

U.G. 3rd Semester Examination - 2021

COMPUTER SCIENCE

[HONOURS]

Skill Enhancement Course (SEC)

Course Code : COM.SC-H-SEC-P-301

[PRACTICAL]

Full Marks : 50

Time : 4 Hours

The figures in the right-hand margin indicate marks.

Marks Distribution :

Experiment : 30 Marks

Viva voce : 10 Marks

Class Attendance and Internal : 10 Marks

Each questions carries 15 marks.

Answer any **two** questions to be allotted on lottery basis:

1. Write a shell script to find the first N prime numbers.
2. Write a shell script to accept two file names and concatenate the content of the files into another file, if both files exist.
3. Write a shell script to list the attributes of the processes running on a system, Also store these information in a file named as "processInfo,info".
4. Write a shell script to check your present working directory, and make a list of files modified within last 24 hours.

5. Write a shell script to check whether a number is prime number or not. The number should be given as an input through command line argument.
6. Write a shell script to count number of digits of a multi-digit number taken as command line input.
7. Write a shell script to create a substring from a string. The starting position and length of the substring must be given by the user.
8. Write a shell script to compare two files and list the dissimilarities.
9. Write a shell script to get the current date, time, username and present working directory. Store the results in a file and count the number of characters in the file.
10. Write a shell script to print the Fibonacci series up to N terms where N should be taken as command line input.
11. Write a shell script to check whether a number is Armstrong number or not. The number should be given as an input through command line argument.
12. Write a shell script to sort an array of integers. The length of the array should be taken as a command line argument and array elements should be provided at the run time.

[Turn over]

13. Write a shell script to create an array using user input and perform scalar multiplication on the array elements.
14. Write a shell script to input a file name containing multiple lines and then create a new file by copying line 4 to 10 from inputted file.
15. Write a shell script to input a year as command line argument and check whether the year is palindrome or not.
16. Write a shell script to find whether a pair of integers are twin prime. A twin prime is either a prime number that is 2 less or 2 more than another prime number- for example , (41, 43) is a twin prime pair. In other words, a twin prime is a prime that has a prime gap of 2.
17. Write a shell script to count the number of words in a string given by the user.
18. Write a shell script to check whether a number is BUZZ number or not. A BUZZ number is the number, which either ends with 7 or is divisible by 7.
19. Write a shell script to find the GCD of two integers taken as command line arguments.
20. Write a shell script to find the LCM of two integers taken as command line arguments.

21. Write a shell script to check whether a number is automorphic number or not. An automorphic number contains the last digits of its square. For example, 25 is an automorphic number as its square is 625 and 25 is present as the last two digit.
22. Write a shell script to find the sum of the digits of a multi-digit number.
23. Write a shell script to input a multi-digit number and print whether the number is a special number or not. A number is said to be a special number if the sum of the factorial of the digits of the number is same as the original number. For example, 145 is a special number as $1! + 4! + 5! = 1 + 24 + 120 = 145$.
24. Write a shell script to check whether a number is duck number or not. A number is said to be duck if the digit 0(zero)is present in it.
