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**ROLL NO.-81**

AIM:-TO ESTABLISH WEIN’S LAW FRM PLANCK’S DISTRIBUTION CURVE

SOURCE CODE:

**clc()**

**clf()**

**clear()**

**h=6.626e-34**

**n=500**

**c=3\*(10^8)**

**k=1.38\*(10^-23)**

**t=[200 400 600 800]**

**r3=linspace(1,1.8\*10^14,n)**

**for j=1:4**

**a2=8\*%pi\*h.\*(r3.^3)**

**b2=c^3**

**d2=exp((h.\*r3)/(k\*t(j)))**

**u3=(a2./(b2.\*d2))**

**[m,k1]=max(u3)**

**p=t(j)**

**maxi(j)=r3(k1)**

**maxwave(j)=c/maxi(j)**

**disp(string(j)+"> FOR Temp.="+string(p)+".")**

**disp(maxwave(j),"\*MAXIMUM WALELENGTH FOR WEINS LAW")**

**z(j)=maxwave(j)\*t(j)**

**disp("\* VALUE OF LAMBDA\*TEMP.=")**

**disp(z(j))**

**end**

**disp("i,e Lamda(max)\*Temperature= Constant")**

OUTPUT:

1> FOR Temp.=200.

\*MAXIMUM WALELENGTH FOR WEINS LAW

0.0000238

\* VALUE OF LAMBDA\*TEMP.=

0.0047524

2> FOR Temp.=400.

\*MAXIMUM WALELENGTH FOR WEINS LAW

0.0000121

\* VALUE OF LAMBDA\*TEMP.=

0.0048213

3> FOR Temp.=600.

\*MAXIMUM WALELENGTH FOR WEINS LAW

0.0000080

\* VALUE OF LAMBDA\*TEMP.=

0.0047981

4> FOR Temp.=800.

\*MAXIMUM WALELENGTH FOR WEINS LAW

0.0000060

\* VALUE OF LAMBDA\*TEMP.=

0.0047866

i,e Lamda(max)\*Temperature= Constant