全國高級中等學校 **106** 學年度商業類科學生技藝競賽

【　　程式設計　　】職種【學科】試卷

選手證號碼(崗位編號)： _____　　**姓名：** _____

注意事項：請將答案劃記於答案卡，未依規定劃記者不予計分。

試題說明：(選擇題共 25 題 每題 4 分，答錯不倒扣，共 100 分)

(　)1.執行以下 Visual Basic 程式片段，其結果為何？(A) 15　(B) 12　(C) 7　(D) 3

```
Dim i As Byte
i = &HFC
Console.WriteLine(Not i)
```
　　　說明：Visual basic 中 Not 為求 1 的補數。

(　) 2. 執行以下 Visual Basic 程式片段，其結果為何？(A)239　(B) 255　(C) 223　(D) 207

```
Dim i, j As Byte
i = &HFC
j = &H13
Console.WriteLine(i Xor j)
```


(　) 3. 執行下列 Visual Basic 程式片段，其結果為何？
　　(A) 2530　(B) 3025　(C) 2515　(D) 3030

```
Dim k1, k2, j As Integer
k1 = 0 : k2 = 0
For j = 1 To 10
    If j Mod 2 = 0 Then
        k1 = k1 + j
    Else
        k2 = k2 + j
    End If
Next j
Console.Write(k1) : Console.WriteLine(k2)
```

（　）4. 執行以下 Visual Basic 程式片段，其結果為何？(A) 16　　(B) 18　　(C) 10　　(D) 14

```vb
Dim i, j, c As Integer
c = 0 : j = 4
Do
    For i = 1 To j + 1
        If i Mod 2 = 0 Then
            c = c + i
        End If
    Next
    j = j - 1
Loop Until j <= 0
Console.WriteLine(c)
```

（　）5. 執行下列 Visual Basic 程式片段，輸出結果為何?(A) 1　　(B) 5　　(C) 8　　(D) 2

```vb
Dim id As String
Dim pass() As String = Split("0 10 11 12 13", " ")
Dim sum, a As Integer
id = "A123"
id = Replace(id, Mid(id, 1, 1), pass(Asc(Mid(id, 1, 1)) - 64))
sum = Val(Mid(id, 1, 1)) * 1
a = 2
For k = 3 To 1 Step -1
    sum = sum + Val(Mid(id, a, 1)) * k
    a = a + 1
Next
Console.WriteLine(sum Mod 10)
```

（　）6. 執行下列 Visual Basic 程式片段，輸出結果為何? (A)-1　(B)NULL　(C)False　(D)0

```vb
Dim array As Integer() = New Integer(4) {}
array(2) = 3
array(4) = 5
Console.WriteLine(array(3))
```

（　）7. 執行下列 Visual Basic 程式片段，輸出結果為何? (A)20　(B)21 (C)22　(D)29

```
Dim array As Integer() = New Integer(10) { }
Dim i As Integer
array(0) = 1
For i = 1 To 10
    array(i) = array(i - 1) + i
Next
Console.WriteLine(array(6))
```

（　）8. 執行下列 Visual Basic 程式片段，輸出結果為何? (A)1　(B) 2　(C) 3　(D) 8

```
Dim A, B, C As Integer
A = 8 : B = 2 : C = 3
While B > 0
    C = A Mod B : A = B : B = C
End While
Console.WriteLine(A)
```

（　）9. 執行下列 Visual Basic 程式片段，輸出結果為何?(A)1　(B)12　(C)14　(D)15

```
Dim A(3, 3) As Integer
For I = 1 To 3
    For J = 1 To 3
        If J = 1 Then
            A(I, J) = A(I - 1, J - 1) + I + J
        Else
            A(I, J) = A(I - 1, J - 1) + I + J + 1
        End If
    Next J
Next I
Console.Write(A(3, 3))
```

( )10. 執行下列 Visual Basic 程式，輸出結果為何?(A) 20　　(B) 39　(C) 15　(D) 10

```
Sub Main(  )
    Dim K As Integer
        K = GAME(5)
        Console.WriteLine(K)
End Sub
Function GAME(ByVal X As Integer) As Integer
    If (X > 3) Then
        GAME = X + GAME(X - 1) + GAME(X - 2) + GAME(X - 3)
    Else
        GAME = X
    End If
End Function
```

( )11. 執行下列 Visual Basic 程式片段，輸出結果為何?(A) 0　　(B) 6　(C) 7　(D) 8

```
Dim A, S As Integer
S = 0 : A = 6
While A > 0
    S = S + (A Mod 10) : A = A / 10
End While
Console.WriteLine(S)
```

( )12. 執行下列 Visual Basic 程式片段，輸出結果為何? (A)2　(B)3　(C)0　(D)4

```
Dim I, J, K, Temp, A(5) As Integer
For K = 0 To 5
    A(K) = (K ^ 2 + 1) Mod 5
Next K
For I = 5 To 1 Step -1
    For J = 0 To I - 1
        If A(J) > A(J + 1) Then
            Temp = A(J)
            A(J) = A(J + 1)
            A(J + 1) = Temp
        End If
    Next
Next
Console.WriteLine(A(4))
```

( ) 13. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 58　(B) 47　(C) 59　(D) 48

```
Dim i, j, k, sum As Integer
sum = 0
For i = 0 To 3
    For j = i To 4
        For k = j To 5
            sum = sum + 1
        Next
    Next
Next
Console.WriteLine(sum)
```

( ) 14. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 78 (B) 76　(C) 68　(D) 62

```
Dim i, j, k, sum As Integer
sum = 0
For i = 0 To 3
    For j = i To 4
        For k = i To 5
            sum = sum + 1
        Next
    Next
Next
Console.WriteLine(sum)
```

( ) 15. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 4　(B)5　(C)25　(D)30

```
Dim i, j, S As Integer
S = 0 : i = 0 : j = 0
Do While i <= 5
    Do While j <= 4
        S = S + 1
        j = j + 1
    Loop
    i = i + 1
Loop
Console.Write(S)
```

( ) 16. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 27　(B)28　(C) 29　(D) 30

```
Dim Sum, i, j As Integer
Sum = 0 : i = 0
While i <= 7
    For j = 1 To i
        Sum = Sum + 1
    Next j
    i = i + 1
End While
Console.WriteLine(Sum)
```

( )17.執行下列 Visual Basic 程式片段，輸出結果為何?(A) 1　(B) 7　(C) 8　(D) 9

```
Dim Number As String
Number = "456789"
Dim Int(5) As Integer
Dim x, num, sun As Integer
For x = 0 To 5
    num = Number.Substring(x, 1)
    If (x + 1) Mod 2 <> 0 Then '偶數乘1奇數乘2
        Int(x) = num * 2
    Else
        Int(x) = num
    End If
Next
For x = 0 To 5
    If (Int(x) > 9) Then
        Int(x) = Int(x) - 9
    End If
    sun += Int(x)
Next
Console.WriteLine(sun Mod 10)
```

(   )18. 執行下列Visual Basic程式片段，輸出結果為何? (A) 1　(B) 2　(C) 3　(D) 4

```
Dim ans, num As Integer
Dim a As String
num = 1025
ans = 0
a = Convert.ToString(num, 2)
For k = 1 To Len(a)
    If Mid(a, k, 1) = "1" Then
        ans = ans + 1
    End If
Next
Console.WriteLine(ans)
提示:
'Console.WriteLine(Convert.ToString(14, 2)) '1110
'Console.WriteLine(Convert.ToString(13, 2)) '1101
```

(   )19. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 112　　(B) 113　(C) 114　(D) 115

```
Dim b(3) As String
Dim c(3) As String
Dim id(3) As String
b(0) = Convert.ToString(115, 2)
Do Until Len(b(0)) = 8
    b(0) = "0" & b(0)
Loop
c(0) = Convert.ToString(252, 2)
Do Until Len(c(0)) = 8
    c(0) = "0" & c(0)
Loop
For i = 1 To 8
    If Mid(b(0), i, 1) = Mid(c(0), i, 1) And Mid(b(0), i, 1) = 1 Then
        id(0) = id(0) & "1"
    Else
        id(0) = id(0) & "0"
    End If
Next
Console.WriteLine(Convert.ToInt32(id(0), 2))
提示:
'Console.WriteLine(Convert.ToInt32(1110, 2)) '14
'Console.WriteLine(Convert.ToInt32(1101, 2)) '13
```

（　）20. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 0　　(B) 1　(C) 2　(D) 3
Console.Write((107 Mod 13) Mod 4)

（　）21. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 78　(B) 82　(C) 83　(D) 75
```
Dim a() As Integer = {3, 4, 5, 6, 7, 8, 9}
Dim b As Integer
For i As Integer = 1 To 3
    b += a.Where(Function(o) o Mod i = 0).Sum()
Next
Console.WriteLine(b)
```

（　）22. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 22　(B) 6　　(C) F　(D) 15
```
Console.Write(Hex(15))
```

（　） 23. 執行下列 Visual Basic 程式片段，輸出結果為何? (A) 0　　(B) 1　(C) 2　(D) 3
Console.Write((Math.Pow(2, 7) Mod 13) Mod 4)

（　）24.執行下列 Visual Basic 程式片段，輸出結果為何?(A)8　　(B) 5　　(C) 4　　(D) 3
```
Sub Main(   )
    Console.WriteLine(X(X(3)))
End Sub
 Function X(ByVal n) As Integer
 If n = 1 Then
     Return 1
 Else
     If (n Mod 2 = 1) Then
         Return X(n * 3 + 1) + 1
     Else
         Return X(n / 2) + 1
     End If
 End If
 End Function
```

(　)25.執行下列 Visual Basic 程式片段，輸出結果為何? (A) 16　(B)29　(C) 32　(D) 54

```vb
Sub Main(   )
    Console.WriteLine(F25_2017(6))
End Sub

Function F25_2017(ByVal n As Integer) As Integer
    If n = 1 Or n = 2 Or n = 3 Then
        Return n + 1
    Else
        Return F25_2017(n - 1) + F25_2017(n - 2) + F25_2017(n - 3)
    End If
End Function
```