

APÉNDICE 3: MÓDULO FUNCIONES

```
Function Exponencial(Beta As Double) As Double
Dim ran As Single
Randomize
ran = Rnd()
Exponencial = -Beta * Log(ran)
End Function
```

```
Function Dis(ByRef Punto() As Double, ByRef Prob() As Single) As Double
Randomize
ran = Rnd()
For i = 1 To UBound(Prob)
    If ran <= Prob(i) Then
        Dis = Punto(i)
        Exit For
    End If
Next
End Function
```

```
Function Gamma(Alfa As Integer, Beta As Double) As Double 'Solo con Alfa entero
Dim x As Double
Dim v As Double
x = 0
Do
    v = Exponencial(1)
    x = x + v
    If Alfa = 1 Then
        x = Beta * x
        Exit Do
    End If
    Alfa = Alfa - 1
Loop
Gamma = x
End Function
```

```
Function BetaDist(Alfa As Double, Beta As Double) As Double
Dim ran1 As Single
Dim ran2 As Single
Dim y1 As Single
Dim y2 As Single

Do
    ran1 = Rnd()
```

```
ran2 = Rnd()  
y1 = ran1 ^ (1 / Alfa)  
y2 = ran2 ^ (1 / Beta)  
If y1 + y2 < 1 Then Exit Do  
Loop
```

```
BetaDist = y1 / (y1 + y2)
```

```
End Function
```

```
Function Normal(Miu As Double, sigma2 As Double)
```

```
Dim v1 As Double
```

```
Dim v2 As Double
```

```
Dim z As Double
```

```
v1 = Rnd()
```

```
v2 = Rnd()
```

```
z = ((-2 * Log(v1)) ^ (0.5)) * Cos(2 * 3.1416 * v2)
```

```
Normal = Miu + Sqr(sigma2) * z
```

```
End Function
```