

1. Consider the following pascal programme:

(2016)

```

program repetition (input, output);
var X : integer;
begin
    X := 1 ;
    repeat
        write (X) ;
        X := X + 1 ;
    until X = 3 ;
end.

```

What is the correct output when the above programme is executed?

1) 1
2

2) 1 2

3) 1
2
3

4) 1 2 3

2. Consider the following pseudocode with label X to calculate the sum of numbers from 1 to 100. (2016)

```

sum = 0
num = 0
repeat
    num = num + 1
    sum = sum + num
until X

```

For the above mentioned pseudocode, what is the correct condition that matches with the label X?

- 1) num < 100
- 2) num <= 100
- 3) num > 100
- 4) num >= 100

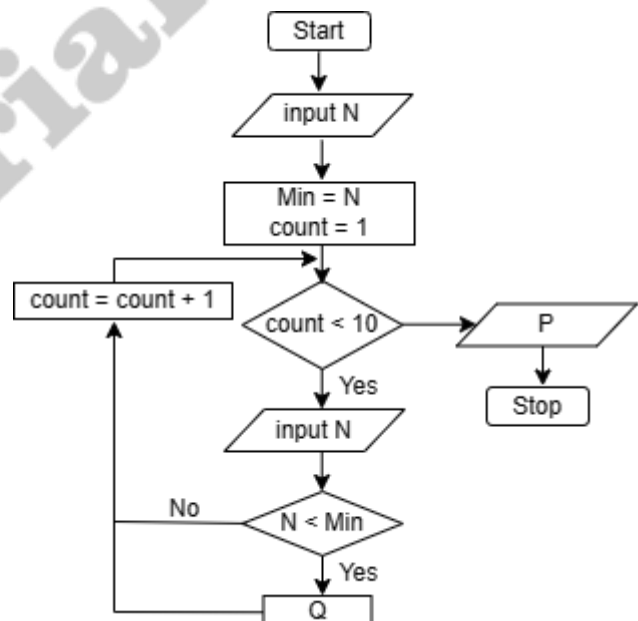
Questions 3 to 4 are based on the following flowchart designed to find the smallest number from any ten numbers.

3. Which of the following correctly represents the labels P and Q in the flow chart respectively? (2016)

- 1) output Min, Min = N
- 2) output N, count = count - 1
- 3) output count, Min = N
- 4) output Min, count = count - 1

4. Which of the following statements is correct related to the control structures given in the flowchart?

- 1) SELECTION occurs within REPETITION
- 2) REPETITION occurs within SELECTION
- 3) REPETITION occurs within REPETITION
- 4) SELECTION occurs within SELECTION



5. Consider the following pseudocode segment: (2016)
How many times will the word HELLO be displayed when the above pseudocode is executed?

- 1) 4
- 2) 5
- 3) 6
- 4) 7

```

count = 0
repeat
    display ("Hello")
    count = count + 1
until count > 4
while count > 4
    display ("HELLO")
    count = count - 1
end while

```

Consider the algorithm in the following flowchart:

6. What values will be displayed for X and Y respectively, if the inputs are X = 10 and Y = 20 for the given flowchart? (2017)

- 1) 10, 10
- 2) 10, 20
- 3) 20, 10
- 4) 20, 20

7. Consider the following pseudocode with label P to find the product of numbers from 1 to 10. (2017)

```
product = 1
number = 0
repeat
    number = number + 1
    product = product * number
until P
```

Which of the following expressions is correct for label P?

- 1) number > 10
- 2) number < 10
- 3) number >= 10
- 4) number <= 10

8. Which of the following pseudocode segments is equivalent to the logic of the algorithm given in the flowchart? (2017)

```
1) N=1
while N <= 10
    N = N + 1
    display N
end while
```

```
2) for N = 0 to 10 do
    display N
```

```
3) N = 0
while N <= 10
    display N
    N = N + 1
end while
```

```
4) for N = 1 to 10 do
    display N
```

9. Consider the following pseudocode: (2017)

```
X = 0
do
    display '*'
    X = X + 2
while X < 5
```

As the output of the above pseudocode, how many times the '*' will be displayed?

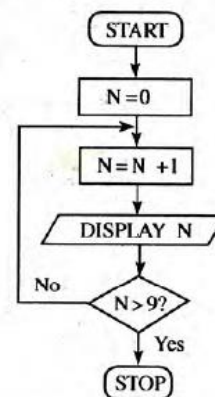
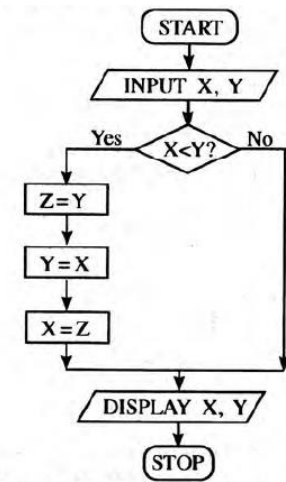
- 1) 2
- 2) 4
- 3) 5
- 4) 6

10. Consider the following pseudocode: (2017)

```
if average > 70 then
    if Sport_colour = 'True' then
        Allrounder_award = 'True'
    end if
end if
```

Which of the following is equivalent to the logic of the above pseudocode?

- 1) if average > 70 AND Sport_colour = 'True' then Allrounder_award = 'True'
- 2) if average > 70 OR Sport_colour = 'True' then Allrounder_award = 'True'
- 3) if average > 70 then Allrounder_award = 'True'
- 4) if Sport_colour = 'True' then Allrounder_award = 'True'



11. Consider the following pseudocode segment:

(2018)

```

Payment_option = 'False'
IF distance > 100 THEN
    Payment_option = 'TRUE'
    IF vehicle_type = 'BUS' THEN
        Payment_option = 'False'
    ENDIF
ENDIF

```

Which of the following statements is correct according to the above pseudocode?

- 1) If distance = 99 and vehicle_type = 'Car' then Payment_option will be made 'TRUE'
- 2) If distance = 99 and vehicle_type = 'Bus' then Payment_option will be made 'TRUE'
- 3) If distance = 101 and vehicle_type = 'Bus' then Payment_option will be made 'FALSE'
- 4) If distance = 101 and vehicle_type = 'Car' then Payment_option will be made 'FALSE'

12. Marks obtained by 10 students for the ICT paper is given in the following array A, which has indexing starting at 0. (2018)

A	76	49	54	88	61	68	72	93	37	70
---	----	----	----	----	----	----	----	----	----	----

Which of the following indexed items can be used to retrieve the highest mark?

- 1) A [0]
- 2) A [1]
- 3) A [7]
- 4) A [9]

13. How many times will the \$ mark be displayed after the execution of the following pseudocode? (2018)

```

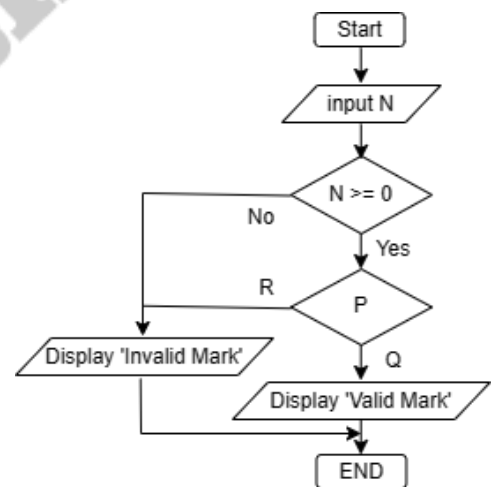
BEGIN
    P = 0
    REPEAT
        Q = P MOD 2
        IF Q = 1 THEN
            DISPLAY '$'
        ENDIF
        P = P + 1
    UNTIL P < 5
END

```

- 1) 1
- 2) 2
- 3) 3
- 4) 4

14. Consider the flowchart on the right which inputs a number and displays the message 'Valid Mark' if the input number is between 0 and 100. What should be the correct terms for labels P, Q and R respectively? (2018)

- 1) $N \leq 100$, No, Yes
- 2) $N \leq 100$, Yes, No
- 3) $N = 100$, No, Yes
- 4) $N = 100$, Yes, No



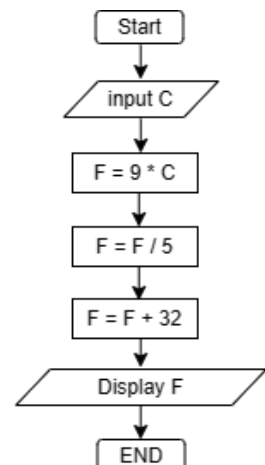
15. Which of the pseudocodes is equivalent to the logic of the flowchart on the right? (2018)

1) BEGIN
 READ C
 $F = 9 * C$
 $F = F + 32$
 $F = 5 * F$
 SHOW F
 END

2) BEGIN
 READ C
 $3F = 9 * C / 5 + 32$
 SHOW F
 END

3) BEGIN
 READ C
 $F = 9 * C / 5 + 32$
 SHOW F
 END

4) BEGIN
 READ C
 $F = 9 * C$
 $F = C + 32$
 $F = 5 * C$
 SHOW F
 END



21. Consider the following pseudo-code:

(2019)

If the values input for the variables a, b and c are 50, 30 and 70 respectively, what would be the displayed output?

- 1) 0
- 2) 30
- 3) 50
- 4) 70

```

READ a, b, c
value = 0
IF (a > b) THEN
    IF (a > c) THEN
        value = a
    ELSE
        value = c
    ENDIF
ENDIF
DISPLAY value
    
```

22. Which of the following statements are correct regarding programming language?

(2020)

- A- Pascal and C are examples of high-level programming languages
- B- A program written in machine language can be executed directly on the computer
- C- Execution speed of the programs written in assembly language is comparatively higher than the execution speed of the programs written in machine languages

- 1) A and B only
- 2) A and C only
- 3) B and C only
- 4) All A, B and C

23. What would be the output of the following Pseudo-code?

(2020)

```

BEGIN
    sum = 0
    count = 5
    REPEAT
        sum = sum + count * count
        count = count - 1
    UNTIL count > 0
    DISPLAY sum
END
    
```

- 1) 25
- 2) 41
- 3) 50
- 4) 55

24. Consider the following array M in PASCAL language:

(2020)

M =

10	20	30	40	50	60	70	80
----	----	----	----	----	----	----	----

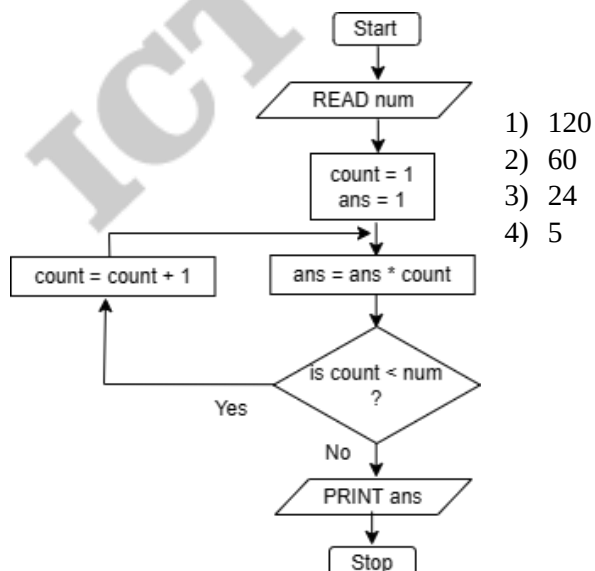
- A- array M has a length of 8
- B- M[5] has the value 50
- C- Value of M[1] + M[3] is 60

Which of the above statements are correct?

- 1) A and B only
- 2) A and C only
- 3) B and C only
- 4) All A, B and C

25. What would be the output of the given flowchart, if 5 is given as the input for num?

(2020)



- 1) 120
- 2) 60
- 3) 24
- 4) 5

26. What would be the output of the following Pseudo-code?

(2020)

BEGIN

number = 12

WHILE number > 5

IF (number >= 10)

number = number / 2

ELSE

number = number + 4

ENDWHILE

DISPLAY number

END

- 1) 5
- 2) 6
- 3) 10
- 4) 16

27. Which of the following control structures can be used in an algorithm?

(2021)

A - Sequence

B - Repetition

C - Selection

- 1) A and B only
- 2) A and C only
- 3) B and C only
- 4) All A, B and C

Consider the given flowchart to answer the questions 28 and 29:

28. What will be displayed as the output of the given flowchart? (2021)

- 1) 1 is displayed.
- 2) 3 is displayed.
- 3) 15 is displayed.
- 4) Nothing is displayed

29. If the labels 'Yes' and 'No' are interchanged in the given flowchart, what will be displayed as its output? (2021)

- 1) 1 is displayed.
- 2) 3 is displayed.
- 3) 15 is displayed.
- 4) Nothing is displayed.

30. How many times will the statement "count = count - 3" execute in the following code segment? (2021)

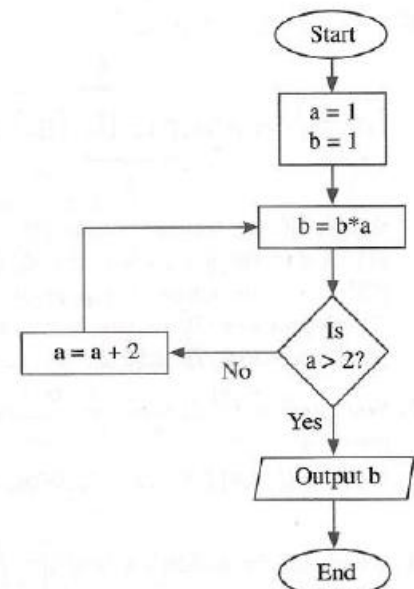
count = 12

WHILE count >= 3

count = count - 3

END WHILE

- 1) 3
- 2) 4
- 3) 5
- 4) 6



Consider the following "Books" array which is used to store prices of 8 books to answer questions 31 and 32.

Books:	96	75	105	200	54	100	63	80
--------	----	----	-----	-----	----	-----	----	----

31. Which of the following correctly defines the "Books" array in a PASCAL program? (2021)

- 1) var Books = array[7];
- 2) var Books : array[0 - 7];
- 3) var Books : array [0..7] of integer;
- 4) var Books : array [0 to 7] of integer;

32. Which of the following represents the most expensive book? (2021)

- 1) Book[3]
- 2) Books[3]
- 3) Book[4]
- 4) Books[4]

Answer the questions 33 to 35 using the given flowchart. (2022)

33. What would be the output of the flowchart if 3 is given as the input?

- 1) 1
- 2) 3
- 3) 6
- 4) 24

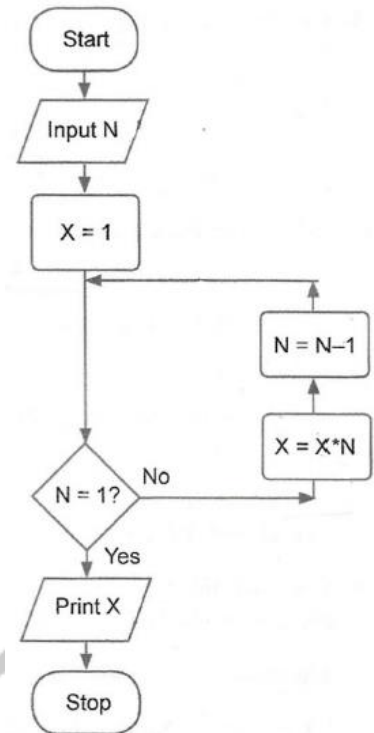
34. Which of the following constructs are best suited to be included in a computer program based on this flowchart?

- A – if then
B – if then else
C – while – endwhile

- 1) A only
- 2) B only
- 3) C only
- 4) B and C only

35. In this algorithm, N always has to be a positive integer. Which of the following is recommended for the flowchart to fulfill the above condition?

- 1) Keeping the flowchart as it is
- 2) Changing the $N = 1?$ condition to $N = 0?$
- 3) Changing the $N = 1?$ condition to $N = -1?$
- 4) Checking the value of N immediately after it is input and stopping the flow if N is negative



36. The array named A holds the average price of an egg for each month of last year:

(2022)

A:

20	25	50	55	70	65	50	60	65	50	55	49
----	----	----	----	----	----	----	----	----	----	----	----

Which array element contains the highest average price?

- 1) A[0]
- 2) A[4]
- 3) A[10]
- 4) A[11]

37. What will be the output if the following Pascal code is executed?

(2022)

```

Program testPrint(input,output);
Var count:integer;
Begin
    For count:=1 to 4 do
        Write(count);
    End.
  
```

- 1) 1
- 2) 4
- 3) 123
- 4) 1234

38. The following pseudocode is to find the sum of the numbers from 1 to 10. What is the suitable replacement for label A?

(2022)

```

Begin
    Sum = 1
    Number = 1
    Repeat
        A
        sum = sum + number
    until number < 10
    display sum
End
  
```

- 1) number = number + 1
- 2) number + 1
- 3) number = 0
- 4) sum = 2

39. Consider the following pseudocode: How many times will * be printed according to it?

(2022)

Begin

P = 0

while P < 6

display ' * '

P = P + 3

endwhile

End

1) 1

2) 2

3) 3

4) 4

40. Consider the following pseudocode fragment: Which of the following is true?

(2022)

if weakness < 40

if character > 70

suitability = "Good"

endif

endif

1) If weakness < 40 then suitability = "Good"

2) If character > 70 then suitability = "Good"

3) If weakness < 40 and character > 70 then suitability = "Good"

4) If weakness < 40 or character > 70 then suitability = "Good"

41. Consider the following statements.

(2022)

A - A machine language code consists of 0s and 1s.

B - A Pascal program is easier to understand than its machine language equivalent.

C - A Pascal code needs to be compiled to convert into its equivalent machine language code.

From the above which statement/statements is/are correct?

1) A only

2) A and B only

3) A and C only

4) All A, B and C