Maharshi Dayanand University, Rohtak
Bachelor of Vocational in Information Technology
(B.Voc. in Information Technology)

**Bachelor of Vocational in Information Technology
B.Voc.(Information Technology)
Scheme of Examination w.e.f 2016-17**

Year-I

Semester-1	Paper Code	Name of Paper	Mode	General Education Credits/Marks	Skill Components Credits/ Marks	Total Credits/ Marks
SEM 1	BVIT-101	Fundamentals of Computing	Theory	6 Credits/40 Marks		
SEM 1	BVIT-102	Office Tools and Applications	Theory	6 Credits /40 Marks		
SEM 1	BVIT-103	Communication Skills	SSC*		9 Credits(As per SSC)*/60	
SEM 1	BVIT-104	Lab-I	SSC*		9 Credits(As per SSC)*/60	
Total						30/200
Semester-II						
SEM 2	BVIT-201	Internet and Web Designing	Theory	6 Credits/40 Marks		
SEM 2	BVIt-202	Programming in C	Theory	3 Credits/ 20 marks		
SEM 2	BVIT-203	Data Structure	SSC*	3 Credits/ 20 marks		
SEM 2	BVIT-204	Lab-2	SSC*		18 Credits (As per SSC)*/120	
Total						30/200

 *** As per SSC(Sector Skill Council) Guidelines of
UGC**

FUNDAMENTALS OF COMPUTING

Time: 3 hrs   **BVIT-101**   **Max. Marks- 40/Total Credits: 06**

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. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT - I
Introduction: Characteristics, evolution and generations of computers, Basic Computer Organization: Input and Output Unit, Primary and Secondary storage, CPU: ALU, Control Unit, Classification of computers, Number Systems: Binary, Hexadecimal, Octal, Decimal numbers, Floating-point Numbers, Computer codes: BCD and EBCDIC codes, ASCII, Unicode.

UNIT - II
Input/Output & Storage Units-:Keyboard, Mouse, Trackball, Joystick, Digitizing tablet, Scanners, Digital Camera, MICR, OCR, OMR, Bar-code Reader, Voice Recognition, Lightpen, Touch Screen, Monitors - characteristics and types of monitor -Digital, Analog, Size,Resolution, Refresh Rate, Interlaced / Non Interlaced, Printers& types - Daisy wheel, Dot-Matrix, Inkjet, Laser, Line Printer, Plotter, Sound Card and Speakers

UNIT – III
Memories: Memory speed, access time, waits states, Types of memory, Dynamic and Static RAM, memory chip making, Cache memory, shadow RAM, ROM chips, Reading memory error messages, adding RAM, CPU Registers, Storage fundamentals - Secondary Data Storage and Retrieval methods - Sequential, Direct and Index Sequential, Various Storage Devices – Magnetic Tape, Magnetic Disks, Cartridge Tape, Hard Disk Drives, Floppy Disks, CD/DVD flash drives Video Disk, Blue Ray Disc

UNIT - IV
Windows OS: Operating system definition and evolution, Types of Operating Systems, Functions of operating systems, Popular Operating Systems, Features of Windows OS, Windows history; Files & Folders operations. Desktop, Recycle Bin, My Computer, My Documents, Windows Explorer, Configuring System Devices: Control Panel, Accessories in Windows.

Suggested Readings:
1. Handbook of Computer Fundamentals – Nasib Singh Gill, Khanna Books Publishing Co.(P) Ltd., New Delhi
2. PC Hardware Complete Reference - Craig Zacker & John Rourke, Tata McGraw Hill
3. Inside the PC - Peter Norton, BPB.
4. Foundation of Computing, Sinha P., Sinha P., BPB Publication
5. Any other book(s) covering the contents.

Note: Latest and additional good books may be suggested and added from time to time.

Office Tools and Applications

Time: 3 hrs **BVIT-102** **Max. Marks- 40/Total Credits: 06**

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. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT – I
MS-PowerPoint: Introduction & area of use; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its different views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts, Columns & Lists; Adding Graphics, Sounds and Movies to a Slide; Working with PowerPoint Objects; Designing & Presentation of a SlideShow; Printing Presentations, Notes, Handouts with print options. Animations and Sounds, Inserting Animated Pictures or Accessing through Object, Inserting Recorded Sound Effect or In-Built Sound Effect. Outlook Express: Features and uses, Configuring and using Outlook Express for accessing e-mails in office.

UNIT-II
MS-Word: Introduction area of use, Menus & Commands; Toolbars & Buttons; Shortcut Menus, Wizards & Templates; Creating a New Document; Different Page Views and layouts; Applying various Text Enhancements; Working with – Styles, Text Attributes; Paragraph and Page Formatting; Text Editing using various features ; Bullets, Numbering, Auto formatting, Printing. Spell Check, Thesaurus, Find & Replace; Headers & Footers ;Inserting – Page Numbers, Pictures, Files, Autotexts, Symbols etc.; Working with Columns, Tabs & Indents; Creation & Working with Tables; Margins & Space management in Document; Adding References and Graphics; Mail Merge, Envelops & Mailing Labels. Importing and exporting to and from various formats.

UNIT – III
MS-Excel: Creating & Saving work book. Structure of Worksheet, entering & editing data, Copying & Moving data, Finding & Replacing data. Filling Data. Sorting data. Formatting Data – Number Style Format, Border & Color, Rotating Texts, Conditional Formatting. Arranging Multiple Workbooks or Windows, Hiding & Unhiding – workbooks, worksheets, rows & columns. Inserting Columns & Rows. Adjusting widths & Heights of Columns & Rows. Copying, moving, inserting, deleting & renaming worksheets in workbooks. Defining, Inserting & deleting Cell or Range Names.

UNIT – IV
Formulas & Functions: Mathematical operators. Creating, changing & copying formulas. Absolute referencing. Functions – Log, Sum, Average, Count, If, Max, Sum If. Date & Time, Database, Text, Maths & Statistical functions. Charts in Excel: Types of charts, Inserting & Modifying charts. File & Print Operations. Linking Worksheets & Workbooks. Creating lists, Using Filters & Subtotals. Recording, running and editing Macros. Data Validation. What-if analysis using Goal seek and scenarios.

Suggested Reading:
1. Microsoft Office – Complete Reference – BPB Publication
2. Learn Microsoft Office – Russell A. Stultz – BPB Publication
3. Courter, G Marquis. Microsoft Office 2000: Professional Edition. BPB.
4. Koers, D . Microsoft Office XP Fast and Easy. PHI.
5. Nelson, S L and Kelly, J . Office XP: The Complete Reference. Tata McGraw-Hill.
6. Any other book(s) covering the contents.

Note: Latest and additional good books may be suggested and added from time to time.

Internet and Web Designing

Time: 3 hrs **BVIT-201** **Max. Marks- 40/Total Credits: 06**

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. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT – I

Introduction to Internet and World Wide Web; Evolution and History of World Wide Web; Basic features; Web Browsers; Web Servers; Hypertext Transfer Protocol, Overview of TCP/IP and its services; URLs; Searching and Web-Casting Techniques; Search Engines and Search Tools;

UNIT – II

Web Publishing: Hosting your Site; Internet Service Provider; Web terminologies, Phases of Planning and designing your Web Site; Steps for developing your Site; Choosing the contents; Home Page; Domain Names, Front page views, Adding pictures, Links, Backgrounds, Relating Front Page to DHTML.Creating a Website and the Markup Languages (HTML, DHTML);

UNIT – III

Web Development: Introduction to HTML; Hypertext and HTML; HTML Document Features; HTML command Tags; Creating Links; Headers; Text styles; Text Structuring; Text colors and Background; Formatting text; Page layouts;

UNIT – IV

Images; Ordered and Unordered lists; Inserting Graphics; Table Creation and Layouts; Frame Creation and Layouts; Working with Forms and Menus; Working with Radio Buttons; Check Boxes; Text Boxes; DHTML: Dynamic HTML, Features of DHTML,CSSP(cascading style sheet positioning) and JSSS(JavaScript assisted style sheet), Layers of netscape, The ID attributes, DHTML events.

SUGGESTED READING:

1. Raj Kamal, "Internet and Web Technologies", Tata McGraw-Hill.
2. Ramesh Bangia, "Multimedia and Web Technology", Firewall Media.
3. Thomas A. Powell, "Web Design: The Complete Reference" , 4/e, Tata McGraw- Hill
4. Wendy Willard, "HTML Beginners Guide", Tata McGraw-Hill.
5. Deitel and Goldberg, "Internet and World Wide Web, How to Program", PHI.
6. Any other book(s) covering the contents.

Note: Latest and additional good books may be suggested and added from time to time.

Programming in C

Time: 3 hrs   **BVIT-201**   **Max. Marks- 20/Total Credits: 03**

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. 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 of C, Importance of C, Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, printf(), scanf() Functions, Operators & Expression: Arithmetic, relational, logical, BVSDwise, unary, assignment, shorthand assignment operators, conditional operators and increment and decrement operators, Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity.

UNIT-II
Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement. Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue statement, Nested loops.

UNIT-III
Functions: Standard Mathematical functions, Input/output: Unformatted & formatted I/O function in C, Input functions viz. getch(), getche(), getchar(), gets(), output functions viz.,
putch(), putchar(), puts(), string manipulation functions. User defined functions: Introduction/Definition, prototype, Local and global variables, passing parameters, recursion.

UNIT-IV
Arrays, strings and pointers: Definition, types, initialization, processing an array, passing arrays to functions, Array of Strings. String constant and variables, Declaration and initialization of string, Input/output of string data, Introduction to pointers. Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime.

Algorithm development, Flowcharting and Development of efficient Program in C.

SUGGESTED READING

1. Gottfried, Byron S., Programming with C, Tata McGraw Hill
2. Gill Nasib Singh: Computing Fundamentals and Programming in C, Khanna Books Publishing Co., New Delhi.
3. Balagurusamy, E., Programming in ANSI C, 4E, Tata McGraw-Hill
4. Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley.
5. Yashwant Kanetker, Let us C, BPB.
6. Rajaraman, V., Computer Programming in C, PHI.
7. Yashwant Kanetker, Working with C, BPB.
8. Any other book(s) covering the contents.

Note: Latest and additional good books may be suggested and added from time to time.

Data Structure

Time: 3 hrs   **BVIT-203**   **Max. Marks- 20/Total Credits: 03**

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. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

Unit-I
Data-Structure: Data-Structure operations, Algorithm, Complexity, Data structure and its essence, Introduction to Arrays, Array operations, Multi- dimensional arrays, sequential allocation, address calculations, sparse arrays, Stacks-Introduction to Stacks, primitive operations on stacks, representation of stacks as an array and stack-applications.

Unit-II
Queues:-Introduction to queues, operations on queues, circular queue, priority queue, Applications of queue. Linked List-introduction and basic operations, Header nodes, doubly linked list, circular linked list, Applications of linked list, Representation of linked list as an array, stacks and queues.

Unit-III
Tree structures: Basic terminology, binary trees and binary search trees, implementing binary trees, Tree traversal algorithms, threaded trees, trees in search algorithms, AVL Trees, Polish notation and expression trees, applications of binary trees.

Unit-IV
Graph data structure and their applications. Graph traversals, shortest paths, spanning trees and related algorithms. Sorting: Internal and external sorting. Various sorting algorithms, Time and Space complexity of algorithms. Searching techniques. Applications of Sorting and Searching in computer science.

Suggested Reading:
1. Lipschutz: Data Structures (Schaum's Outline Series), Tata McGraw-Hill.
2. Adam Drozdek: Data Structures and Algorithms in C++, Vikas Pub. House (Thmpson), New Delhi.
3. Gupta Amit: Data Structures Through C, Galgotia Booksource Pvt. Ltd., New Delhi
4. Sofat S.: Data Structures With C and C++, Khanna Book Pub. Co.(P) Ltd, N. Delhi.
5. Dromey R.G: How to Solve it by Computer?, Prentice Hall India.
6. Loomis: Data Structure and File Management, Prentice-Hall India Ltd.
7. Tannenbaum: Data Structure Using C, Tata McGraw-Hill.
8. Any other book(s) covering the contents.

Note: Latest and additional good books may be suggested.