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| **TERM END EXAMINATIONS (TEE) – December 2021- January 2022** | | | | | | | | | | |
| **Programme** | | | **:** | **B.Tech.– BCY, BHI,BAI,BMR** | | **Semester** | | | **:** | **Fall 2021-22** |
| **Course Name** | | | **:** | **Introduction to Problem Solving and Programming** | | **Course Code** | | | **:** | **CSE1021** |
| **Faculty Name** | | | **:** | **Lokesh Malviya** | | **Slot / Class No** | | | **:** | **E11+E12+E13/0086** |
| **Time** | | | **:** | **1½ hours** | | **Max. Marks** | | | **:** | **50** |
| **Answer ALL the Questions** | | | | | | | | | | |
| **Q.No.** | **Question Description** | | | | | | | **Marks** | | |
| **PART - A ( 30 Marks)** | | | | | | | | | | |
| 1 | (a) | Explain characteristics of an algorithm. Write an algorithm to find whether a number is prime or not with flowchart. | | | | | | 10 | | |
| OR | | | | | | | | | |
| (b) | What is function? Explain various types of arguments used in function using python program. | | | | | | 10 | | |
| 2 | (a) | Explain various types of base conversion and write a program to convert decimal number “142” in binary, octal, and hexadecimal | | | | | | 10 | | |
| OR | | | | | | | | | |
| (b) | Define the For loop in python with range function. Write a program to use of For loop with break, continue and pass statements. | | | | | | 10 | | |
| 3 | (a) | What is prime factor? Write a program to find prime factor with use of function. | | | | | | 10 | | |
| OR | | | | | | | | | |
| (b) | Explain different methods for generation of pseudo random number with python program. | | | | | | 10 | | |
| **PART - B (20 Marks)** | | | | | | | | | | |
| 4 | | Describe the efficiency of algorithms in term Time and Space Complexity with suitable example. | | | | | | 10 | | |
| 5 | | Write a program for the following array techniques:-   1. To find kth smallest element with output 2. Partitioning an array with output | | | | | | 10 | | |
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