COURSE-WISE SYLLABUS

Semester I

Year	I	**Course Code: 21BCA1C2L**	**Credits**	03
Sem.	I	**Course Title:** Fundamentals of Computers	**Hours**	40
Course Pre-requisites, if any:		NA		
Formative Assessment Marks: 40		Summative Assessment Marks: 60	Duration of ESA: 02 hrs.	
Course Outcomes		At the end of the course the student should be able to: 1. Create an awareness of computers its classification and anatomy 2. Understand Number systems , Computer Languages and the steps for problem solving 3. Understand the fundamentals of operating systems and basic commands 4. Understand basic concepts of DBMS and Internet		
Unit No.		**Course Content**	**Hours**	
Unit I		**Fundamentals of Computers:** Introduction to Computers - Computer Definition, Characteristics of Computers, Evolution and Generations of Computers, Basic Organisation of a Digital Computer; Functions & Components of a Computer, Central Processing Unit, Microprocessor, Storage units, Input and output Devices. How CPU and memory works.Classification of Digital Computer Systems: Microcomputers, Minicomputers, Mainframes, Super computers	10	
Unit II		**Number Systems** – different types, conversion from one number system to another; Computer Codes – BCD, Gray Code, ASCII; Boolean Algebra – Boolean Operators with Truth Tables; **Computer Languages** - Machine Level, Assembly Level & High Level Languages, Translator Programs – Assembler, Interpreter and Compiler; Planning a Computer Program – Algorithm and Flowchart with Examples.	10	
Unit III		**Operating System Fundamentals:** Operating Systems: Introduction, Functions of an operating System, Classification of Operating Systems, System programs, Application programs, Utilities, The Unix	10	

	Operating System, Basic Commands (cal, date, bc, echo, who, ls, pwd, cd, mkdir, rmdir), Commands to work with file (cat, cp, rm, mv, file, wc, head, tail)	
Unit IV	**Introduction to Database Management Systems:** Database, DBMS, Why Database -File system vs DBMS, Database applications, Database users, Introduction to SQL, Classification of SQL-DDL, DML, DCL**Internet Basics:** Introduction, Features of Internet, Internet application, Services of Internet, Logical and physical addresses, Internet Service Providers, Domain Name System.**Web Basics:** Introduction to web, web browsers, http/https, URL.	10
Print Resources	1. Pradeep K. Sinha and PritiSinha: Computer Fundamentals (Sixth Edition), BPB Publication 2. David Riley and Kenny Hunt, Computational thinking for modern solver, Chapman &Hall/CRC, 3. J. Glenn Brook shear," Computer Science: An Overview", Addision-Wesley, Twelth Edition, 4. R.G. Dromey, "How to solve it by Computer", PHI,	