting edge technologies.

## STRUCTURE

### BACHELOR OF COMPUTER APPLICATION [BCA]

W.E.F. 2014-15

<b>First Year BCA– ( Sem I &amp; II ) w.e.f. 2014-15</b>			
<b>Paper</b>	<b>Semester-I</b>	<b>Paper</b>	<b>Semester-II</b>
BCA 11	Foundation Course for Managers	BCA 21	Financial Accounting & Costing
BCA 12	Professional Communication I	BCA 22	Professional Communication II
BCA 13	Fundamentals of Computer & Internet	BCA 23	Database Management
BCA 14	Programming in C++ Part I	BCA 24	Programming in C++ Part II
BCA 15	Practical on Internet & HTML	BCA 25	Practical on MS-Access & Oracle
BCA 16	Practical on Professional Communication I	BCA 26	Practical on Professional Communication II
BCA 17	Practical on C++ Part I	BCA 27	Practical on C++ Part II

<b>Second Year BCA – ( Sem III &amp; IV ) w.e.f. 2015-16</b>			
<b>Paper</b>	<b>Semester-III</b>	<b>Paper</b>	<b>Semester-IV</b>
BCA31	Mathematics and Statistics for Managers	BCA41	C# .Net
BCA32	Computer Animation Using Flash	BCA42	Stock And Commodity Market
BCA33	Career Management & Counseling	BCA43	Data Structure
BCA34	Java Programming	BCA44	Cyber Crime and Security
BCA35	Practical on Computer Animation	BCA45	Practical on Transaction related to Stock And Commodity
BCA36	Practical on Java	BCA46	Practical on Data Structure using C++
BCA37	Practical on Tally ERP	BCA47	Practical on C# .Net

<b>Third Year BCA – ( Sem V &amp; VI ) w.e.f. 2016-17</b>			
<b>Paper</b>	<b>Semester-V</b>	<b>Paper</b>	<b>Semester-VI</b>
BCA51	Entrepreneurship Development	BCA61	Introduction to ERP and SAP
BCA52	Soft Skills Development	BCA62	System Analysis And Design
BCA53	Linux Operating System	BCA63	Server Side Scripting using PHP
BCA54	Internet Programming with ASP.NET	BCA64	Introduction to Information System Audit
BCA55	Practical on Soft Skills Development	BCA65	Practical on PHP
BCA56	Practical on ASP.net & Linux O.S.	BCA66	Practical on CASE Tool with MS VISIO
BCA57	Field Work	BCA67	Project

# **NORTH MAHARASHTRA UNIVERSITY, JALGAON**

Faculty of Commerce & Management

## Notes to Structure

**BACHELOR OF COMPUTER APPLICATION Programme**

with effect from June-2014

1. English medium is allowed for instructions to all the courses under this programme.
2. For all the courses ( except course no 5.7 & 6.7 at semester V & VI) there shall be a semester pattern of examination (Theory / Practical) of 100 marks, comprising of external examination of 60 marks, and 40 marks for continuous internal assessment for every course.
3. For course no 5.7 & 6.7 at Semester V & VI, Field work & Project has been prescribed for 100 marks, comprising maximum of 50 marks each to be awarded by an external examiner and an internal examiner, based on the field work / project report submitted and the viva-voce thereon. The said examination is to be conducted at the end of the V / VI Semester. In case of course no 5.7 & 6.7 of Semester V/VI the 60: 40 pattern will not be applicable.
4. There shall be External Examination (Viva-Voce) for Field work and Project Report. The project must be based Computer Software Application (Desktop or Web)
5. The syllabus of each course shall be taught in 4 lectures per week during the semester.

## Question Paper Pattern

Marks: 60

Time: 3hrs

- Attempt any Five.
- Each Question carries 12 marks.

Que.1	(12)
Que.2	(12)
Que.3	(12)
Que.4	(12)
Que.5	(12)
Que.6	(12)
Que.7	(12)
Que.8	(12)



North Maharashtra University, Jalgaon  
Faculty of Commerce and Management  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 11 : Foundation Course for Managers**  
w.e.f. 2014-15  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To Impart Basic Accounting Knowledge among students.

**Unit1- Introduction to Accounting:** **6 Lectures**

- 1.1 Financial Accounting-definition and Scope,
- 1.2 Objectives of Financial Accounting,
- 1.3 Accounting v/s Book Keeping
- 1.4 Terms used in accounting,
- 1.5 Users of accounting information
- 1.6 Limitations of Financial Accounting.

**Unit 2- Conceptual Frame work:** **8 Lectures**

- 2.1 Accounting Concepts, Principles and Conventions,
- 2.2 Accounting Standards-concept, objectives, benefits,
- 2.3 Brief review of Accounting Standards in India,
- 2.4 Accounting Policies,
- 2.5 Accounting as a measurement discipline, valuation Principles, accounting estimates.

**Unit 3-Recording of transactions: (theory only)** **10 Lectures**

- 3.1 Accounting cycle,
- 3.2 Voucher system,
- 3.3 Accounting Process,
- 3.4 Journals,
- 3.5 Subsidiary Books,
- 3.6 Ledger,
- 3.7 Cash Book,
- 3.8 Bank Reconciliation Statement,
- 3.9 Trial Balance.

**Unit 4- Depreciation: (theory only)** **6 Lectures**

- 4.1 Meaning, Objectives for providing depreciation,
- 4.2 Various methods of Calculating Depreciation
- 4.3 Elementary study of AS 6 on Depreciation Accounting.

**Unit 5- Preparation of final accounts: (theory only)** **10 Lectures**

- 5.1 Preparation of Trading and Profit & Loss Account and Balance Sheet of sole proprietary business.
- 5.2 Understanding of final accounts of a Company,
- 5.3 Important provisions of Companies Act, 1956 in respect of preparation of Final Accounts.

**Unit 6: Corporate Banking:** **8 Lectures**

- 6.1 Bank Pass Book,
- 6.2 Negotiable Instruments,
- 6.3 Cheque, Discounting of Cheques, cheque presentment, cheque dishonoured,
- 6.4 Current Account,
- 6.5 Overdraft,

6.6 Cash Credit,  
6.7 Internet Banking,  
6.8 RTGS,  
6.9 NEFT.

**Recommended Books**

1. Fundamentals of Accounting & Financial Analysis: By Anil Chowdhry (Pearson Education)
2. Financial accounting: By Jane Reimers (Pearson Education)
3. Accounting Made Easy By Rajesh Agarwal & R Srinivasan (Tata McGraw –Hill)
4. Financial Accounting For Management: By Amrish Gupta (Pearson Education)
5. Financial Accounting For Management: By Dr. S. N. Maheshwari (Vikas Publishing House)



North Maharashtra University, Jalgaon  
Faculty of Commerce and Management  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 12 : Professional Communication I**  
w.e.f. 2014-15  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To impart basic communication skills among students

- 1) Basics of Communication** **Lecture: 08**
  - a) Meaning & Objectives of communication,
  - b) Process of communication, Importance of communication, Grapevines
  - c) Steps of Effective Communication
  - d) Methods of Communication
    - i) Verbal & Non verbal
    - ii) Oral & Written
    - iii) Internal & External
- 2) Use of English Language** **Lecture: 10**
  - a) Grammatical Terms, Subject & verb Agreement
  - b) Punctuation: Commas, Semi-colons, colons, Hyphens & Dashes, Apostrophes
  - c) Basic Grammatical Rules
  - d) Tactful Use of Language: Asking for action, Handling Negatives, Talking about errors, Use of Active & Passive Voice, Techniques of Emphasis
- 3) Written Communication - I** **Lecture: 08**
  - a) Meaning, Distinction with Oral Communication, Merits & Limitations of Written communication.
  - b) Letter writing: Layout of Business letter, types & Styles of layouts, Essentials of Good Business letters
  - c) Purpose of letters: Resume, Application, Appointment. Writing Direct Messages by Manager – Delivering: Positive, Neutral & Negative Information.
- 4) Written Communication - II** **Lecture: 12**
  - a) Orders , Acknowledging orders, Changes in orders, After sales letters, Complaint Letter, Adjustment Letters, Sales Letters, Credit Letters, Status enquiries, Collection letter, Representations
  - b) E-mail –Drafting & Sending Emails
  - c) Report Writing: Meaning & Nature of Report, Formats of Reports – Formal, Informal reports, Writing Reports - Data collection, organizing, presentation of the Report.

**5) Organizational Communication -I**

**Lecture: 05**

- a) Job Applications: Covering Letter-Resume – Appointment Letter
- b) Meaning & Importance of Organizational Communication

**6) Organizational Communication –II**

**Lecture: 05**

- a) Internal communication: Notice, Circular, Memo.
- b) External Communication – Enquiries, Quotations, Bank & Financial Institutions
- c) Holding Press Conferences & Preparing Press Releases

### **References**

1. Communication for Business – Taylor & Chandra – Pearson
2. Business Communication – Rai&Rai - Himalaya
3. Business Communication for Managers By Penrose / Rasberry / Myers, Cenage Learning.
4. Business Communication by Raman & Singh, Oxford Publication.
5. Basics of Business Communication – Lesikar&Flatley – Tata McGraw Hills
6. Business Communication – C.S. Raydu – Himalaya Publishing House
7. Business Communication Today – Bovee, Thill, Schatzman – Pearson
8. Essential Communication Skills – Shalini Agrawal- Ane book



North Maharashtra University, Jalgaon  
Faculty of Commerce and Management  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 13 : Fundamentals of Computer & Internet**  
w.e.f. 2014-15  
Total Lectures: 48  
[Total Marks: 60 External + 40 Internal =100 Marks]

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**Objective-** To make students well familiar with computer and internet fundamentals

**1. Introduction :**

History & generation of computer, Block diagram of computer system, Types of computers  
Definition- Software, Hardware, Compiler, Interpreter, Characteristics & applications of computer, Data Representation : Number system: decimal, binary, octal and hexadecimal, Representation of integers, fixed and floating points, Character representation: ASCII, EBCDIC codes

**2. Memory Concepts:**

Concepts of Memory cell, Types of memory, Primary- RAM, ROM, PROM, EPROM  
Secondary - Magnetic disk, hard disk, CD

**3. Input Output Devices:**

Input devices - keyboard, mouse, scanner, web camera  
Output device - printers, plotters, LCD projector

**4. Algorithm & flowcharts:**

Definition - Algorithm, flowchart, Flowchart symbols, Examples for constructing algorithm and flowchart for simple programs (Minimum 5)

**5. Operating System Concepts:**

Definition, need and function of an operating system, Types of operating system, Comparative study of various operating systems.

**6. Introduction to Internet:**

Define internet, basic concept of internet, Working of Internet, Applications of Internet, Study of Web Browsers , Search Engines, E-mail account - Creation, sending and receiving E-mails with attachments, Messenger Services, News Groups

**References –**

1. Fundamentals of computer - V. Raja Raman (PHI Publication)
2. Computer and commonsense - Roger Hunt and John Shelley (PHI Publication)
3. Internet in easy steps - Dream tech Pres



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 14 : Programming in C++ (Part-I)**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**OBJECTIVE:** To Train students with basic concepts of programming using C++.

**1. Introduction to C++**

What is Programming Language, Structured programming language, Object Oriented Programming language, Difference between structured and Object Oriented Programming language

**2. Data types, operators, expression:**

Character set, tokens, identifiers, keywords, variables, reference variable, constants, operators, dynamic initialization of variable, expressions and qualifiers, operator precedence and associativity, The iostream.h file, Cin and Cout operators, cascading of operators

**3. Control flow statements**

Simple if, if-else, nested if-else, switch statement, Loop: while statement, do-while statement, for statement, Nested loops, Jumps in loop: continue and break statements

**4. Array and Strings**

Arrays, multidimensional array, strings, array of string, string functions.

**5. Structures and Union**

Structure declaration and definition, use of structure and union, difference between structure and unions, array within structure.

**6. Function**

Function components, parameter passing, function prototype, default arguments, inline function, scope and extent of variables, recursive function, function overloading.

**7. Pointers**

Pointer variables, address operator & Runtime memory management, pointer to pointer, array of pointer, pointer constant, pointer arithmetic, pointer as function argument.

**8. Preprocessor directives**

#define, defining like macros, #error, #include

**References:-**

- K.R. Venugopal, Rajkumar, T. Ravishankar, Mastering C++, TMH.
- Balguruswamy, Object Oriented Programming C++, TMH
- Bjarne Stroustrup, "The C ++ Programming Language ", 3rd edition, Pearson Education Asia, 2000



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 15 : Practical on Internet and HTML**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To practically train students in using computers and internet technologies.

**A] Internet -**

1. Study of Internet connectivity components (line, VSAT, Broadband), Modem, IP Sharer, Hub, Switch.
2. Study of Browsers- Internet Explorer, Fire fox, Downloading of files,
3. E-mail - Creating an e-mail account, sending and receiving e-mails, study of various options available on screen of e-mail account.
4. Chatting - Study of messenger services (Online messaging, sending SMS).
5. Study of various search engines and searching information on Internet

**B] HTML**

1. Create a HTML pages to demonstrate use of:
  - Internal Links
  - External Links
  - Use of Images
  - Various types of list
2. Create a HTML pages to demonstrate use of:
  - Logical styles
  - Entity reference characters
3. Create HTML pages to demonstrate use of linking using image map.
4. Create a HTML page to demonstrate use of
  - Animated Images & text
  - Scrolling text
  - Static background
  - Paragraph and Division
5. Create a HTML page to demonstrate use of frames
6. Create a HTML page that contains a table with images (at least 9 images)



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 16: Practical on Professional Communication I**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To practically train students in using various modes of communication

It is expected that the concerned teacher is to conduct 01 practical of 03 hrs duration every week. Throughout the semester, total 15 practicals are to be conducted. A practical journal is to be maintained by the students for 40 marks. And the remaining 60 marks there will be a practical / oral examination will be conducted at the end of the semester. The student has to appear attends at least 10 minutes presentation based journal at the viva voce. The subject teacher will function as the Internal Examiner and the External Examiner will be appointed by the University. A list of specimen practicals is attached. However, creativity in carrying out these practicals on the part teacher will be appreciated.

**List of Practical**

- 1) Prepare Enquiry letter
- 2) Formulate Quotations
- 3) Prepare Complaint letter
- 4) Prepare Application Letter & resume
- 5) Prepare Notice
- 6) Prepare Memo
- 7) Prepare Circular
- 8) Create E-mail
- 9) Prepare Written Report
- 10) Prepare Testimonial
- 11) Prepare Banking Correspondence
- 12) Prepare Insurance Correspondence
- 13) Prepare SMS – Short Messaging Services for happy & Sad moments
- 14) Prepare Grammar Worksheet – Prepositions, Active-Passive voice
- 15) Prepare Appointment Letter



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 17 : Practical on C++ Part I**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To practically train students in developing programming and logical skills using C++ programming language.

1. Program using various arithmetic operators.
2. Program using control statements. (if, if else, nested if, switch)
3. Program using various looping structure ( for, while, do-while)  
(Programs like prime number, factorial of a number, Fibonacci series)
4. Program using arrays (One dimension, Two dimensions)
5. Write a program to demonstrate use of function.  
(call by value, call by reference, recursive function)
6. Write a program to demonstrate use various string functions.
7. Write a program to demonstrate use of pointers.
8. Write a program to demonstrate use of structure and union.



# Semester 2



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 21 : Financial Accounting & Costing**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objectives:-**

- To Understand Accounting Standards .
- To Understand The Formation Of Public Limited Company Having Share Capital.
- To Develop Various types of Financial Statements.
- To Understand the Cost Estimation and Costing Process.

**SECTION 1 – FINANCIAL ACCOUNTING**

**1.Accounting Standards (A) Lectures 10**

- 1.1. Elementary Study of
  - 1.1.1. AS-1- Disclosure of Accounting Policies
  - 1.1.2. AS-2 – Valuation of Inventories
  - 1.1.3. AS-6 - Depreciation Accounting
  - 1.1.4. AS-10 – Accounting for Fixed Assets

**Accounting for Investment (B)**

- 1.2. Preparation of Investment Account for Fixed Income bearing securities.
  - 1.3. Cum-Interest Purchase, Sale & Computation of profit On Securities
  - 1.4. Ex-Interest Purchase, Sale & Computation of profit On Securities
- Refer to AS -13- Accounting for Investment.

**2 Joint Stock Companies Lectures 10**

- 2.1 introduction
- 2.2 Shares
  - Issue of Shares at par , discount & premium ,
  - Forfeiture , Reissue of Shares.
  - Right Issue.
- 2.3 Buy back Of Shares
  - Redemption Of Preference Shares.
- 2.4 Profit Prior to Incorporation
- 2.5 Debentures
  - Issue & Redemption.

**3.Computer Software Accounting Lectures 4**

- 3.1 Computers and Financial application
- 3.2 Accounting Software packages.

**SECTION 2 COST ACCOUNTING**

**4.Fundamentals Of Costing Lectures 6**

- 4.1 Basic concepts ,
  - 4.1.1 Cost, Expense, Loss,
  - 4.1.2 Costing, Cost Accounting ,
  - 4.1.3 Cost Unit, Cost Centre
- 4.2 Elements of Costs
- 4.3 Direct & Indirect
- 4.4 Classification of Costs on the basis of various criteria
- 4.5 Advantages and Limitations of Cost Accounting

## **5 Materials**

**Lectures 10**

- 5.1. Importance of Materials accounting and control
- 5.2. Direct & Indirect Materials
- 5.3. Procedure and documentation of Purchasing and Storekeeping
  - 5.3.1. Purchase Requisition
  - 5.3.2. Purchase Order
  - 5.3.3. Goods Received Note
  - 5.3.4. Inspection Report
  - 5.3.5. Materials Requisition
  - 5.3.6. Materials Transfer Note and Materials Return Note
- 5.4. Economic Ordering Quantity
- 5.5. Stores Accounting
  - 5.5.1. Bin Cards, Store Ledger
  - 5.5.2. Perpetual Inventory system Pricing of Materials issues under FIFO, LIFO,
  - 5.5.3. Simple Average Method, and Weighted Average Method
- 5.6. Material levels

## **6. Labour Costing**

**Lectures 8**

- 6.1 Labour
  - 6.1.1 Importance Of Labour.
  - 6.1.2 Labour Time Recording: Time Keeping & Time Booking
  - 6.1.3 Labour Remuneration
- 6.2 Methods of Labour Remuneration , Time Rate , Piece Rate
  - 6.2.1 Differential Piece Rate
- 6.3 Incentives, Bonus & Premium Wage Plans.

### **Books On Accounting :-**

- 1. Advanced Accounting Volume 1 – Ashok Sehgal and Deepak Sehgal, Taxmann Allied Services (P) Ltd., New Delhi
- 2. Advanced Accountancy – Vol. I , R. L. Gupta & M. Radhaswamy, Sultan Chand & Sons
- 3. Fundamentals of Accounting, Dr. T. P. Ghosh, Sultan Chand & Sons
- 4. Accountancy for C.A. Foundation Course , P.C. Tulsian, Tata McGraw Hill
- 5. Advanced Accountancy Volume –I P. C. Tulsian , Peareson Education (Singapore) Pvt. Ltd, Indian Branch, New Delhi
- 6. Advanced Accounts, M.C. Shukla, T. S. Grewal & S.C. Gupta, S. Chand & Co Ltd.
- 7. Fundamentals of Accounting, Dr. S.N. Maheshwari & Dr. S.K. Maheshwari, Vikas Publishing House, New Delhi

### **Books on Cost Accounting :-**

- 1. Fundamentals of Cost Accounting, Dr. S.N. Maheshwari, Sultan Chand & Sons
- 2. Advanced Cost Accounting: N. K. Prasad :
- 3. Cost Accounting for C.A. , Dr. N. K. Agrawal, Suchitra Prakashan Pvt. Ltd
- 4. Cost Accounting (Problem and Theory), S. N. Maheshwari, Mahavir Publication
- 5. Cost Accounting (Methods & Problems), B. K. Bhar, Academic Publisher, Calcutta
- 6. Principles and Practices of Cost Accounting, Ashish K. Bhattacharya, A.H. Wheeler



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 22 :Professional Communication II**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To train students in strongly using communication skills in business and life.

**1) Barriers of Communication**

**Lecture: 6**

- a) Meaning, Physical/Mechanical Barriers, language Barriers, Socio-Psychological Barriers, Cross-cultural Barriers
- b) Overcoming Barriers.

**2) Verbal-Nonverbal Communication**

**Lecture: 12**

- a) Meaning & Importance
- b) Body movements : Facial Expression, Eye contact, Gestures, Postures, Appearance, Touch
- c) Space, Time, color, Vocalization,
- d) Improving Non Verbal Communication

**3) Reading & Speaking Skills,**

**Lecture: 06**

- a) Reading Skills: Rapid Reading, Comprehension.
- b) Speaking Skill: Speech-preparation, Guidelines for Effective speech, Negotiation, Discussion

**4) Listening Skill:**

**Lecture: 04**

- a) Importance of listening, Listening Process
- b) Barriers of listening , Guidelines for Effective Listening.

**5) Group Discussion**

**Lecture: 10**

- a) Meaning, Objective, Methodology of Group Discussion, Guidelines for Group Discussion, Role Function in Group Discussion, Nonfunctional Behavior, Improving Group Performance.

**6) Interviews**

**Lecture: 10**

- a) Interview : Types, Preparation, Conducting and Appearing for interview
- b) Meeting – Planning, Agenda, Layout, Leading the meeting, Drafting Minutes of Meeting & Steps for effective meeting outcomes.

**References**

1. Communication for Business – Taylor & Chandra – Pearson
2. Business Communication – Rai&Rai - Himalaya
3. Business Communication for Managers By Penrose / Rasberry / Myers, Cenage
4. Business Communication by Raman & Singh, Oxford Publication.
5. Basics of Business Communication – Lesikar&Flatley – Tata McGraw Hills
6. Business Communication – C.S. Raydu – Himalaya Publishing House
7. Business Communication Today – Bovee, Thill, Schatzman – Pearson
8. Essential Communication Skills – ShaliniAgrawal- Ane book



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 23: Database Management**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To prepare students in using and managing databases.

**1) Database Systems Lecture : 8**

Definition of DBMS & RDBMS, File processing system Vs DBMS, Limitation of file processing system, Advantages and Disadvantages of RDBMS

**2) Data Models Lecture : 8**

Relational Model, Network Model, Hierarchical Model, Entity Relationship Model

**3) Integrity Constraints Lecture : 8**

Keys: Super, Candidate, Primary, Foreign Key, Entity Integrity, Referential Integrity, Integrity Constraints

**4) Relational Database Design Lecture : 8**

Introduction, Normalization, Normal Form: 1 NF, 2 NF, 3 NF

**5) Introduction to Structured Query Language (SQL) using Oracle Lecture : 8**

Introduction to SQL & Oracle, Data types in oracle, Operators in oracle, Working with tables, Introduction to DML, TCL, DDL, DCL, Integrity constraints, Functions in Oracle, Numeric Function, Character Function, Date Function, Conversion Function, Group Function

**6) Sub Queries & Joins Lecture : 8**

Sub Queries using correlated queries, view, Sequence, Set Operators, Joins, Inner joins, Equi, Non Equi, Self-join & Outer Joins

**References –**

1. Oracle PL/SQL by Example, Rosenweig, Pearson Education
2. Database System Concepts :- Abraham Silberschatz, Henry F. Korth & S. Sudarshan, McGraw-Hill
3. Oracle- D2K by Ivan Bayros
4. Introduction to Database Management Systems, by – Atul Kahate (Pearson Education).



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 24: Programming in C++ Part II**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To train students in programming using object oriented concepts with C++.

**1) Introduction**

History of C++, Structured Vs Object oriented development, OOP's Features-Object, Classes, Data Encapsulation & Abstraction, Delegation, Inheritance, Polymorphism, Message Communication.

**2) Classes and Objects**

Class Specification, Defining Members, Object, Access Specifier, Constructors, types of Constructors, destructor, Friend Class and Friend Function

**3) Inheritance**

Types of Inheritance, Member Accessibility, Visibility Modes, Virtual Base Class, Benefits of Inheritance, Virtual & Pure Virtual functions, Abstract class.

**4) Operator Overloading**

Rules, Unary & Binary Operator Overloading using friend functions, without using friend functions

**5) Templates, Exception Handling & Stream Computation**

Class template, Function template, Exception handling constructs.  
Stream Computation with console, Streams computations with Files.

**6) Introduction to Data Structure**

Definition and application of – Array, Stack, Queue, Link List, Tree and Graph

**REFERENCE BOOKS:**

1. Mastering C++ by K R Venugopal, Rajkumar, T Ravishankar, Publication - TMH
2. Exploring C++ by Yashwant Kanetkar
3. Object Oriented Programming using C++ by W. Balguruswamy, Publication - TMH
4. The C++ Programming Language by Bjarane Stroustrup,
5. Data Structures – TMH Publications.



North Maharashtra University, Jalgaon  
Faculty of Commerce and Management  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
BCA 25: Practical on MS-Access & Oracle  
w.e.f. 2014-15  
Total Lectures: 48  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To practically train students in using databases with MS-Access and Oracle.

**Practical based on MS- Access**

1. Create Database and tables using wizard
2. Set relationships between tables
3. Insert data into tables
4. Create form using wizard
5. Create group report
6. Create summary report
7. Set password to Database for security

**Practical based on Oracle**

1. Create table, Insert Records and perform simple SQL
2. Create table with various constraints as PRIMARY KEY, FOREIGN KEY, and CHECK & NOT NULL Constraints
3. Write down SQL by using
  - i. GROUP BY
  - ii. HAVING CLAUSE
4. Write down SQL by using
  - i. Aggregate functions
  - ii. Date functions
  - iii. String functions



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 26: Practical on Professional Communication II**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To practically train students in confidently using communication skills in business and life.

It is expected that the concerned teacher is to conduct 01 practical of 03 hrs duration every week. Throughout the semester, total 15 practicals are to be conducted. A practical journal is to be maintained by the students for 40 marks. And the remaining 60 marks there will be a practical / oral examination will be conducted at the end of the semester. The student has to appear attends at least 10 minutes presentation based journal at the viva voce. The subject teacher will function as the Internal Examiner and the External Examiner will be appointed by the University. A list of specimen practicals is attached. However, creativity in carrying out these practicals on the part teacher will be appreciated.

**List of Practical:**

**1) Body Language:**

- a) Mood Identification
- b) Facial Expressions
- c) Gestures
- d) Postures

**2) Public Speaking – Speech Preparation & Delivery**

**3) Group Discussion – Large & Small Groups**

**4) Interview:**

- a) Structured
- b) Unstructured
- c) Telephonic
- d) Panel / Face to Face

**5) Negotiation Skills:**

- a) Union Agreement
- b) Price Negotiation

**6) The student should make at least One/ Two presentation relating to a specific topic before the class during the Semester**



**North Maharashtra University, Jalgaon**  
**Faculty of Commerce and Management**  
**BACHELOR OF COMPUTER APPLICATIONS (BCA)**  
**BCA 27: Practical on C++ Part II**  
**w.e.f. 2014-15**  
**Total Lectures: 48**  
**[Total Marks: 60 External + 40 Internal =100 Marks]**

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**Objective-** To practically train students in programming in object oriented way using C++.

**List of Practicals**

1. Write C++ program to demonstrate the use of function.(call by value & call by reference)
2. Write a C++ program to demonstrate function overloading
3. Write a C++ program to demonstrate operator overloading using friend function.
4. Write a C++ program to demonstrating the use of constructors and destructor
5. Write a C++ program to demonstrate the Single & multiple inheritances.
6. Write a C++ program to demonstrating Pointers to Function & Pointer to object
7. Write a C++ program to demonstrate the use of virtual function
8. Write a C++ program to demonstrate the concept of function template & class template.
9. Write a C++ program to demonstrate Exception Handling
10. Write a C++ program to demonstrate File handling.