Note: Students are advised to write down the question, program codes and the output after executing the program. You are also advised to save programs as PRG1, PRG3, etc. in your disk. To find complete solutions, see the book "**QBASIC FOR SCHOOLS.**"

LAB SESSION 1

1. Write a program to print your school's name 20 times.
2. Write a program to print numbers 1 to 100 horizontally.
3. Write a program to find the area of a square.
4. Write a program to calculate the sum of integers from 1 to 100.
5. Write a program to calculate the area of a triangle.

LAB SESSION 2

6. Write a 4-line program to calculate the area of a rectangle whose dimensions are supplied by the user.
7. Write a program to check whether you can vote in general election. A person at or above 18 years of age can vote.
8. Write a program to find the circumference and area of a circle (pi = 3.1416).
9. Write a program to find the sum of N numbers.
10. Write a program to find the sum, average and division of 5 students appeared in 7 subjects (English, Nepali, Science, Vocation, Maths, Opt. Maths, and Computer) in the Send Up Test exam. The criteria for division is:

average >= 60 %	first division
average >=45 and <60%	second division
average >=32 and <45%	third division

LAB SESSION 3

11. Find the interest (I) and total amount (A) of (P) principal for (N) number of years at the rate of (R) per annum. The principal amount rate of interest and number of years is provided from keyboard.
12. Write a program to check whether a given number is odd or even.
13. Write a program to find the capital cities of 10 countries as the country name is keyed in. (use DATA ...READ statement)
14. Write a quiz program which will ask the seven wonders of the world . (Use ON GOTO statement)
15. Write a program to enter 5 numbers and print them in reverse order. (Use DIM, FOR..NEXT statement)

LAB SESSION 4

16. Write a program to enter product code and on the basis of product code which checks the price and calculates the total amount as quantity is provided. (Use DIM, For..Next statement)
17. Write a program which asks the user two numbers on two lines, calculates sum of the two, products of the two and difference of the two with a message.
18. Write a program which allows to enter length and breadth of a square to calculate its area.
19. Write a program which asks to enter length, breadth and height of a box to find its area and volume.
20. Write a program to enter money deposited in the bank, interest rate and number of years to find interest and total amount.

LAB SESSION 5

21. Calculate the sum of the first 100 odd numbers.
22. Develop an algorithm, flowchart and program for the following: Nepal Electricity Authority has the following charges for consumptions:

    Compulsory fee Rs 100

    For the first 50 units:Rs 20 per unit

    For the next 100 units: Rs 1.25 per unit

    Beyond 150 units: 90 paisa per unit

    Ask the user to input the units used and then print out the cost.
23. Generate the following series. (Using FOR..NEXT, IF..THEN and WHILE ..WEND)
    (a) 1, 2, 3, ... 100
    (b) 0,2,4,6,........100
    (c) 1, 3, 5, ...99
    (d) 1, 8, 27, 64, ... 10th term
    (e) 5, 125, ... 5th term

LAB SESSION 6

24. Generate the following series using FOR...NEXT and WHILE...WEND.
    (a) 1000, 992, 984,.... 10th term
    (b) 3, 6, 9, 12, 15, ..., 20th term
    (c) 3, 9, 27, 81, ...up to 10th term
    (d) 2, 4, 8, 16, ... 10th term
    (e) -25, -20, -15, -10, -5, 0, ... 20th term

LAB SESSION 7

25. Generate the following series using FOR...NEXT and WHILE...WEND.
    (a) 1000, 990, 980, 970, ... 20th term
    (b) 1, 4, 9, 16, ... 15th term
    (c) 3, 12, 27, ...10th term
    (d) 1000, 729, 512, ... 10th term
    (e) 999, 728, 511,... 10th term

26. Generate the following series using FOR...NEXT and WHILE...WEND.
    (a)   1, 11, 111, 1111, 11111, 111111
    (b)   11111, 1111, 111, 11, 1
    (c)   .11111, .1111, .111, .11, .1
    (d)   1, 1/2, 1/3, 1/4, 1/5, ... 10th term
    (e)   1/2, 2/3, 3/4, 4/5, ... 20th term
    (f)   .1, .03, .005, .0007, .00009.

27. Write programs to display the following numeric pattern (using nested loops)

    (a) 1
        1 2
        1 2 3
        1 2 3 4
        1 2 3 4 5

    (b) 1 2 3 4 5
        1 2 3 4
        1 2 3
        1 2
        1

    (c) 5
        5 4
        5 4 3
        5 4 3 2
        5 4 3 2 1

    (d) 5 4 3 2 1
        5 4 3 2
        5 4 3
        5 4
        5

    (e) 1
        2 2
        3 3 3
        4 4 4 4
        5 5 5 5 5

    (f) 5 5 5 5 5
        4 4 4 4
        3 3 3
        2 2
        1

25. Following is a list of total marks obtained by students of class 10. Write a program to calculate and print percentage of each as per the format given below (using READ ... DATA statement)

Name	Marks obt. (out of 700)	Percentage
Kamal	561	_____
Gopi	412	_____
Surmi	601	_____
Binod	384	_____