```
clear all
Ex1=100;En1=3.333;He1=0.1;
Ex2=85;En2=1.667;He2=0.1;
Ex3=75;En3=1.667;He3=0.1;
Ex4=65;En4=1.667;He4=0.1;
Ex5=0;En5=20;He5=0.1;
Ex6_1=87.2; Ex6_2=91.5;En6=2.8347; He6=0.5939;

for i=1:10000
    Enn1=randn(1)*He1+En1;
    x1(i)=randn(1)*Enn1+Ex1;
    y1(i)=exp(-(x1(i)-Ex1)^2/(2*Enn1^2));

    Enn2=randn(1)*He2+En2;
    x2(i)=randn(1)*Enn2+Ex2;
    y2(i)=exp(-(x2(i)-Ex2)^2/(2*Enn2^2));

    Enn3=randn(1)*He3+En3;
    x3(i)=randn(1)*Enn3+Ex3;
    y3(i)=exp(-(x3(i)-Ex3)^2/(2*Enn3^2));

    Enn4=randn(1)*He4+En4;
    x4(i)=randn(1)*Enn4+Ex4;
    y4(i)=exp(-(x4(i)-Ex4)^2/(2*Enn4^2));

    Enn5=randn(1)*He5+En5;
    x5(i)=randn(1)*Enn5+Ex5;
    y5(i)=exp(-(x5(i)-Ex5)^2/(2*Enn5^2));
end

for i=1:6666
    Enn6 = randn(1) * He6 + En6;
    tempX1 = randn(1) * Enn6 + Ex6_1;
    tempX2 = randn(1) * Enn6 + Ex6_2;
    if(tempX1<=Ex6_1)
        x6_1(i) = tempX1;
        y6_1(i) = exp(-(x6_1(i)-Ex6_1)^2/(2*Enn6^2));
    end
    if(tempX2>Ex6_2)
        x6_2(i) = tempX2;
        y6_2(i) = exp(-(x6_2(i)-Ex6_2)^2/(2*Enn6^2));
    end
end
x6_1(find(x6_1==0)) = [];
```

```
x6_2(find(x6_2==0)) = [];
y6_1(find(y6_1==0)) = [];
y6_2(find(y6_2==0)) = [];

for i=1:(10000-length(x6_1)-length(x6_2))
    x6_3(i)=Ex6_1+(Ex6_2-Ex6_1)*rand(1);
    y6_3(i)=1;
end

hold on
xlim([0, 100])
plot(x4,y4,'.','MarkerEdgeColor','r','markersize',4);
plot(x1,y1,'.','MarkerEdgeColor','r','markersize',4);
plot(x2,y2,'.','MarkerEdgeColor','r','markersize',4);
plot(x3,y3,'.','MarkerEdgeColor','r','markersize',4);
plot(x5,y5,'.','MarkerEdgeColor','r','markersize',4);
plot(x6_1,y6_1,'.','MarkerEdgeColor','b','markersize',4);
plot(x6_2,y6_2,'.','MarkerEdgeColor','b','markersize',4);
plot(x6_3,y6_3,'.','MarkerEdgeColor','b','markersize',4);
set(gca, "XDir", "reverse")
set(gca,'FontName','Times New Roman')
```