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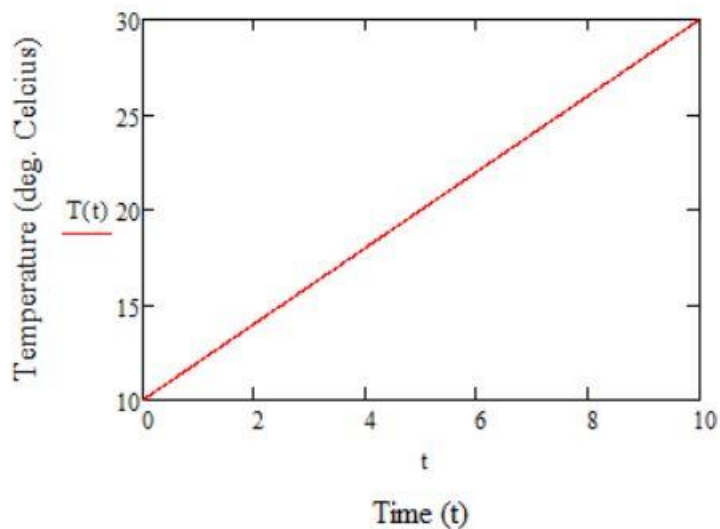
MATRIC N^o: 18/ENG05/056

DEPARTMENT: Mechatronics Engineering

COURSE: ENG 282 Online quiz

1.)

$$T(t) := 2 \cdot t + 10$$



Graph of Temperature against Time

$$\begin{aligned} \text{gradient} &= (\text{change in } y) / (\text{change in } x) \\ &= (20 - 10) / (5 - 0) \\ &= 5 \text{ degC per minute} \end{aligned}$$

+

$$\begin{aligned} \text{at } t &= 0 \\ y &= m(t) + c \\ y &= 10 \\ \text{therefore, } c &= 10 \end{aligned}$$

$$\text{equation} = 2t + 10$$

$$\begin{aligned} \text{when } y &= 24.9, \\ t &= (24.9 - 10) / 2 \\ t \text{ (time taken to reach } 24.9 \text{ degC from } 10 \text{ degC)} &= 7.45 \text{ minutes} \end{aligned}$$

2.)

```
1 - commandwindow
2 - clearvars
3 - clc
4
5 - format shortg
6 - data = xlsread('onlinequizdata.xlsx', 'fluiddata')
7 - x = data(1:2:250,1)
8 - y = data(1:2:250,2)
9 - plot(x,y)
10 - xlabel('Time (seconds)')
11 - ylabel('Volume (cubic meters)')
12 - grid on
13 - grid minor
14
```

