

- N. B. :** (1) Question No. 1 is **compulsory**.
 (2) Attempt any **four** questions out of remaining **six** questions.
 (3) **WAP** means write a program in 'C' language.

Mastes

1. (a) Explain the use of following UNIX commands. 10
 (i) cal
 (ii) who
 (iii) date
 (iv) cp
 (v) grep
 (b) Explain the following 'C' language functions. 10
 (i) strcat()
 (ii) sqrt()
 (iii) getch()
 (iv) calloc()
 (v) free()
2. (a) WAP to read two natural numbers n1 and n2 where n2 is greater than n1, and generate all the prime numbers between n1 and n2 both inclusive. 10
 (b) WAP to input data into an array. Compute the sum and average. Then count the number of values of the array greater than the average and the number of values less than the average. Print the values, the average, and the counts. 10
3. (a) Explain various storage classes in 'C'. 10
 (b) Explain UNIX Security and File access permission. 10
4. (a) WAP which contains the function to do the following. 10
 (i) To read elements of a square matrix.
 (ii) To display elements of matrix.
 (iii) To find transpose of the matrix.
 (iv) To check whether matrix is symmetric or not.
 (b) WAP to check the given string is palindrome or not. 10
5. WAP for the following. 20
 (i) To concatenate two strings entered by user.
 (ii) To find binary equivalent of decimal number.
 (iii) To count and display total no of vowels contained in user input string.
 (iv) To count the factorial of given number.
6. (a) WAP to check if the given number is 'Armstrong Number'. An Armstrong number of three digits is an integer such that the sum of the cubes of its digits is equal to the number itself. 10
 (b) WAP to reverse the digits of the number. E.g. if the number is 1234, then output will be 4321. 10
7. (a) What is union ? How it differs from structure? Explain with suitable example. 5
 (b) Explain bitwise operators in 'C' 5
 (c) Explain the use of preprocessor directives. 5
 (d) Write short note on UNIX operating system. 5