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SECTION	B
DEPARTMENT	BE (CIVIL)
SUBJECT	Differential Equation
SUBMITTED TO	MAM SHUMAILA
DATE	18 - June - 2020
SEMESTER	4 <sup>th</sup>

ASSIGNMENT

## QUESTION # 01

### APPLICATION OF PARTIAL DIFFERENTIAL EQUATION ?

$\Rightarrow$  Fluid mechanics, heat and mass transfer and electromagnetic theory are all modeled by partial differential equations and all have plenty of real life applications

For Example

(i) Time of Oscillation  $t = 2\pi\sqrt{l/g}$   
ie  $t = (l/g)$

(ii) Fluid mechanics is used to understand how the circulatory system works, how to get rockets and planes to fly and even to some extent how the weather behaves

(iii) Heat and mass transfer is used to understand how drug delivery devices work, how kidney dialysis works, and how to control heat for temperature-sensitive things. It probably also explains why thermoses work.

(iv) Electromagnetism is used for all electricity out there and everything that involves light at all from X-rays to pulse oximetry and laser pointers.

(v) PDE's are also used to solve the wave equation.

(vi) The differential coefficient is also obtained by partial differential equations.