COMPUTER APPLICATION
CLASS 7
GWBASIC PROGRAMS
2019-2020

FINAL TERM SYLLABUS:

For Loop with accumulators
String Functions LEN, RIGHT, LEFT, MID (without FOR loop)
String Concatenation
(1st Term syllabus to be included)

1.   **WAP to display the sum of the series: $a/b^2 + a^2/b^3 + a^3/b^4 + ... + a^n/b^{n+1}$**

```
10 S=0
20 INPUT "ENTER A,B AND N";A,B,N
30 FOR I=1 TO N
40 S=S+A^I/B^(I+1)
50 NEXT I
60 PRINT "SUM=";S
70 END
```

2.   **WAP to display the sum of the series: $a + a^2 + a^3 + a^4 ... + a^n$**

```
10 S=0
20 INPUT "ENTER A AND N";A,N
30 FOR I=1 TO N
40 S=S+A^I
50 NEXT I
60 PRINT "SUM=";S
70 END
```

3.   **WAP to display the sum of the series: $a/3 + a^2/6 + a^3/9 + ... a^N/(N*3)$**

```
10 S=0
20 INPUT "ENTER A AND N";A,N
30 FOR I=1 TO N
40 S=S+A^I/(I*3)
50 NEXT I
60 PRINT "SUM=";S
70 END
```

4.   **WAP to display the sum of the series: $a + a^2/2 + a^3/3 + ... a^N/N$**

```
10 S=0
20 INPUT "ENTER A AND N";A,N
30 FOR I=1 TO N
40 S=S+A^I/I
50 NEXT I
60 PRINT "SUM=";S
70 END
```

5. **WAP to display the sum of the series: 4 + 16 + 36 + 64 + …. N terms.**

```
10 S=0
20 INPUT "ENTER N";N
30 FOR I=2 TO N*2 STEP 2
40 S=S+I^2
50 NEXT I
60 PRINT "SUM=";S
70 END
```

6. **WAP to display the sum of the series: 1 + 8 + 27 + 64 + …. N terms.**

```
10 S=0
20 INPUT "ENTER N";N
30 FOR I=1 TO N
40 S=S+I^3
50 NEXT I
60 PRINT "SUM=";S
70 END
```

7. **WAP to display the sum of the series: 9 + 99 + 999 + 9999 + …. N terms.**

```
10 P=0:S=0
20 INPUT "ENTER N";N
30 FOR I=1 TO N
40 P=P*10+9
50 S=S+P
60 NEXT I
70 PRINT "SUM=";S
80 END
```

8. **WAP to display the sum of the series: 1+ 12 + 123 + 1234 + …. N terms.**

```
10 P=0:S=0
20 INPUT "ENTER N";N
30 FOR I=1 TO N
40 P=P*10+I
50 S=S+P
60 NEXT I
70 PRINT "SUM=";S
80 END
```

9. **WAP to display the sum of the series: 1 + 2/4 + 3/9 + 4/16 + …. N/N^2**

```
10 S=0
20 INPUT "ENTER N";N
30 FOR I=1 TO N
40 S=S+I/(I^2)
50 NEXT I
60 PRINT "SUM=";S
70 END
```

10. **WAP to display the sum of the series: 1*2 + 2*3 + 3*4 + …. + N*(N+1)**

```
10 S=0
20 INPUT "ENTER N";N
30 FOR I=1 TO N
40 S=S+I*(I+1)
50 NEXT I
60 PRINT "SUM=";S
70 END
```

11. **WAP to display the sum of the series: 1 + (1*2) + (1*2*3) + (1*2*3*4) + …. N terms**

```
10 P=1:S=0
20 INPUT "ENTER N";N
30 FOR I=1 TO N
40 P=P*I
50 S=S+P
60 NEXT I
70 PRINT "SUM=";S
80 END
```

12. **WAP to input A and B and display the sum of all the even numbers and product of all the odd numbers from A to B.**

```
10 SE=0:PO=1
20 INPUT "ENTER A AND B";A,B
30 FOR I=A TO B
40 IF I MOD 2=0 THEN SE=SE+I ELSE PO=PO*I
50 NEXT I
60 PRINT "SUM OF EVEN NUMBERS=";SE
70 PRINT "PRODUCT OF ODD NUMBERS=";PO
80 END
```

13. **WAP to enter any n numbers (positive or negative) and display the sum of the absolute values of them.**

```
10 S=0
20 INPUT "ENTER N"; N
30 FOR I=1 TO N
40 INPUT "ENTER A NUMBER";M
50 S=S+ABS(M)
60 NEXT I
70 PRINT "SUM=";S
80 END
```

14. **WAP to input a number and display its factorial. Ex: Factorial of 4=4x3x2x1=24.**

```
10 F=1
20 INPUT N
30 FOR I=N TO 1 STEP -1
40 F=F*I
50 NEXT I
60 PRINT "FACTORIAL=";F
70 END
```

15. **WAP to enter A and B, now display the sum and average of all the natural numbers from A to B.**

```
10 S=0
20 INPUT "ENTER A AND B";A,B
30 FOR I=A TO B
40 S=S+I
50 NEXT I
60 AVG=S/(B-A+1)
60 PRINT "SUM OF ALL THE NUMBERS=";S
70 PRINT "AVERAGE OF ALL THE NUMBERS=";AVG
80 END
```

16. **WAP to enter the individual runs scored by 11 players in a cricket match. Now display their total and average runs scored.**

```
10 S=0
20 FOR I=1 TO 11
30 INPUT "ENTER THE RUN";R
40 S=S+R
50 NEXT I
60 AVG=S/11
70 PRINT "TOTAL RUN SCORED=";S
80 PRINT "AVERAGE RUN SCORED =";AVG
90 END
```

17. **WAP to enter any N numbers from the user, divide them by 5 and display the sum of all the quotients.**

```
10 S=0
20 INPUT "ENTER N";N
30 FOR I=1 TO N
40 INPUT "ENTER A NUMBER";M
50 S=S+INT(M/5)
60 NEXT I
70 PRINT "SUM=";S
80 END
```

18. **In a courier service the charges for the parcels are as follows:**

Parcel weight(Gram)	Rs/Gram
<=200	0.5
>200 and <=500	1.0
>500 and <=1000	1.5
>1000	2.5

Write a program to input parcel weight in grams for N number of customers and display the total charges collected by the courier service.

```
10 T=0
20 INPUT "ENTER NUMBER OF CUSTOMERS";N
30 FOR I=1 TO N
40 INPUT "ENTER PARCEL WEIGHT IN GRAMS";W
50 IF W<=200 THEN R=0.5
60 IF W>200 AND W<=500 THEN R=1.0
70 IF W>500 AND W<=1000 THEN R=1.5
80 IF W>1000 THEN R=2.5
90 C=W*R
100 T=T+C
110 NEXT I
120 PRINT "TOTAL CHARGES COLLECTED=";T
130 END
```

19. **A shopkeeper gives discount on purchase of items from his shop according to the following criteria:**

Purchase Amount(Rs)	Discount(%)
<=1000	5
>1000 and <=2000	10
>2000	15

WAP to enter the purchase amount for N number of customers and display amount to be paid after getting the discount. Also display the total amount earned by the shopkeeper from all the customers.

```
10 T=0
20 INPUT "ENTER NUMBER OF CUSTOMERS";N
30 FOR I=1 TO N
40 INPUT "ENTER PURCHASE AMOUNT";P
50 IF P<=1000 THEN DP=5
60 IF P>1000 AND P<=2000 THEN DP=10
70 IF P>2000 THEN DP=15
80 D=P*DP/100
90 AMT=P-D
100 PRINT "AMOUNT TO BE PAID=";AMT
110 T=T+AMT
120 NEXT I
130 PRINT "TOTAL AMOUNT EARNED BY THE SHOPKEEPER=";T
140 END
```

20. **WAP to store the sentence "SLOW AND STEADY WINS THE RACE" in proper variable. Now using string functions display the following output:**
SLOW
STEADY
RACE

```
10 A$="SLOW AND STEADY WINS THE RACE"
20 PRINT LEFT$(A$,4)
30 PRINT MID$(A$,10,6)
40 PRINT RIGHT$(A$,4)
50 END
```

21. **WAP to store the word "UNIFORM RESOURCE LOCATER" in a variable and display the following output using string functions.**
UNIFORM
RESOURCE
LOCATER
URL

```
10 A$="UNIFORM RESOURCE LOCATER"
20 PRINT LEFT$(A$,7)
30 PRINT MID$(A$,9,8)
40 PRINT RIGHT$(A$,7)
50 PRINT LEFT$(A$,1)+MID$(A$,9,1)+ MID$(A$,18,1)
60 END
```

22. **WAP to store the word "MOUSE" in a variable and display the following pattern based on string functions, without using any loop :**
MOUSE
MOUS
MOU
MO
M

```
10 A$="MOUSE"
20 PRINT LEFT$(A$,5)
30 PRINT LEFT$(A$,4)
40 PRINT LEFT$(A$,3)
50 PRINT LEFT$(A$,2)
60 PRINT LEFT$(A$,1)
70 END
```

23. **WAP to enter your first name, middle name and last name, and display it in the following format:**
Example: INPUT: ABDUL KALAM AZAD
OUTPUT:
A. K. AZAD
AZAD A. K.
A. K. A.

```
10 A$="ABDUL KALAM AZAD"
20 B$= LEFT$(A$,1)
30 C$= MID$(A$,7,1)
40 D$= RIGHT$(A$,4)
50 E$= MID$(A$,13,1)
60 PRINT B$+". "+C$+".  "+D$
70 PRINT D$+" "+B$+".  "+C$+"."
80 PRINT B$+". "+C$+".  "+E$+"."
90 END
```

24. **WAP to store "WELCOME TO BASIC PROGRAMMING" to a suitable variable and display the following:**
PROGRAM
BASIC
WELCOME BASIC

```
10 A$="WELCOME TO BASIC PROGRAMMING "
20 PRINT MID$(A$,18,7)
30 PRINT MID$(A$,12,5)
40 PRINT LEFT$(A$,7)+" "+MID$(A$,12,5)
50 END
```

25. **WAP to input two different words and display total number of characters present in them.**

```
10 INPUT "ENTER TWO DIFFERENT WORDS";A$,B$
20 PRINT "NUMBER OF CHARACTERS IN FIRST WORD=";LEN(A$)
30 PRINT "NUMBER OF CHARACTERS IN SECOND WORD=";LEN(B$)
40 END
```

26. **WAP to enter today's date in the dd/mm/yyyy format and print only dd/mm, dd/yyyy, mm/yyyy.**

    10 INPUT "ENTER TODAY'S DATE IN DD/MM/YYYY FORMAT";A$
    20 PRINT LEFT$(A$,5)
    30 PRINT LEFT$(A$,3)+RIGHT$(A$,4)
    40 PRINT RIGHT$(A$,7)
    50 END

27. **WAP to store the word "ACKNOWLEDGEMENT" in a suitable variable and using string function display "KNOW", "NOW", "KNOWLEDGE"from it.**

    10 A$="ACKNOWLEDGEMENT"
    20 PRINT MID$(A$,3,4)
    30 PRINT MID$(A$,4,3)
    40 PRINT MID$(A$,3,9)
    50 END

28. **WAP to input two different words from the user, concatenate and store them into a third variable, now display it. Also display the length of the new word formed.**

    10 INPUT "ENTER TWO DIFFERENT WORDS";A$,B$
    20 C$=A$+B$
    30 L=LEN(C$)
    40 PRINT "THE NEW WORD=";C$
    50 PRINT "THE LENGTH=";L
    60 END

29. **WAP to input a name, check and display if it starts with vowel or consonant.**

    10 INPUT "ENTER A NAME";N$
    20 A$=LEFT$(N$,1)
    30 IF A$="A" OR A$="E" OR A$="I" OR A$="O" OR A$="U" THEN
       PRINT "IT STARTS WITH VOWEL" ELSE PRINT "IT STARTS WITH
       CONSONANT"
    40 END

30. **WAP to enter a name and a number N, now extract N characters from the left and the right side of the name, concatenate and display it.**

    10 INPUT "ENTER A NAME AND A NUMBER";A$,N
    20 C$=LEFT$(A$,N)+RIGHT$(A$,N)
    30 PRINT "CONCATENATED STRING=";C$
    40 END

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