

**GURU GOBIND SING PUBLIC SCHOOL**

**SECTOR V, B.S.CITY**

**CLASS : XI**

**SUBJECT : COMPUTER SCIENCE**

**ASSIGNMENT**

Fundamental of Computer Science

1. Describe the functional units of computer.
2. Define Operating System, Types & it's functions.
3. Define the following terms
  - a. Identifiers
  - b. Keywords
  - c. Operators
  - d. Data Types
4. Write the full form of following
  - a. POST
  - B. BIOS
  - C. LSI
  - D. EEPROM
5. Convert the following number system
  - a.  $(1101101)_2 = (?)_{10}$
  - b.  $(756)_8 = (?)_{16}$
  - c.  $(abc)_{16} = (?)_8$
  - d.  $(5463)_8 = (?)_{10}$
6. Write a program to print HELLO WORLD on screen.
7. Write a program to display the following output using a single cout statement.

Subject	Marks
Mathematics	90
Computer	77
Chemistry	69
8. Write a program which accept two numbers and print their sum.
9. Write a program which accept temperature in Fahrenheit and print it in centigrade.
10. Write a program which accept principle, rate and time from user and print the simple interest.
11. Write a program which accepts a character and display its ASCII value.
12. Write a program to swap the values of two variables.
13. Write a program to calculate area of circle.
14. Write a program to check whether the given number is positive or negative (using ? : ternary operator )
15. Write a program to check whether the given number is even or odd (using ? : ternary operator )
16. Any integer is input by the user. Write a program to find out whether it is an odd number or even number.
17. Find the absolute value of a number entered by the user.

- 18 Write a program to calculate the total expenses. Quantity and price per item are input by the user and discount of 10% is offered if the expense is more than 5000.
- 19 Write a program to determine whether the seller has made profit or incurred loss. Also determine how much profit he made or loss he incurred. Cost price and selling price of an item is input by the user.
- 20 If the ages of Ram, Sulabh and Ajay are input by the user, write a program to determine the youngest of the three.
- 21 Write a program to check whether a triangle is valid or not, when the three angles of the triangle are entered by the user. A triangle is valid if the sum of all the three angles is equal to 180 degrees.
- 22 Any year is input by the user. Write a program to determine whether the year is a leap year or not.
- 23 In a company an employee is paid as under:  
 If his basic salary is less than Rs. 1500, then HRA = 10% of basic salary and DA = 90% of basic salary.  
 If his salary is either equal to or above Rs. 1500, then HRA = Rs. 500 and DA = 98% of basic salary.  
 If the employee's salary is input by the user write a program to find his gross salary.
- 24 Write a program to calculate the monthly telephone bills as per the following rule:  
 Minimum Rs. 200 for upto 100 calls.  
 Plus Rs. 0.60 per call for next 50 calls.  
 Plus Rs. 0.50 per call for next 50 calls.  
 Plus Rs. 0.40 per call for any call beyond 200 calls.
- 25 Write a program to find the roots of and quadratic equation of type  $ax^2+bx+c$  where a is not equal to zero.
- 26 The marks obtained by a student in 5 different subjects are input by the user. The student gets a division as per the following rules:  
 Percentage above or equal to 60 - First division  
 Percentage between 50 and 59 - Second division  
 Percentage between 40 and 49 - Third division  
 Percentage less than 40 - Fail  
 Write a program to calculate the division obtained by the student.
- 27 Any character is entered by the user; write a program to determine whether the character entered is a capital letter, a small case letter, a digit or a special symbol. The following table shows the range of ASCII values for various characters.

Characters	ASCII Values
A – Z	65 – 90
a – z	97 – 122

0 – 9	48 – 57
special symbols	0 - 47, 58 - 64, 91 - 96, 123 – 127

28 Write a program to print number from 1 to 10.

29 Write a program to calculate the sum of first 10 natural number.

30 Write a program to find the factorial value of any number entered through the keyboard.

31 Two numbers are entered through the keyboard. Write a program to find the value of one number raised to the power of another

32 Write a program to reverse any given integer number.

33 Write a program to sum of digits of given integer number.

34 Write a program to check given number is prime or not.

35 Write a program to calculate HCF of Two given number.

36 Write a program to enter the numbers till the user wants and at the end it should display the count of positive, negative and zeros entered.

37 Write a program to enter the numbers till the user wants and at the end it should display the maximum and minimum number entered.

38 Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number.

For example,  $153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)$

39 Write a program to print Fibonacci series of n terms where n is input by user : 0 1 1 2 3 5 8 13 21 .....

40 Write a program to calculate the sum of following series where n is input by user.

$1 + 1/2 + 1/3 + 1/4 + 1/5 + \dots + 1/n$

41 Compute the natural logarithm of 2, by adding up to n terms in the series

$1/2 + 1/3 - 1/4 + 1/5 - \dots + 1/n$

where n is a positive integer and input by user.

40. Write a program to print the following series

1,3,6,10..... Up to N terms