

**Mohanlal Sukhadia University
Udaipur (Raj.)**

Syllabus

BACHELOR OF COMPUTER APPLICATION



BACHELOR OF COMPUTER APPLICATION

(Annual Scheme)

(To be offered in affiliated colleges from session
2010-11)

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MOHANLAL SUKHADIA UNIVER- SITY UDAIPUR

BACHELOR OF COMPUTER APPLICATION (BCA(Annual Scheme))

(To be offered in affiliated colleges from session
2010-11)

1. **Duration of the Course :** The BCA (Annual Scheme) course will be of three years duration. Each year will be approximately 10 months (minimum 180 working days) duration.
2. **Medium of Instruction :** The medium of instruction and examination shall be English/Hindi.
3. **Eligibility :** The candidate must have passed 10+2 examinations with at least 50% marks in aggregate (Pass marks for SC/ST candidates or as per Govt rules)
4. **Courses of Study and Examination**

I Year

Paper	Paper Name	Duration of exam (hours)	Total
Paper-I (BCA-101)	Introduction to Information Technology	3	100
Paper-II (BCA-102)	PC Software Packages	3	100
Paper-III (BCA-103)	Problem Solving through C Programming	3	100

Paper-IV (BCA-104)	Basic Physics	3	100
Paper-V (BCA-105)	Basic Mathematics	3	100
Paper-VI (BCA-106)	Computer Organization	3	100
Practical-I (BCA-107)	PC Software & Basic Electronics Lab	6	200
Practical-II (BCA-108)	C Programming Lab	6	200
	TOTAL		1000

II Year

Paper	Paper Name	Duration of exam (hours)	Total
Paper-I (BCA-201)	Computer Communication and Networks	3	100
Paper-II (BCA-202)	Database Management System	3	100
Paper-III (BCA-203)	Fundamentals of Operating Systems	3	100
Paper-IV (BCA-204)	Data Structures using C	3	100
Paper-V (BCA-205)	Business Organization and Management	3	100
Paper-VI (BCA-206)	Business Communications	3	100
Practical-I (BCA-207)	Database Management Lab	6	200
Practical-II (BCA-208)	Data Structures Lab	6	200
	TOTAL		1000

II Year

Paper	Paper Name	Duration of exam (hours)	Total
Paper-I (BCA-301)	Object Oriented Programming using C++	3	100
Paper-II (BCA-302)	Visual Programming	3	100
Paper-III (BCA-303)	Information Security & Cryptography	3	100
Paper-IV (BCA-304)	Systems Analysis and Design	3	100
Paper-V (BCA-305)	Web Technology	3	100
Practical-I (BCA-306)	C++ Programming & Network security Lab	6	200
Practical-II (BCA-307)	Visual Programming & Web Designing Lab	6	200
Project (BCA-308)	Project		200
	TOTAL		1100

5. Scheme of Instruction :

Each year shall be of ten months (180 working days) duration. Details of lecture hours per week shall be as follows:

Theory : Three hours/week for each Paper

Practical : Students are required to work in the Laboratory for 10 hours/week for each practical under four hours/week faculty guidance for each practical paper.

6. Examination Scheme:

1. University shall conduct examinations only after completion of 180 working days of instruction in a

year.

2. Each theory paper shall be of 100 marks
3. Each practical paper shall be of 200 marks
4. The question paper shall consist total six questions. Part-A shall consist of one compulsory question of 20 marks with ten parts covering the entire syllabus for which answer must be provided within 20 words for each. Part-B will consist five long answer questions (which requires answers in about 400 words for each), one from each unit with internal choice. Each question in the part-B will carry 16 marks each.
5. During examination students shall be provided with a single blank answer booklet and answers of all questions must be confined to the single answer booklet. No supplementary copies will be provided.
6. Question papers shall be set only in English. However, students can answer in English/Hindi

Project

Project evaluation shall be carry out as follows :

- (i) Project Report : 50 marks
- (ii) Presentation : 50 marks
- (iii) Work Assessment : 50 marks

Only the projects submitted by the candidates as per following guidelines will be evaluated.

1. The project must be of approximately 200 hours and so certified by the supervisor of the project.
2. The project must be submitted in the form in consonance with the format enclosed.
3. Project must be submitted before the prescribed last date .
4. Candidates are required to make a presentation of their project work during their project examination
5. Examination of the project work will be conducted by a committee consisting of at least two internal examiners and one external examiner.

Minimum passing marks and classification of Successful Candidates:

I Year:

- (a) The minimum marks for passing I year shall be 40% in each paper and 40% marks in the aggregate of papers.
- (b) A candidate may be promoted to II year if he has/she secured at least 40% marks in at least six papers/practical out of 8 theory/practical papers and more than 40% in aggregate. Such candidate shall be required to appear in papers in which he has secured less than 40% marks along with papers of II year when these courses are offered again, so as to satisfy the passing criteria laid in I(a).
- (c) A candidate fails to satisfy the criteria I(a), I(b) for

promotion to II year shall be required to rejoin the course in Ist year, if otherwise eligible in accordance with the University regulations laid in this regard.

II Year:

- (a) The minimum marks for passing II year shall be 40% in each paper and 40% marks in the aggregate of papers.
- (b) A candidate may be promoted to III year if he has/she secured at least 40% marks in at least six papers/practicals out of 8 theory/practical papers and more than 40% in aggregate. Such candidate shall be required to appear in papers in which he has secured less than 40% marks along with papers of III year when these courses are offered again, so as to satisfy the passing criteria laid in II(a).
- (c) A candidate fails to satisfy the criteria II(a), II(b) for promotion to III year shall be required to rejoin the course in II year, if otherwise eligible in accordance with the University regulations laid in this regard.

III Year:

- (a) The minimum marks for passing III year shall be 40% in each paper and 40% marks in the aggregate of papers.
- (b) A candidate may be allowed to reappear in two

papers of III year if he has/she secured at least 40% marks in at least six papers/practicals/project out of 8 theory/practical/project papers and more than 40% in aggregate. Such candidate shall be required to appear in papers in which he has secured less than 40% marks along with due papers of I & II year (if any) when these courses are offered again, so as to satisfy the passing criteria laid in III(a).
(c) A candidate fails to satisfy the criteria III(a), III(b) shall be required to rejoin the course in III year, if otherwise eligible in accordance with the University regulations laid in this regard.

No candidate shall be deemed to have satisfied examination requirement for the award of BCA degree unless he fulfills the criteria for passing I year, II year and III year examinations, as laid in I(a), II(a) and III(a).

Candidate will not be allowed to reappear in any papers of I,II & III year to improve the percentage.

At the end of final examination, the candidates eligible for the award of B.C.A. (Annual Scheme) degree shall be classified on the basis to the marks obtained in the I,II & III year examinations, taken together, as follows:

- (a) **I division with distinction** : 75% or more marks in the aggregate and provided the candidate has passed all the papers and examinations in the first attempt. (b) **I division** : 60% or more marks but fails to satisfy the criteria for being classified as first division with distinction laid in (a).

- (c) **II division** : 48% or more but less than 60%
(d) **III division**: 40% or more but less than 48%

A candidate must pass the examinations within five years of the initial admission to the first year of the course.

First Year B.C.A.

(Effective from session 2010-11)

BCA- 101: Introduction to Information Technology

UNIT-I

Computer Basics: Algorithms, A Simple Model of a Computer, Characteristics of Computers, Problem-solving Using Computers.

Data Representation: Representation of Characters in computers, Representation of Integers, Representation of Fractions, Hexadecimal Representation of Numbers, Decimal to Binary Conversion, Error-detecting codes.

Input & Output Devices: Description of Computer Input Units, Other Input Methods, Computer Output Units(Printers ,Plotters)

UNIT-II

Computer Memory: Memory Cell, Memory Organization, Read Only Memory, Serial Access Memory, Physical Devices Used to Construct Memories, Magnetic Hard Disk, floppy Disk Drives, Compact Disk Read Only Memory, Magnetic Tape Drives.

Processor: Structure of Instructions, Description of a Processor, Machine Language and Instruction set . processors used in desktops and lap tops.

Specification of a desktop and Lap top computer currently available in the market (Specifications of

processor,motherboard &chipset, memory, interface & capacity of hard disk & DVD drives, I/O ports)

UNIT-III

Computer Architecture: Interconnection of Units, Processor to Memory communication, I/O to Processor Communication, Interrupt Structures, Multiprogramming, Processor Features, Reduced Instruction , Set Computers (RISC), Virtual Memory.

Software Concepts: Types of Software, Programming Languages, Software (Its Nature & Qualities), Programming Languages.

UNIT-IV

Operating Systems: History and Evolution. Main functions of OS Multitasking ,Multiprocessing,Time Sharing ,Real Time OS with Examples

Database Management System :Purpose and Organization of Database ,Introduction to Data Models

Computer Generation & Classifications: First Generation of Computers, The Second Generation, The Third Generation, The Fourth Generation, The Fifth Generation, Moore's Law, Classification of computers, Distributed Computer System, parallel computers.

UNIT- V

Computers & Communications : Introduction to Computer Communications, Introduction to Computer Networks, Types of Networks, OSI/TCP Model, LAN tech-

