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**BABU BANARASI DAS**

**NORTHERN INDIA INSTITUTE OF TECHNOLOGY**

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**PRACTICAL FILE**

**SUBJECT NAME: PPS lab**

**SUBJECT CODE: (KCS151)**

**ACADEMIC SESSION: 2021-2022**

**Under Guidance Of:**

**Submitted By:**

**BABU BANARASI DAS**

**NORTHERN INDIA INSTITUTE OF TECHNOLOGY**

**Institute Vision**

To establish a multi-disciplinary environment with excellence in technical education and research for developing competent professionals who meet the challenges of industrial and societal development with human values and ethics.

**Institute Mission**

**M1.** To provide an excellent environment with supporting infrastructure to prepare globally competent professionals acceptable to industry and society.

**M2.** To inculcate a spirit of research, innovation and entrepreneurship by exposing multi-disciplinary approach.

**M3.** To motivate aspiring graduates to solve real life problems with zeal of lifelong learning.

**M4.** To imbibe a healthy environment which helps to develop intellectual capabilities among graduates to transform them into professionals with human values and ethics.

**Department of Computer Science & Engineering**

**Department Vision**

To provide conducive environment for learning and create research opportunities in the field of Computer Science and Engineering to meet global requirements using latest technologies with ethical values.

**Department Mission**

**M1:** To provide theoretical and practical concepts across Computer Science discipline.

**M2:** To impart education which is well suited to meet challenging software needs of the industry.

**M3:** To nurture the undergraduate students with multi-disciplinary and research activities to grow as a professionals.

**M4:** To empower students with moral and ethical values.

**Department of Computer Science & Engineering**

**Program Educational Objectives**

**PEO-1:**  To encourage students to strengthen their technical capabilities for providing solutions to meet industrial and societal needs.

**PEO-2:** To groom graduates as professional engineers to work with leadership and problem solving skills.

**Program Specific Outcomes**

**PSO-1:**  Ability to design and develop solutions for societal problems by using emerging technologies and standardized emerging principles.

**PSO-2:**  Develop and understanding for conceptual and practical aspects of programming languages with databases and develop solutions using suitable data structures and algorithmic techniques.

**Program Outcomes (POs)**

**1. Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**2. Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**3. Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**7. Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**11. Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**12. Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

**B. TECH (CSE)**

**SEMESTER-I**

***Academic Session: 2021-22(EVEN)***

**Programming for Problem LAB**

|  |  |  |  |
| --- | --- | --- | --- |
| **Software Engineering Lab (KCS-151)** | | | |
| **Course Outcome ( CO)** | | **Bloom’s Knowledge Level (KL)** | |
| **At the end of course , the student will be able to** | | | |
| CO 1 | Able to implement the algorithms and draw flowcharts for solving Mathematical and Engineering problems. | | K3,K 4 |
| CO 2 | Demonstrate an understanding of computer programming language concepts. | | K3, K2 |
| CO 3 | Ability to design and develop Computer programs, analyzes, and interprets the concept of pointers, declarations, initialization, operations on pointers and their usage. | | K6, K4 |
| CO 4 | Able to define data types and use them in simple data processing applications also he/she must be able to use the concept of array of structures. | | K1, K5 |
| CO 5 | Develop confidence for self education and ability for life-long learning needed for Computer language. | | K3, K4 |

**INDEX**

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| --- | --- | --- | --- | --- | --- | --- |
| **S.No.** | **Name of the Experiment** | **CO** | **Date**  **(on which experiment performed)** | **Page No.** | **Faculty Signature (with date)** | **Remarks** |
| **1.** | 1. Prepare a SRS document in line with the IEEE recommended standards.  1. Prepare a SRS document in line with the IEEE recommended standards.  1. Prepare a SRS document in line with the IEEE recommended standards.  1. Prepare a SRS document in line with the IEEE recommended standards.  1. Prepare a SRS document in line with the IEEE recommended standards.  Basic salary of an employee is input through the keyboard. The DA is 25% of the basic salary while the HRA is 15% of the basic salary. Provident Fund is deducted at the rate of 10% of the gross salary (BS+DA+HRA). Program to calculate the Net Salary. | **CO1** | 02/12/2021 |  |  |  |
| **2.** | Write a program to determine the roots of quadratic equation | **CO2** | 09/12/2021 |  |  |  |
| **3.** | Write a program to generate sum of series 1!+2!+3!+--------------n! | **CO2** | 16/12/2021 |  |  |  |
| **4.** | Write a program to print out all the Armstrong number between 100 and 500. | **CO3** | 23/12/2021 |  |  |  |
| **5.** | Write a program to calculate the factorial for given number using function | **CO4** | 30/12/2021 |  |  |  |
| **6.** | Write a program to find the factorial of given number using recursion. | **CO4** | 06/01/2022 |  |  |  |
| **7.** | Write a program to find the sum of digits of a 5 digit number using recursion. | **CO4** | 17/02/2022 |  |  |  |
| **8.** | Write a program to find the transpose of a given matrix & check whether it is symmetric or not. | **CO4** | 17/02/2022 |  |  |  |
| **9.** | Write a program to print the multiplication of two N\*N (Square) matrix. | **CO5** | 24/02/2022 |  |  |  |
| **10.** | Write program to sort the array of character (String) in alphabetical order like STRING in GINRST. | **CO5** | 24/02/2022 |  |  |  |
| **11.** | Define a structure that can describe a hotel. It should have the member that includes the name, address, grade, room charge and number of rooms. Write a function to print out hotel of given grade in order of room charges. | **CO5** | 03/03/2022 |  |  |  |
| **12** | Write the following C program using pointer: a) To sort the list of numbers through pointer b) To reverse the string through pointer. | **CO5** | 03/03/2022 |  |  |  |
| **13** | Write a program to find the largest no among 20 integers array using dynamic memory allocation. | **CO5** | 03/03/2022 |  |  |  |