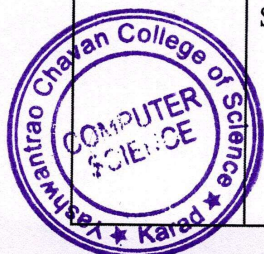
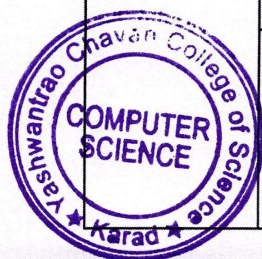


YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD
DEPARTMENT OF COMPUTER SCIENCE

| B. Sc. Computer Science (Entire) - I 2024-25 | | | | |
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| COURSE OUTCOMES (COs) | | | | |
| SEMESTER | COURSE CODE | COURSE TITLE | COURSE OUTCOME | |
| SEM - I | Subject I DSC I | C Programming | CO1 | Understand the concept of design tools (Algorithm and Flowchart) to given solution to the problem. |
| | | | CO2 | Use basics of C language syntax as identifiers, keywords, variables, data types and operators |
| | | | CO3 | Apply the concept of branching, looping, decision-making statements and Array for given problem. |
| | | | CO4 | Break a large problem into smaller part, writing each part as a function and develop a C Program |
| | Subject I DSC II | Operating System | CO1 | Understand basic concepts of operating system, services and their structures. |
| | | | CO2 | Illustrate the concept of process and process life cycle and acquire the knowledge of CPU and I/O concepts. |
| | | | CO3 | Implement the issues and challenges of memory management and file management concept |
| | | | CO4 | Understand the concept of resource allocation and concept of deadlock with its prevention, avoidance, detection and recovery. |
| | Subject I Practical I | C Programming Lab | CO1 | Understand basic structure if C Programming, declaration and usage of variables, use of data type and operators. |
| | | | CO2 | Implement control structures to develop a C program. |
| | | | CO3 | Apply and write C Program to implement one dimensional array. |
| | | | CO4 | Define a user defined function to give solution to given problem |
| | Subject II DSC I | Discrete Mathematics for Computer Science | CO1 | Apply basic counting principles and combinatorial arguments. |
| | | | CO2 | Solve linear recurrence relations with constant coefficient. |

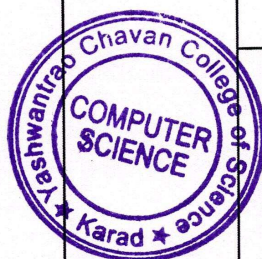


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| | | | CO3 | Analyze the logical structure of statements symbolically, including the proper use of logical connectives. |
| | | | CO4 | Construct truth tables, prove or disprove a hypothesis and evaluate the truth of a statement using the principles of logic. |
| | Subject II DSC II | Algebra | CO1 | Apply fundamental concepts in Number theory to solve problems on congruence. |
| | | | CO2 | Solve problems based on Fermat's theorem and residue classes. |
| | | | CO3 | Use fundamental concepts in Mathematics like sets, relations and functions. |
| | | | CO4 | learn basic concepts like poset, lattice, Boolean algebra and apply them to find CNF and DNF. |
| | Subject II Practical I | Mathematics Laboratory course-I | CO1 | Solve linear recurrence relations with constant coefficient. |
| | | | CO2 | Analyze the logical structure of statements symbolically, including the proper use of logical connectives. |
| | | | CO3 | Solve problems based on Fermat's theorem and residue classes. |
| | | | CO4 | learn basic concepts like poset, lattice, Boolean algebra and apply them to find CNF and DNF. |
| | Subject III DSC I | Fundamental Electronics | CO1 | Understand the concept of electronics components. |
| | | | CO2 | Understand the transistor Applications. |
| | | | CO3 | To study and understand the amplifier and oscillator concept. |
| | | | CO4 | To study the concept of operational amplifier and Integrated circuit. |
| | Subject III DSC II | Basic Digital Electronics | CO1 | Understand the concept of Number Systems, |
| | | | CO2 | Understand different Computer Codes |
| | | | CO3 | Understand different Logic Gates & Boolean Algebra, |
| | | | CO4 | Understand various Combinational Logic circuits, |
| | Subject III Practical I | Practical Based on Subject III DSC-I and Subject III DSC-II | CO1 | To study and understand the amplifier and oscillator concept. |
| | | | CO2 | To study the concept of operational amplifier and Integrated circuit. |

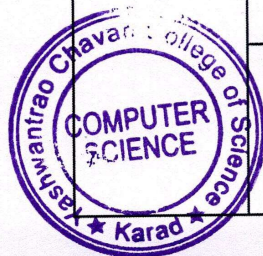


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| | | | CO3 | Understand various Combinational Logic circuits, |
| | OE - I | Business Statistics Using MS Excel / Linux Practical - I | CO1 | perform the visual analysis of data by means of simple diagrams and graphs, also to locate outliers using Excel functions |
| | | | CO2 | get basic knowledge of descriptive statistics for data analysis |
| | | | CO3 | get the basic knowledge of concepts of spread of data and exhibit variation in data by computing measures of dispersion. |
| | | | CO4 | get the knowledge of type and shape of frequency distribution using skewness and kurtosis measures |
| | IKS - I | Vedic Mathematics | CO1 | To perform simple arithmetic calculations with speed and accuracy |
| | | | CO2 | To generate tables of any number |
| | | | CO3 | To perform products of large numbers quickly |

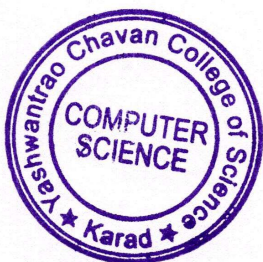
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| SEM – II | Subject I DSC III | Advanced C Programming | CO1 | Apply code reusability with functions and pointer, Implement string in C programs. |
| | | | CO2 | Understand how to allocate memory at runtime using different memory allocation functions. |
| | | | CO3 | Understand the need of structure and implement the structure with real life examples. |
| | | | CO4 | Understand the basics of file handling mechanism and uses of preprocessors. |
| | Subject I DSC IV | Essentials of Software Engineering | CO1 | Understand the problem domain to choose process models correctly |
| | | | CO2 | Choose software projects using appropriate design notations |
| | | | CO3 | Measure the product and process performance using various metrics. |
| | | | CO4 | Evaluate the system with various testing techniques and strategies |
| | Subject I Practical II | Advanced C Programming Lab | CO1 | Understand how to reuse code using functions and pointers. |
| | | | CO2 | Implement memory allocation functions to allocate memory at run time. |



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| | | | CO3 | Define a structure to declare the data members of different data types according to needs. |
| | | | CO4 | Handle different file handling functions and preprocessors. |
| | Subject II DSC III | Graph Theory | CO1 | Achieve command of the fundamental definitions and concepts of graph theory. |
| | | | CO2 | Model problems using graphs and solve these problems algorithmically. |
| | | | CO3 | Illustrate fundamentals of spanning tree, circuits and cut-sets. |
| | | | CO4 | Apply this knowledge in (especially) computer science applications. |
| | Subject II DSC IV | Group and Coding theory | CO1 | Learn Group structure and its properties. |
| | | | CO2 | Understand fundamental properties of sub-groups, cyclic groups, permutation groups. |
| | | | CO3 | identify different types of group structure and apply them in Cryptography |
| | | | CO4 | Compile the concepts, properties, aspects of Algebra and apply them in computer science. |
| | Subject II Practical II | Mathematics Laboratory course-II | CO1 | Model problems using graphs and solve these problems algorithmically. |
| | | | CO2 | Illustrate fundamentals of spanning tree, circuits and cut-sets. |
| | | | CO3 | Understand fundamental properties of sub-groups, cyclic groups, permutation groups. |
| | | | CO4 | identify different types of group structure and apply them in Cryptography |
| | Subject III DSC III | Sensors and Signal Conditioning | CO1 | After completion of this course, student will be able to understand the sensors. |
| | | | CO2 | Describe the working principle, selection criteria and applications of various transducers used in the instrumentation systems |
| | | | CO3 | Getting a knowledge of signal conditioning circuits, data converters & digital instruments.. |
| | | | CO4 | Understanding of different Actuators, Data Acquisition Systems & Data loggers. |
| | Subject III DSC IV | Advanced Digital Electronics | CO1 | Understand the Sequential Circuits like Flip-Flop, |
| | | | CO2 | Understand the various digital Counters & Shift registers, |



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| | | | CO3 | Understand 8-bit Microprocessor-8085 architecture, |
| | | | CO4 | Understand 8085-microprocessor Instruction set & assembly language programming. |
| Subject III Practical II | Practical Based on Subject III DSC-III and Subject III DSC-IV | CO1 | Getting a knowledge of signal conditioning circuits, data converters & digital instruments.. | |
| | | CO2 | Understanding of different Actuators, Data Acquisition Systems & Data loggers. | |
| | | CO3 | Understand 8-bit Microprocessor-8085 architecture, | |
| | | CO4 | Understand 8085-microprocessor Instruction set & assembly language programming. | |
| OE - II | Business Statistics Using MS Excel / Linux Practical - II | CO1 | get the basic knowledge of bivariate data analysis by computing correlation coefficient and performing linear regression analysis. | |
| | | CO2 | get the knowledge of discrete probability distributions. | |
| | | CO3 | implement the probability distribution concepts using model sampling. | |
| | | CO4 | acquire the insights of time series and index number theories with its application. | |
| VEC - I | Democracy, Election and Constitution | | | |



Bhairav

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