

**SCHEME OF EXAMINATION FOR B.Sc.(COMPUTER SCIENCE) SEMESTER
SYSTEM
(Regular Course)
w.e.f. 2013-14
Scheme for B.Sc.-I**

<i>Semester-I</i>					
Sr. No.		Paper			Exam Duration
			Internal Assessment	External Marks	
1	Paper-I	Computer And Programming Fundamentals	10	40	3 hrs.
2	Paper-II	PC Software	10	40	3 hrs.
<i>Semester-II</i>					
3	Paper-I	Programming in C	10	40	3 hrs.
4	Paper-II	Logical Organization of Computers	10	40	3 hrs.
5	Paper-III	Practical Morning Session: (PC-Software) Evening Session: (Programming in C)	----	100	6 hrs.(Two Sessions) Morning and Evening
Total(Semester I & II)			40	260	

Internal assessment will be based on the following criteria:

1. Two Handwritten Assignments : 5 marks
2. (1st Assignment after one month & 11nd Assignment after two months)
3. One Class Test (one period duration) : 2.5 marks
4. Attendance : 2.5 marks

NOTE: 1. Practical exam will be conducted annually in two sessions. However the workload will be distributed in both the semesters according to the relevant papers.

**SCHEME OF EXAMINATION FOR B.Sc.(COMPUTER SCIENCE) SEMESTER
SYSTEM
(Regular Course)
w.e.f. 2014-15
*Scheme for B.Sc.-II***

Sr. No.		Paper			Exam Duration
			Internal Assessment	External Marks	
1	Paper-I	Data Structures	10	40	3 hrs.
2	Paper-II	Software Engineering	10	40	3 hrs.
<i>Semester-II</i>					
3	Paper-I	Object Oriented Programming with C++	10	40	3 hrs.
4	Paper-II	Operating System	10	40	3 hrs.
5	Paper-III	Practical Morning Session: (Data Structure implementation using 'C') Evening Session: (Programming with C++)	----	100	6 hrs.(Two Sessions) Morning and Evening
Total(Semester I & II)			40	260	

Internal assessment will be based on the following criteria:

1. Two Handwritten Assignments : 5 marks
2. (1st Assignment after one month & 1Ind Assignment after two months)
3. One Class Test : 2.5 marks
(one period duration)
4. Attendance : 2.5 marks

NOTE: 1. Practical exam will be conducted annually in two sessions. However the workload will be distributed in both the semesters according to the relevant papers.

SCHEME OF EXAMINATION FOR B.Sc.(COMPUTER SCIENCE) SEMESTER SYSTEM
(Regular Course)
w.e.f. 2015-16
Scheme for B.Sc.-III

Sr. No.		Paper			Exam Duration
			Internal Assessment	External Marks	
1	Paper-I	Fundamentals of Data Base Systems	10	40	3 hrs.
2	Paper-II	Web Designing	10	40	3 hrs.
<i>Semester-II</i>					
3	Paper-I	Relational Data Base Management System	10	40	3 hrs.
4	Paper-II	Computer Networks	10	40	3 hrs.
5	Paper-III	Practical Morning Session: (Web Designing using HTML) Evening Session: (SQL and PL/SQL)	----	100	6 hrs.(Two Sessions) Morning and Evening
Total(Semester I & II)			40	260	

Internal assessment will be based on the following criteria:

1. Two Handwritten Assignments : 5 marks
2. (1st Assignment after one month & 11nd Assignment after two months)
3. One Class Test : 2.5 marks
(one period duration)
4. Attendance : 2.5 marks

NOTE: 1. Practical exam will be conducted annually in two sessions. However the workload will be distributed in both the semesters according to the relevant papers.

PAPER I: Computer and Programming Fundamentals

Maximum Marks: 50

External: 40

Minimum Pass Marks: 18

Internal: 10

Time: 3 hours

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT-I

Computer Fundamentals: Definition, Functional components of computer, characteristics & classification of computers, Applications of computers in various fields.

Memory: Concept of primary & secondary memory, RAM, ROM, types of ROM, Cache memory, CPU Registers, flash memory, Secondary storage devices: Sequential & direct access devices viz. magnetic tape, magnetic disk, CD, DVD.

UNIT-II

Computer hardware & software: I/O devices, definition of software, relationship between hardware and software, types of software, motherboard, ports.

Overview of operating system: Definition, functions of operating system, concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, single-user & multi-user operating system, examples of various operating systems.

UNIT-III

Planning the Computer Program: Concept of problem solving, Problem definition, Program design, Debugging, Types of errors in programming, Documentation.

Techniques of Problem Solving: Flowcharting, algorithms, pseudo code, decision table, Structured programming concepts, Programming methodologies viz. top-down and bottom-up programming.

UNIT-IV

Searching, Sorting, and Merging: Linear & Binary Searching, Bubble, Selection, and Insertion Sorting, Merging.

Computer Languages: Analogy with natural language, machine language, assembly language, high-level language, language translators, characteristics of a good programming language.

TEXT BOOKS

1. Sinha, P.K. & Sinha, Priti, Computer Fundamentals, BPB
2. Dromey, R.G., How to Solve it By Computer, PHI

REFERENCE BOOKS

1. Balagurusamy E, Computing Fundamentals and C Programming, Tata McGraw Hill.
2. Norton, Peter, Introduction to Computer, McGraw-Hill
3. Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World
4. Rajaraman, V., Fundamentals of Computers, PHI

PAPER-II PC Software

Maximum Marks: 50
Minimum Pass Marks: 18
Time: 3 hours

External: 40
Internal: 10

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT I

Windows: Basics of Windows. Windows History, Basic components of windows, icons, types of icons, taskbar, activating windows, using desktop, title bar, running applications, Windows explorer, managing files and folders, Configuring System devices. Control panel , using windows accessories.

UNIT-II

Documentation Using Word - Introduction to Office Automation, Creating & Editing Document, Formatting Document, Auto-text, Autocorrect, Spelling and Grammar Tool, Document Dictionary, Page Formatting, Bookmark, Advance Features of MS-Word-Mail Merge, Macros, Tables, File Management, Printing, Styles, linking and embedding object.

UNIT III

Electronic Spread Sheet using Excel - Introduction to MS-Excel, Creating & Editing Worksheet, Formatting and Essential Operations, Formulas and Functions, Charts, Advance features of MS-Excel-Pivot table & Pivot Chart, Linking and Consolidation, Database Management using Excel-Sorting, Filtering, Table, Validation, Goal Seek, Scenario.

UNIT IV

Presentation using PowerPoint: Presentations, Creating, Manipulating & Enhancing Slides, Organizational Charts, Excel Charts, Word Art, Layering art Objects, Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect.

TEXT BOOKS

1. Microsoft Office – Complete Reference – BPB Publication
2. Learn Microsoft Office – Russell A. Stultz – BPB Publication

REFERENCES BOOKS

1. Courter, G Marquis . Microsoft Office 2000: Professional Edition. BPB.
2. Koers, D . Microsoft Office XP Fast and Easy. PHI.
3. Nelson, S L and Kelly, J . Office XP: The Complete Reference. Tata McGraw-Hill.

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Paper I Programming in C

Maximum Marks: 50
Minimum Pass Marks: 18
Time: 3 hours

External: 40
Internal: 10

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT-I

Overview of C: History & Importance of C, Structure of a C Program.
Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant.
Input/output: Unformatted & formatted I/O function, Input functions (scanf(), getch(), getche(), getchar(), gets()), output functions (printf(), putchar(), puts()).

UNIT-II

Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, conditional operators and special operators. Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity.
Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement.

UNIT-III

Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue statement.
Functions: Definition, prototype, passing parameters, recursion.

UNIT-IV

Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime.
Arrays: Definition, types, initialization, processing an array.
Structure and Union.

TEXT BOOKS

1. Gottfried, Byron S., Programming with C, Tata McGraw Hill
2. Balagurusamy, E., Computing Fundamentals and C Programming, Tata McGraw-Hill

REFERENCE BOOKS

1. Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley.
2. Yashwant Kanetker, Let us C, BPB
3. Rajaraman, V., Computer Programming in C, PHI

PAPER-II Logical Organization of Computers

Maximum Marks: 50
Minimum Pass Marks:
Time: 3 hours

External: 40
Internal: 10

Note: Examiner will be required to set Nine Questions in all. First Question will be compulsory, consisting of objective type/short-answer type questions covering the entire syllabus. In addition to that eight more questions will be set, two questions from each Unit. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT - I

Information Representation: Number Systems, Binary Arithmetic, Fixed-point and Floating-point representation of numbers, BCD Codes, Error detecting and correcting codes, Character Representation – ASCII, EBCDIC.

UNIT - II

Binary Logic: Boolean Algebra, Boolean Theorems, Boolean Functions and Truth Tables, Canonical and Standard forms of Boolean functions, Simplification of Boolean Functions – Venn Diagram, Karnaugh Maps.

UNIT - III

Digital Logic: Basic Gates – AND, OR, NOT, Universal Gates – NAND, NOR, Other Gates – XOR, XNOR etc. Combinational Circuits: Half-Adder, Full-Adder, Half-Subtractor, Full-Subtractor, Encoders, Decoders, Multiplexers, Demultiplexers, Comparators, Code Converters.

UNIT IV

Sequential Logic: Characteristics, Flip-Flops, Clocked RS, D type, JK, T type and Master-Slave flip-flops. State table, state diagram. Flip-flop excitation tables
Shift registers : serial in parallel out and parallel in parallel out.. Designing counters – Asynchronous and Synchronous Binary Counters, Modulo-N Counters and Up-Down Counters

TEXT BOOKS

1. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd.
2. V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall of India Pvt. Ltd.

REFERENCE BOOKS

1. Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd.
2. Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill

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