

COMPUTER APPLICATION
CLASS 6
GWBASIC PROGRAMS
2019-2020

FINAL TERM SYLLABUS:

Logical Operators AND/OR/NOT with IF – THEN – ELSE

FOR – NEXT loop (Increment, Decrement, Step, no counters and no accumulators)

(First Term BASIC syllabus to be included)

1. Write a program to accept marks in any four subjects and calculate the percentage scored if the maximum marks for each subject is 50. If the percentage is 40 or above, then display “Pass”, otherwise display “Fail”.

Ans:

```
10 INPUT "Marks in Math"; M
20 INPUT "Marks in Computers"; C
30 INPUT "Marks in Science"; S
40 INPUT "Marks in English"; E
50 LET T = M + C + S + E
60 LET P = T / 200 * 100
70 IF P >= 40 THEN PRINT "Pass" ELSE PRINT "Fail"
80 END
```

2. Write a program to accept the cost price and the selling price of an article and display “Profit” or “Loss” or “No profit or loss” accordingly.

Ans:

```
10 INPUT "Enter the cost price"; CP
20 INPUT "Enter the selling price"; SP
30 IF CP > SP THEN PRINT "Loss"
40 IF CP < SP THEN PRINT "Profit"
50 IF CP = SP THEN PRINT "No profit or loss"
60 END
```

3. Write a program to accept the bandwidth speed in kilobits, and convert and display it in kilobytes. If the converted value is 60 or above, then display “Broadband Speed”, otherwise display “Slow Speed”.

1 Kilobyte = 1/8th of a Kilobit

Ans:

```
10 INPUT "Enter speed in Kilobits"; KBIT
20 LET KBYTE = KBIT / 8
30 IF KBYTE >= 60 THEN PRINT "Broadband Speed" ELSE PRINT "Slow Speed"
40 END
```

4. WAP to accept two numbers from the user and store them in variables N1 and N2. Compare them and display “EQUAL” if both the numbers are the same, “FIRST GREATER” if N1 is greater, otherwise “SECOND GREATER” if N2 is greater.

Ans:

```
10 INPUT "First number"; N1
20 INPUT "Second number"; N2
30 IF N1 = N2 THEN PRINT "Equal"
40 IF N1 > N2 THEN PRINT "First Greater"
50 IF N1 < N2 THEN PRINT "Second Greater"
60 END
```

5. Write a program to accept the length and breadth of two rectangular fields. Calculate their area, and display the area which is greater.

Area = Length \times Breadth

Ans:

```
10 INPUT "Length and breadth of first field"; L1, B1
20 INPUT "Length and breadth of second field"; L2, B2
30 LET A1 = L1 * B1
40 LET A2 = L2 * B2
50 IF A1 > A2 THEN PRINT A1 ELSE PRINT A2
60 END
```

6. A shopkeeper offers discount based on the following table:

Bill Amount	Discount
Below 1000	2%
1000 – 4999	5%
5000 – 9999	7%
10000 and above	10%

Write a program to accept the total bill amount and calculate and display the amount to be paid by the customer after deducting the discount amount.

Ans:

```
10 INPUT "Enter the bill amount"; B
20 IF B < 1000 THEN D = 2 / 100 * B
30 IF B >= 1000 AND B < 5000 THEN D = 5 / 100 * B
40 IF B >= 5000 AND B < 10000 THEN D = 7 / 100 * B
50 IF B >= 10000 THEN D = 10 / 100 * B
60 LET AP = B - D
70 PRINT "Amount to be paid by the customer: Rs"; AP
80 END
```

7. Write a program to accept the average marks of a student and display a suitable grade according to the table given below:

Average Score	Grade
90 or above	A
70 – 89	B
50 – 69	C
40 – 49	D
Below 40	E

Ans:

```
10 INPUT "Enter average score"; AVG
20 IF AVG >= 90 THEN PRINT "A"
30 IF AVG >= 70 AND AVG < 90 THEN PRINT "B"
40 IF AVG >= 50 AND AVG < 70 THEN PRINT "C"
50 IF AVG >= 40 AND AVG < 50 THEN PRINT "D"
60 IF AVG < 40 THEN PRINT "E"
70 END
```

8. Accept three angles of a triangle and find out if it is an equilateral triangle. Display a suitable message accordingly.

Ans:

```
10 INPUT "First angle"; A
20 INPUT "Second angle"; B
30 INPUT "Third angle"; C
40 IF A = B AND B = C THEN PRINT "Equilateral Triangle" ELSE PRINT "Not Equilateral"
50 END
```

9. For admission in a +2 level, an institution either wants "Science" stream or more than 80% aggregate. Write a program to accept student's name, his/her stream and aggregate and check whether he is admitted or not.

Ans:

```
10 INPUT "Enter name"; N$
20 INPUT "Enter stream"; S$
30 INPUT "Enter aggregate"; AG
40 IF S$ = "SCIENCE" OR AG >= 80 THEN PRINT "Admitted" ELSE PRINT "Not Admitted"
50 END
```

10. Write a program to input two numbers and check if the first number is greater or smaller or same as the second number, using the NOT operator.

Ans:

```
10 INPUT "First number"; A
20 INPUT "Second number"; B
30 IF NOT A >= B THEN PRINT "First number is smaller"
40 IF NOT A <= B THEN PRINT "First number is greater"
50 IF NOT A <> B THEN PRINT "First number is same as the second"
60 END
```

11. Write a program to accept three angles of a triangle and find out if it is a right-angled triangle. Display a suitable message accordingly.

Ans:

```
10 INPUT "First angle"; A
20 INPUT "Second angle"; B
30 INPUT "Third angle"; C
40 IF A = 90 OR B = 90 OR C = 90 THEN PRINT "Right-angled" ELSE PRINT "Not right-angled"
50 END
```

12. Write a program to accept the score of 9 batsmen, and display a message based on the table given below:

SCORE	MESSAGE
0	Duck
50 – 99	Half Century
100 – 199	Century
200 – 299	Double Century

Ans:

```
10 FOR I = 1 TO 9 STEP 1
20 INPUT "Enter the score"; S
30 IF S = 0 THEN PRINT "Duck"
40 IF S >= 50 AND S <= 99 THEN PRINT "Half Century"
50 IF S >= 100 AND S <= 199 THEN PRINT "Century"
60 IF S >= 200 AND S <= 299 THEN PRINT "Double Century"
70 NEXT I
80 END
```

13. Write a program to accept the number of days in a month and display all the months with that many days.

Ans:

```
10 INPUT "Enter the number of days"; N
20 IF N=28 OR N=29 THEN PRINT "February"
30 IF N=30 THEN PRINT "April, June, September, November"
40 IF N=31 THEN PRINT "January, March, May, July, August, October, December"
50 END
```

14. BMI (Body Mass Index) is the ratio of height to mass. Accept the mass and height of the user and calculate the BMI. Then display a message accordingly:

More than 23	Overweight
18 to 23	Normal
Less than 18	Underweight

Ans:

```
10 INPUT "Mass in kg"; M
20 INPUT "Height in m"; H
30 LET BMI = M/H
40 IF BMI > 23 THEN PRINT "Overweight"
50 IF BMI >= 18 AND BMI <= 23 THEN PRINT "Normal"
60 IF BMI < 18 THEN PRINT "Underweight"
70 END
```

15. A school decides to give away prizes to its students based on their average score. Write a program to accept the average score and display what prize they will get according to the table below:

Average Score	Prize
Below 40	Pencil
40 – 60	Pen
61 – 80	Tiffin Box
81 – 90	Story Book
Above 90	Cricket Bat

Ans:

```
10 INPUT "Enter your average score"; AVG
20 IF AVG < 40 THEN PRINT "Pencil"
30 IF AVG >= 40 AND AVG <= 60 THEN PRINT "Pen"
40 IF AVG >= 61 AND AVG <= 80 THEN PRINT "Tiffin Box"
50 IF AVG >= 81 AND AVG <= 90 THEN PRINT "Story Book"
60 IF AVG > 90 THEN PRINT "Cricket Bat"
70 END
```

16. Write a program to accept three angles of a triangle and find out if it is a scalene triangle. Display a suitable message.

Ans:

```
10 INPUT "First angle"; A
20 INPUT "Second angle"; B
30 INPUT "Third angle"; C
40 IF A <> B AND B <> C AND A <> C THEN PRINT "Scalene" ELSE PRINT "Not Scalene"
50 END
```

17. Write a program to accept the measure of three sides and check if a triangle can be formed with them. Display a suitable message.

Ans:

```
10 INPUT "First side"; A
20 INPUT "Second side"; B
30 INPUT "Third side"; C
40 IF (A+B) > C AND (B+C) > A AND (A+C) > B THEN PRINT "Possible" ELSE PRINT "Not Possible"
50 END
```

18. Write a program to accept three angles of a triangle and check if it is an isosceles triangle.

Ans:

```
10 INPUT "First angle"; A
20 INPUT "Second angle"; B
30 INPUT "Third angle"; C
40 IF (A=B AND B<>C) OR (B=C AND B<>A) OR (C=A AND A<>B) THEN PRINT "Isosceles Triangle" ELSE PRINT "Not an isosceles triangle"
50 END
```

19. Write a program to display the first N natural numbers using FOR NEXT.

Ans:

```
10 INPUT "N = "; N
20 FOR I = 1 TO N STEP 1
30 PRINT I,
40 NEXT I
50 END
```

20. Write a program to accept the height in centimeters for 10 students and convert and display their height in meters.

Ans:

```
10 FOR I = 1 TO 10 STEP 1
20 INPUT "Enter height in cm"; H
30 LET M=H/100
40 PRINT "Your height in meters: "; M
50 NEXT I
60 END
```

21. Write a program to display the following series up to N terms:

0, 3, 8, 15, 24 ... N terms.

Ans:

```
10 INPUT "Number of terms"; N
20 FOR I = 1 TO N STEP 1
30 PRINT I ^ 2 - 1,
40 NEXT I
50 END
```

22. Write a program to accept the age of 20 persons and display a proper message according to the table given below:

AGE	MESSAGE
0 to 3	Infant
4 to 12	Kid
13 to 19	Adolescence
20 and above	Adult

Ans:

```
10 FOR I = 1 TO 20 STEP 1
20 INPUT "Enter age"; A
30 IF A >= 0 AND A < 4 THEN PRINT "Infant"
40 IF A >= 4 AND A < 13 THEN PRINT "Kid"
50 IF A >= 13 AND A < 20 THEN PRINT "Adolescence"
60 IF A >= 20 THEN PRINT "Adult"
70 NEXT I
80 END
```

23. Write a program to display the following series:

81, 64, 49, 36, 25, 16, 9, 4, 1, 0, 1, 4, 9, 16, 25, 36, 49, 64, 81

Ans:

```
10 FOR I = -9 TO 9 STEP 1
20 PRINT I^2,
30 NEXT I
40 END
```

24. Write a program to display the following series:

2, 4, 6, 8, ... 20

Ans:

```
10 FOR I = 2 TO 20 STEP 2
20 PRINT I
30 NEXT I
40 END
```

25. Write a program to display the following series: 1, 3, 5, 7, ... 19

Ans:

```
10 FOR I = 1 TO 19 STEP 2
20 PRINT I
30 NEXT I
40 END
```

26. Write a program to accept a number from the user, and display its multiplication table in the following format:

(If the user enters 5)

$$5 \times 1 = 5$$

$$5 \times 2 = 10$$

...

$$5 \times 12 = 60$$

Ans:

```
10 INPUT "Number"; N
20 FOR I=1 TO 12 STEP 1
30 PRINT N;" X "; I; " = "; N * I
40 NEXT I
50 END
```

27. Write a program to display the following series: 100, 90, 80, 70, 60, 50, 40, 30, 20, 10

Ans:

```
10 FOR I = 100 TO 10 STEP -10
20 PRINT I,
30 NEXT I
40 END
```

28. Write a program to accept 10 numbers. If the number is positive, then display it as it is, but if the number is negative, then convert it to positive and display it.

Ans:

```
10 FOR I = 1 TO 10 STEP 1
20 INPUT "Enter the number"; N
30 IF N < 0 THEN PRINT -N ELSE PRINT N
40 NEXT I
50 END
```

29. Write a program to display the following series using FOR NEXT:

1, 4, 9, 16, 25, ... N terms

Ans:

```
10 INPUT "N = "; N
20 FOR I = 1 TO N STEP 1
30 LET S = I^2
40 PRINT S,
50 NEXT I
60 END
```

30. Write a program to display the following series using FOR NEXT:

1, 8, 27, 64, 125, ... N terms

Ans:

```
10 INPUT "N = "; N
20 FOR I = 1 TO N STEP 1
30 LET S = I ^ 3
40 PRINT S,
50 NEXT I
60 END
```
