

COMPUTER
APPLICATION CLASS 7
GW BASIC
PROGRAMS 2019-
2020

MID TERM SYLLABUS:

IF – THEN, IF – THEN – ELSE with AND/OR/NOT

FOR – NEXT with STEP

Counters

Math Functions INT, MOD, ABS, SQR, SGN

(Math Functions to be included with condition and loop programs).

1. **To be eligible for a competitive examination, a candidate should either be from SCIENCE background or his percentage should be more than or equal to 75. WAP to accept a candidate's subject background and his percentage and display a suitable message.**

```
10 INPUT "ENTER SUBJECT AND PERCENTAGE MARKS";S$,P
20 IF S$="SCIENCE" OR P>=75 THEN PRINT "YOU ARE ELIGIBLE"
ELSE PRINT "YOU ARE NOT ELIGIBLE"
30 END
```

2. **WAP to input any three numbers and display the greatest number.**

```
10 INPUT "ENTER THREE NUMBERS";A,B,C
20 IF A>B AND A>C THEN PRINT A;"IS GREATEST"
30 IF B>A AND B>C THEN PRINT B;"IS GREATEST"
40 IF C>A AND C>B THEN PRINT C;"IS GREATEST"
50 END
```

3. **WAP to input the rainfall amount of a city and display suitable message as follows:**

<u>Rainfall amount(cm)</u>	<u>Message</u>
<10	Very less
>=10 and <20	Normal
>=20	Heavy

```
10 INPUT "ENTER RAINFALL AMOUNT";R
20 IF R<10 THEN PRINT "VERY LESS"
30 IF R>=10 AND R<20 THEN PRINT "NORMAL"
40 IF R>=20 THEN PRINT "HEAVY"
50 END
```

4. **WAP to enter the weekly sales of a salesman and calculate and display his commission as follows:**

<u>Sales(Rs)</u>	<u>Commission(% of Sales)</u>
<5000	5
>=5000 and <20000	10
>=20000	15

```

10 INPUT "ENTER WEEKLY SALES";S
20 IF S<5000 THEN CP=5
30 IF S>=5000 AND S<20000 THEN CP=10
40 IF S>=20000 THEN CP=15
50 C=S*CP/100
60 PRINT "COMMISSION=";C
70 END

```

- 5. A student can enter the Talent Search Competition if he is either 15 years of age or above, or he has completed class 8. WAP to accept name, age and class of a student and display whether he can take part in the competition or not.**

```

10 INPUT "ENTER NAME, AGE AND CLASS";N$,A,C
20 IF A>=15 OR C>8 THEN PRINT "YOU CAN TAKE PART" ELSE
   PRINT "YOU CAN NOT TAKE PART"
30 END

```

- 6. WAP to input the angle and print whether it is acute, obtuse or right angle.**

```

10 INPUT "ENTER THE ANGLE";A
20 IF A<90 THEN PRINT "IT IS ACUTE ANGLE"
30 IF A>90 AND A<180 THEN PRINT "IT IS OBTUSE ANGLE"
40 IF A=90 THEN PRINT "IT IS RIGHT ANGLE"
50 END

```

- 7. WAP to input three sides of a triangle and check and display whether it is equilateral, isosceles or scalene triangle.**

```

10 INPUT "ENTER THREE SIDES";A,B,C
20 IF A=B AND B=C AND C=A THEN PRINT "EQUILATERAL
   TRIANGLE"
30 IF (A=B AND B<>C) OR (B=C AND C<>A) OR (C=A AND A<>B)
   THEN PRINT "ISOSCELES TRIANGLE"
40 IF A<>B AND B<>C AND C<>A THEN PRINT "SCALENE TRIANGLE"
50 END

```

- 8. WAP to enter three angles of a triangle and check and display if it is a right-angled triangle or not.**

```

10 INPUT "ENTER THREE ANGLES";A,B,C
20 IF A=90 OR B=90 OR C=90 THEN PRINT "RIGHT ANGLED
   TRIANGLE" ELSE PRINT "NOT A RIGHT ANGLED TRIANGLE"
30 END

```

9. **WAP input the name, age and salary of a person, calculate and display the Insurance premium as follows:**

<u>Age(Years)</u>	<u>Premium(% of salary)</u>
20-35	8
36-50	10
51 and above	14

```

10 INPUT "ENTER NAME, AGE SALARY";N$,A,S
20 IF A<=20 AND A<=35 THEN PP=8
30 IF A>=36 AND A<=50 THEN PP=10
40 IF A>=51 THEN PP=14
50 P=S*PP/100
60 PRINT "PREMIUM=";P
70 END

```

10. **WAP to input the number of units consumed and display the electric bill according to the following criteria:**

<u>No of units</u>	<u>Rs/Unit</u>
<=100	5
>100 and <=200	6
>200	7

Moreover, every customer has to pay rupees 50 as meter rent.

```

10 INPUT "ENTER NUMBER OF UNITS CONSUMED";U
20 IF U<=100 THEN C=5
30 IF U>100 AND U<=200 THEN C=6
40 IF U>200 THEN C=7
50 T=U*C+50
60 PRINT "TOTAL BILL=";T
70 END

```

11. **WAP to display the series: 1/10, 2/100, 3/1000, ... 10 terms.**

```

10 FOR I=1 TO 10
20 PRINT I;" / ";10^I
30 NEXT I
40 END

```

12. **WAP to display the series: 25, 16, 9, 4, 1, 0, 1, 4, 9, 16, 25.**

```

10 FOR I=-5 TO 5
20 PRINT I^2
30 NEXT I
40 END

```

13. **WAP to display the series: 0, 3, 8, 15, ... 10 terms.**

```

10 FOR I=1 TO 10
20 PRINT I^2-1
30 NEXT I
40 END

```

14. WAP to display the series: 1/1, 1/3, 1/5, 1/7 , ...1/N

```
10 INPUT N
20 FOR I=1 TO N STEP 2
30 PRINT 1;" / ";I
40 NEXT I
50 END
```

15. WAP to display the series: 1/1, 4/8, 9/27, 16/64 Nterms.

```
10 INPUT N
20 FOR I=1 TO N
30 PRINT I^2;" / ";I^3
40 NEXT I
50 END
```

16. WAP to input any 20 numbers and count and display how many are even and odd.

```
10 EV=0:OD=0
20 FOR I=1 TO 20
30 INPUT M
40 IF M MOD 2=0 THEN EV=EV+1 ELSE OD=OD+1
50 NEXT I
60 PRINT "EVEN NUMBERS=";EV
70 PRINT "ODD NUMBERS=";OD
80 END
```

17. WAP to input any 20 numbers and count and display how many are negative, positive or zero.

```
10 NE=0:PO=0:ZE=0
20 FOR I=1 TO 20
30 INPUT M
40 IF M<0 THEN NE=NE+1
50 IF M>0 THEN PO=PO+1
60 IF M=0 THEN ZE=ZE+1
70 NEXT I
80 PRINT "NEGATIVE NUMBERS=";NE
90 PRINT "POSITIVE NUMBERS=";PO
100 PRINT "ZEROS=";ZE
110 END
```

18. **WAP to input the total number of students in a class also their gender code, M for male and F for female. Now count and display the number of boys and girls present in the class.**

```

10 B=0:G=0
20 INPUT "ENTER NUMBER OF STUDENTS";N
30 FOR I=1 TO N
40 INPUT "ENTER GENDER CODE(M/F)";G$
50 IF G$="M" THEN B=B+1
60 IF G$="F" THEN G=G+1
70 NEXT I
80 PRINT "NUMBER OF BOYS=";B
90 PRINT "NUMBER OF GIRLS=";G
100 END

```

19. **WAP to enter the marks and rank of N students in a class, count and display the number of students getting scholarship. The criteria to get scholarship is marks >= 80 or rank = "FIRST".**

```

10 S=0
20 INPUT N
30 FOR I=1 TO N
40 INPUT "ENTER MARKS AND RANK";M,R$
50 IF M >= 80 OR R$="FIRST" THEN S=S+1
60 NEXT I
70 PRINT "NUMBER OF STUDENTS GETTING SCHOLARSHIP=";S
80 END

```

20. **Write a program to input grade of all the students in your class, count and display the frequency of each grade as follows:**

Grade A	Grade B	Grade C	Grade D
?	?	?	?

```

10 A=0:B=0:C=0:D=0
20 INPUT "ENTER NUMBER OF STUDENTS";N
30 FOR I=1 TO N
40 INPUT "ENTER GRADE";G$
50 IF G$="A" THEN A=A+1
60 IF G$="B" THEN B=B+1
70 IF G$="C" THEN C=C+1
80 IF G$="D" THEN D=D+1
90 NEXT I
100 PRINT "GRADE A", "GRADE B", "GRADE C", "GRADE D"
110 PRINT A,B,C,D
120 END

```

21. **WAP to enter the computer marks of all the students in your class and prepare the frequency table based on the following lab:**

<u>%MARKS</u>	<u>NO OF STUDENTS</u>
Below 40	?
>=40 and <50	?
>=50 and <60	?
>=60 and <80	?
>=80 and <=100	?

```

10 C1=0:C2=0:C3=0:C4=0:C5=0
20 INPUT "ENTER NUMBER OF STUDENTS" N
30 FOR I=1 TO N
40 INPUT "ENTER COMPUTER MARKS";M
50 IF M<40 THEN C1=C1+1
60 IF M>=40 AND M<50 THEN C2=C2+1
70 IF M>=50 AND M<60 THEN C3=C3+1
80 IF M>=60 AND M<80 THEN C4=C4+1
90 IF M>=80 AND M<=100 THEN C5=C5+1
100 NEXT I
110 PRINT "% MARKS", "NO OF STUDENTS"
120 PRINT "Below 40", C1
130 PRINT ">=40 and <50", C2
140 PRINT ">=50 and <60", C3
150 PRINT ">=60 and <80", C4
160 PRINT ">=80 and <=100", C5
170 END

```

22. **WAP to input a number, check and display if it is perfect square or not.**

```

10 INPUT N
20 S=N^2
30 R=INT(SQR(S))
40 IF N=R THEN PRINT "PERFECT SQUARE" ELSE PRINT "NOT A
PERFECT
    SQUARE"
50 END

```

23. **WAP to input a number and check and display if it is prime or not. Hints: A prime number is a number which is divisible by only 1 and itself.**

```

10 C=0
20 INPUT "ENTER A NUMBER";N
30 FOR I=1 TO N
40 IF N MOD I=0 THEN C=C+1
50 NEXT I
60 IF C=2 THEN PRINT "PRIME NUMBER" ELSE PRINT "NOT A
PRIME
    NUMBER"
70 END

```

- 24. WAP to input any 20 numbers and display the numbers which are divisible by 5.**

```
10 FOR I=1 TO 20
20 INPUT N
30 IF N MOD 5=0 THEN PRINT N
40 NEXT I
50 END
```

- 25. Write a program to enter any 50 numbers and display their absolute values.**

```
10 FOR I=1 TO 50
20 INPUT N
30 PRINT ABS(N)
40 NEXT I
50 END
```

- 26. WAP to input number of days and convert it into years, months and days.**

```
10 INPUT "ENTER NUMBER OF DAYS";D
20 Y=INT(D/365)
30 D=D MOD 365
40 M=INT(D/30)
50 D=D MOD 30
60 PRINT Y; "YEARS";M;"MONTHS";D;"DAYS"
70 END
```

- 27. WAP to enter n numbers and display the square root of them.**

```
10 INPUT "ENTER N";N
20 FOR I=1 TO N
30 INPUT "ENTER A NO";M
40 PRINT SQR(M)
50 NEXT I
60 END
```

- 28. WAP to enter any n numbers and display integer part only.**

```
10 INPUT "ENTER N";N
20 FOR I=1 TO N
30 INPUT "ENTER A NO";M
40 PRINT INT(M)
50 NEXT I
60 END
```

- 29. Write a program to store the number 789 in a variable and display the reverse of it. [Hints : Reverse is987].**

```
10 N=789
20 R1=N MOD 10
30 N=INT(N/10)
40 R2=N MOD 10
50 N=INT(N/10)
60 R=R1*100+R2*10+N
70 PRINT "REVERSE=";R
80 END
```

- 30. WAP to enter any four digit number n. Display the sum of all its digits. [Hints: Input is 5467, Output is5+4+6+7=22].**

```
10 INPUT "ENTER A FOUR DIGIT NUMBER";N
20 R1=N MOD 10
30 N=INT(N/10)
40 R2=N MOD 10
50 N=INT(N/10)
60 R3=N MOD 10
70 N=INT(N/10)
80 S=R1+R2+R3+N
90 PRINT "SUM OF DIGITS =";S
100 EN
```
