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***Enrollment Number: B64178***

***Batch: B10***

***Experiment No : 6***

***(PLANK’S CONSTANT)***

***Aim:***

*To determine the plank’s constant.*

***Formula Used:***

|  |
| --- |
| h= (e/c)\*X\*V |

*Where,*

*h is the plank’s constant*

*e is charge of electron , c is the speed of light and e/c=5.33\*10^-28Cs/m*

*X is the wavelength of light.*

*V is the knee voltage.*

***Obesevation table:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Sr. No.*** | ***Colour of led*** | ***Wavelength***  ***(nm)*** | ***Knee volatage(V)*** | ***h=eXV/c***  ***(kgm^2s^-1)*** |
| *1.* | *Red* | *750* | *1.903* | *6.566\*10^-34* |
| *2.* | *Green* | *510* | *2.430* | *6.566\*10^-34* |
| *3.* | *Yellow* | *570* | *2.178* | *6.566\*10^-34* |

***Calculation :***

1. *For red :-*

*h=eXV/c=5.33\*10^-28 \* 750\*10^-9 \*1.903 = 6.566\*10^-34.*

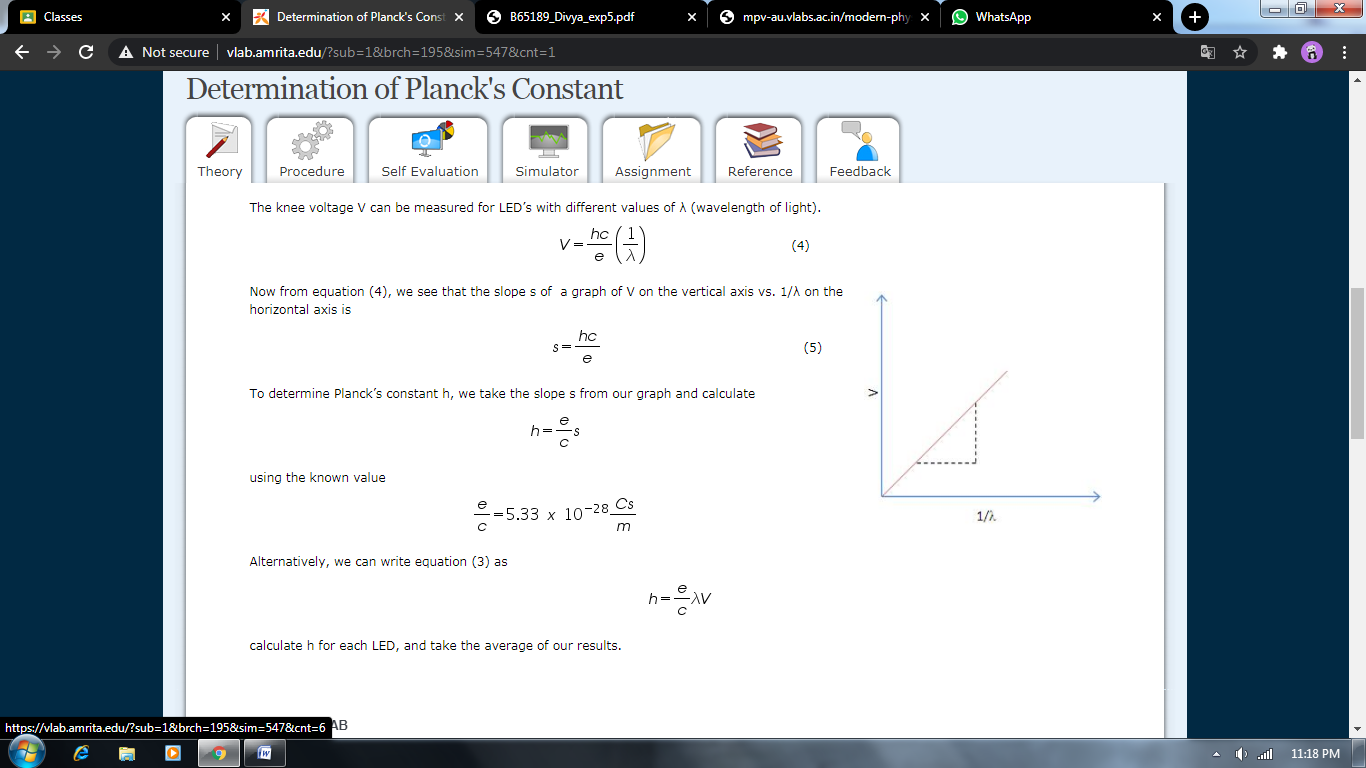
1. *For green:-*

*h=eXV/c=5.33\*10^-28 \* 510\*10^-9 \*2.430 = 6.566\*10^-34.*

1. *For yellow :-*

*h=eXV/c=5.33\*10^-28 \* 570\*10^-9 \*2.178 = 6.566\*10^-34.*

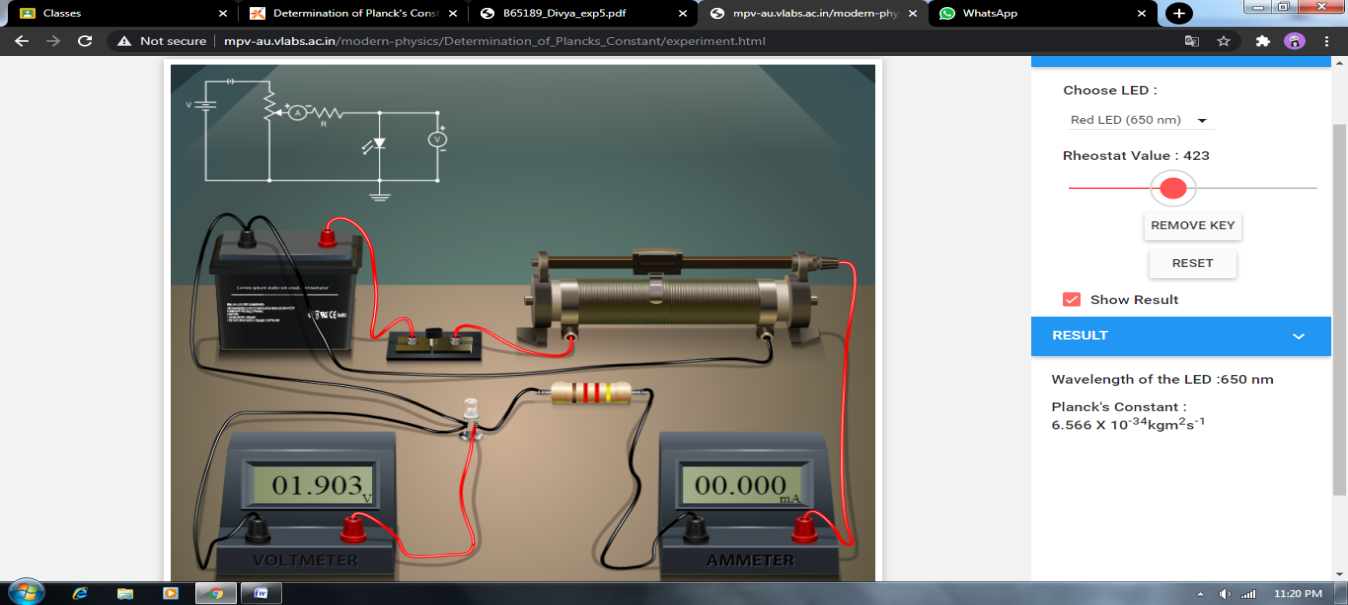
***Graph:***

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***Result:***

*This experiment shows that plank’s constant is constant.*

*Plank’s constant is*  ***6.566\*10^-34 .***

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