Syllabus as per NEP 2020 with Effect From June – 2023
Bachelor of Vocation (Software Development)

Course Code	BVS01MAC01	Title of the Course	Algorithms and Programming in C
Total Credits Of the Course	4	Hours per Week	4

Course Objective:	1. To provide basic understand in of problem solving using algorithms and flowcharts. 2. To impart knowledge on fundamental concepts of the C Programming language.

Course Content		
Unit	Description	Weightage *(%)
1.	**Concept of Algorithm, Flowchart and Languages** – Concept of an algorithm and a flowchart, need and definition – Symbols used to draw a flowchart – Typical examples of flowcharts and algorithms – Generations of computer languages – High-level and low-level languages – Translators – Introduction to editors and details about one of the editors	25%
2.	**Basics of Programming** – Problem analysis – Variables, expressions & manipulation – Data types in a high-level language, operators – I/O statements, Assignment statements – Control strategies, Conditions	25%
3.	**Structured Programming and Arrays** – Loop statements – Method of structured programming – Arrays	25%

4.	**Strings, Library Functions and Command-line arguments** − Introduction − String handling. − Common standard library functions − Command-line arguments	25%

Teaching-Learning Methodology	Multiple teaching approaches lecture and discussion, exploration and inquiry, cooperative group work, demonstrations, and presentations.

Evaluation Pattern		
Sr.No.	Details of the Evaluation	**Weightage *(%)**
1.	Internal Written/Practical Examination	50%
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments.	
3.	External Examination	50%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Solve problems using algorithms and flowcharts.
2.	Develop simple programs using the C Programming language.

Suggested References:	
Sr.No.	References
1.	Balagurusami: Programming in ANSIC. Tata McGrawHillPublication,2019.
2.	Kernighan B. Ritchie D: The CProgrammingLanguage,PrenticeHall,1988.
3.	CooperH.&MullishH:TheSpritofC,JaicoPublicationHouse,NewDelhi,1988.

Course Code	**BVS01MAC02**	Title of the Course	**Algorithms and Programming Practical Lab**
Total Credits Of the Course	**4**	Hours per Week	**4**

Course Objective:	1. To impart knowledge get to design algorithms and flowcharts. 2. To impart skill to solve simple programming problems.

Course Content		
Sr.No	Description	Weightage *(%)
1.	Part-1Practical Based on Algorithms and Programming in C (**BVC01MAC01**) (Unit-1&Unit-2)	50%
2.	Part-2Practical Based on Algorithms and Programming in C (**BVC01MAC01**)(Unit-3&Unit-4)	50%

Teaching-Learning Methodology	Hands on training through required ICT tools.

Evaluation Pattern		
Sr.No	Details of the Evaluation	**Weightage *(%)**
1.	Internal Written/Practical Examination	
2.	InternalContinuousAssessmentintheformofPractical,Viva-voce,Quizzes,Seminars,Assignments,Attendance	50%
3.	External Examination	50%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Design algorithms and flowcharts.
2.	Solve simple programming problems in C.

Syllabus as per NEP 2020 With Effect From June – 2023
Bachelor of Vocation (Software Development)
SEM-I

Course Code	BVS01MIC03	Title of the Course	Basics of I.T
Total Credits Of the Course	4	Hours per Week	4

Course Objectives:	Material for this course will be presented using multiple teaching approaches: lecture and discussion, exploration and inquiry, cooperative group work, demonstrations, and presentations

Course Content		
Unit	**Description**	**Weightage *(%)**
1.	**Introduction to MS Windows.** − Operating system-Definition & functions − Basic components of windows − Learning about icons, types of icons, taskbar, activating windows, using desktop title bar, running applications, exploring computer, managing files and folders copying and moving files and folders. − Control panel –display properties, adding and removing software and hardware, setting date and time, screensaver and appearance using windows accessories.	25%
2.	**Introduction to Word** − Documentation Using MS-Word − Introduction to word processing interface, Toolbars, Menus − Creating & Editing Document − Formatting Document − Finding and replacing text − Header and footer concepts − Drop cap − Auto-text, Autocorrect, Spelling and Grammar Tool − Document Dictionary, Page Formatting, Bookmark, Previewing and printing document − Advance Features of MS-Word-Mail Merge, Macros, Tables, File Management, − Printing, Styles, linking and embedding object, Template.	25%

3	**Introduction to excel**	
	– Introduction to Spreadsheets and Spreadsheet packages – Creating & Editing Worksheet – Database Management using Excel-Sorting Filtering – Formatting and Essential Operations – Conditional formatting. – Moving and copying data in excel – Header and footer – Formulas and Functions – Charts, Cell referencing, Page setup, Macros – Advance features of MS-Excel-Pivot table & Pivot Chart – Linking and Consolidation – Data analysis using What-if analysis	25%
4	**Introduction to PowerPoint**	
	– Presentation using MS-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	25%

Teaching-Learning Methodology	Materialforthiscoursewillbepresentedusingmultipleteachingapproaches: lecture and discussion, exploration and inquiry,cooperativegroupwork, demonstrations, and presentations

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage *(%)
1.	Internal Written/Practical Examination	
2.	Internal Continuous Assessment in the form of Practical, Viva-voce, Quizzes, Seminars, Assignments, Attendance	50%
3.	External Examination	50%

Course Outcomes: Having completed this course, the learner will be able to	
1.	understand the concept of Conceptual Framework of Accounting & Accounting Cycle
2.	Understand features of word processing, presentation tool and spreadsheets.

Suggested References:	
Sr.No.	References
1.	Manuals of PC Software
2.	Taxali R K : PC Software made simple for Windows, Tata McGraw-Hill Publishing Co. Ltd., 2000.
3.	Naheshgwari S. N. : Introduction to Accounting, Vikas Pub. House 1986
4.	R.L. Gupta &V. K. Gupta : Principles and practices of accounting, Sultan Chand & Sons, 2019.
5.	Rana & Dalal : Advances Accounting and Auditing :III Sudhir Prakashan Ahmedabad, 2005.
6.	J. C. Gandhi : Marketing : A managerial Introduction Tata McGraw Hill Publishing CO. Ltd. New Delhi, 1989.

Course Code	**BVS01MIC04**	Title of the Course	**Basic Business Application Lab**
Total Credits Of the Course	**4**	Hours per Week	**4**

Course Objective:	To enable students to work with Word documents, Excel sheets and power point presentations.

Course Content		
Sr. No.	Description	Weight age *(%)
1.	**Practical based on MS Word** Formatting Document Finding and replacing text Header and footer concepts Drop cap Mail Merge	50%
2.	**Practical based on MS Excel and MS Power Point** Conditional formatting Linking and Consolidation Data analysis using What-if analysis Excel Charts Animations and Sounds Inserting Animated Pictures	50%

Teaching-Learning Methodology	Hands on training through required ICT tools.

Evaluation Pattern		
Sr.No	Details of the Evaluation	Weightage *(%)
1.	Internal Written/Practical Examination	50%
2.	Internal Continuous Assessment in the form of Practical,Viva-voce, Quizzes, Seminars, Assignments, Attendance	
3.	External Examination	50%

Course Outcomes: Having completed this course, the learner will be able to
1. Work with Word documents, Excel sheets and create power point presentations.

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Bachelor of Vocation (Software Development)
SEM - I

Course Code	**BVS01SEC06**	Title of the Course	**Logical Organization of Computer**
Total Credits Of the Course	**2**	Hours per Week	**2**

Course Objective:	1. To provide basic understanding of logical organization and architecture of a computer. 2. To introduce fundamental concepts related to number systems and representation of information.

Course Content		
Unit	**Description**	**Weightage *(%)**
1.	**Introduction to Computers** – History of Development of Computers – Generation of Computers – Types of Computers (Microcomputers, Minicomputers, Mainframes, Super Computers) – Hardware, Software & Firmware **Architecture of a Computer** – Block Diagram & Functional Units – Hardware components: Mother board, Processor, Memory, ports – Fetch-decode-execute cycle – BIOS, POST	50%
2	**Number Systems and Memory** – Various number systems (Binary, Octal, Hexadecimal, Decimal) – Conversion among various number systems – Binary addition & subtraction – Hexadecimal addition & subtraction – Parity Scheme – ASCII Character Code, Memory organization, Addressing Modes – Memory types: RAM, ROM, FLASH, PROM, EPROM, EEPROM Concepts of virtual memory, Cache memory **Storage Devices and I/O Devices** – Floppy Disks: structure, reading/writing, formatting	50%

	– Hard disk and its architecture	
	– CD-ROM, DVD ROM	
	– Back up Devices	
	– Printers: Line printer, DOT matrix, Laser, Inkjet	
	– Plotters: Scanners, OCR, OMR	
	– Keyboard, Mouse	
	– Other Devices: Joysticks, Touch pads, pens etc.	
	Monitors (CRT Flat Screen LCD)	

Teaching-Learning Methodology	Multiple teaching approaches: lecture and discussion, exploration and inquiry, cooperative group work, demonstrations, and presentations

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage *(%)
1.	Internal Written/Practical Examination	
2.	InternalContinuousAssessmentintheformofPractical,Viva-voce,Quizzes,Seminars,Assignments,Attendance	50%
3.	External Examination	50%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand the fundamental concepts related to organization of a computer system
2.	Understand the fundamental concepts related to number systems and representation of information.

Suggested References:	
Sr.No.	References
1.	Tanenbaum A.S., Structured Computer Organization, Prentice-Hall of India Pvt Ltd, 5th edition, 2005.
2.	Rajaraman V, Computer Fundamentals, Prentice-Hall of India PvtLtd(4th Edition), 2003.
3.	P.K. Sinha, Priti Sinha, Computer Fundamentals, 6th Edition, 2003.

Course Code	**BVS01AEC05**	Title of the Course	**Business Communication-I**
Total Credits Of the Course	**2**	Hours per Week	**2**

Course Objective:	1. Introduce themselves, describe person, place or situation
	2. Structure sentences for variety of purposes
	3. Make or respond to enquiries; raise queries as and when required
	4. Write letters for specific purposes
	5. Use modal auxiliaries efficaciously
	6. Communicate in Active and Passive Voice precisely

Course Content		
Unit	**Description**	**Weightage *(%)**
1	**Introducing Business Communication:** – Concepts, Definition & Attributes of Communication – Objectives Of business communication – Process of communication – Importance of effective communication in business	50%

2	**Business Etiquettes:**
	– Concept & Importance
	– Etiquettes for:
	  • Meeting
	  • Telephone/Cellphone Conversation
	– Etiquettes with stakeholders(external-
	– Etiquettes at workplace (internal-superiors, peers & subordinates)
		50%

Teaching-Learning Methodology	Role Play, Discussion and Debate, Think Pair Share, Traditional classroom teaching as well as usage of ICT tools.

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage *(%)
1.	Internal Written/Practical Examination	50%
2.	InternalContinuousAssessmentintheformofPractical,Viva-voce,Quizzes,Seminars,Assignments,Attendance	
3.	External Examination	50%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Introduce themselves, describe person, place or situation.
2.	Structure sentences for variety of purposes.
3.	Make or respond to enquiries; raise queries as and when required.
4.	Write letters for specific purposes
5.	Use modal auxiliaries efficaciously.
6.	Communicate in Active and Passive Voice precisely.

Course Code	**BVS01IKC07**	Title of the Course	**Indian Knowledge Systems**
Total Credits Of the Course	**2**	Hours per Week	**2**

Course Objectives:	The course will enable the student teachers to • Examine the concept of Bhartiya concept of spirituality and its various paths. • Examine the Bhartiya philosophy of life derived from Shashtras (ancient scriptures) and its implications for the Bhartiya lifestyle. • Analyse the concept of Indian Knowledge Systems (IKS) and emphasize its importance in preserving and disseminating indigenous knowledge. • Highlight the contributions of IKS to the world, particularly in the fields of mathematics and astronomy. • Explorethe Bhartiya wisdom related to life sciences. • Study the science of architecture in ancient India with reference to significant sites. • Provide an overview of Ayurveda, including its concepts, branches, important books, and pioneers in the field. • Explore Bhartiya literature and the Bhartiya theory of aesthetics and rasa in various art forms.

Course Content		
Unit	**Description**	**Weightage *(%)**
1	**Spiritual Bharat and Introduction to IKS** – Bhartiya Concept of Spirituality : Gyaan Marg, Bhakti Marg, Karmmarg, Yog Marg – Bhartiya Spiritual Thinking Leading to Unity – Bhartiya Philosophy of Life Derived from Shashtr as and its Implications for Bhartiy Life Style – Introduction to IKS and Its Importance – Introduction of Various Indian Knowledge Systems	50 %
2	**Contribution of IKS to the World** – Bhartiya Contribution in Mathematics and Astronomy – Bhartiya Wisdom related to Life Science: Physics, Chemistry, Botany – Bhartiy Science of Architecture with reference to Lothal, Mohan Jo Daro, Dholavira, Temple Architecture – Ayurveda : Concept, Branches, Books and Pioneers – Bhartiya Literature and Bhartiy Theory of Aesthetics and Rasa	50 %

Teaching-Learning Methodology	Lecture-cum-discussion, Group Discussion, Presentations, Seminars, tutorials, Research Exercises

Evaluation Pattern		
Sr.No.	Details of the Evaluation	Weightage *(%)
1.	Internal Written/Practical Examination Internal Continuous Assessment in the form of Practical, Viva voce, Quizzes, Seminars, Assignments, Attendance	50%
2.	External Examination	50%

Course Outcomes: Having completed this course, the learner will be able to	
1.	Understand the diverse paths of spirituality in Bhartiya culture, including Gyaan Marg,Bhakti Marg, Karm Marg, and Yog Marg, and recognize their significance in individual and collective spiritual growth.
2.	EvaluatetheBhartiyaphilosophyoflifederivedfromShashtrasandanalyzeitsimplications for contemporary Bhartiya lifestyles, fostering a deeper understanding of the connection between spirituality and everyday life.
3.	Explain the concept of Indian Knowledge Systems (IKS)and recognize its importance preserving and promoting indigenous knowledge, fostering a sense of cultural identity and pride.
4.	Demonstrate knowledge of various Indian knowledge systems, such as Ayurveda, Vedic sciences, Yoga, Vedanta, and Jyotish, and appreciate their contributions to human knowledge and well-being.
5.	Recognize and appreciate the significant contributions of IKS to the world, particularly in the fields of mathematics and astronomy, and understand their impact on modern scientific advancements.
6	Analyze the Bhartiya wisdom related to life sciences, including physics, chemistry, and botany, as described in ancient texts, and understand the irrelevance and potential applications in contemporary scientific research.
7	Identify and analyze the unique architectural features and principles of ancient Indiansites like Lothal, Mohenjo-daro, Dholavira, and temple architecture, understanding their cultural, historical, and spiritual significance.

Suggested References:

- Radhakrishnan, S.(1992).The Hindu View of Life. Harper Collins Publishers.
- Singh, A. P., & Yagnik, S.(Eds.).(2019). Indian Knowledge Systems: Understanding the Human Uniqueness. Springer.
- Frawley, D., & Ranade, S.(2001). Ayurveda, Nature's Medicine. Lotus Press.
- Lad, V., & Frawley, D.(1986). The Yoga of Herbs: An Ayurvedic Guide to Herbal Medicine. Lotus Press.
- Dasgupta, S.(1947).A History of Indian Philosophy. Cambridge University Press.
- Pollock, S. (2006). The Language of the Gods in the World of Men: Sanskrit, Culture, and Power in Premodern India. University of California Press.
- Sarma, K. V. (2008). Indian Astronomy: A Source-Based Approach. National Council of Education Research and Training.
- Narlikar, J.V., & Padmanabhan, T.(Eds.).(2016).Development of Physics in India. Springer.
- Mahdihassan, S. (1982). Ancient Indian Botany: Its Bearing on Art and Literature. Deccan College Post-Graduate and Research Institute.