

A  
PROJECT REPORT  
ON  
APPLICATION OF MATHEMATICS IN REAL LIFE

BACHELOR OF SCIENCE  
IN  
MATHEMATICS

UNDER SUPERVISION OF:

Dr. ~~Vijay~~ P. Surekha  
Head Of the Department  
Dept. Of Mathematics

SUBMITTED BY:

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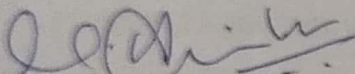
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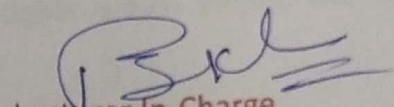
## CERTIFICATE

This is certify that this is a Bonafede project work done by V.Ramu, III  
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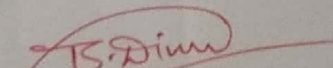
During the academic year 2020 -2021 is the Dept.of Mathematics, govt.  
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## ACKNOWLEDGEMENTS

I am (G Jagapathi Naidu) Student of III B.Sc of Govt Degree College, Narasapnaeta, Srikakulam would like to acknowledge the efforts of all those who have helped as in doing project work.

Firstly I would like to express gratitude to our vice chancellor of Dr.B.R.Ambedkar University, Srikakulam for introducing students study projects in our curriculum.

I am extremely thankful to our college principal Dr.M.Jothi Frederick for introducing students study project in our college.

I would also like to thank our another faculty of mathematics (Mrs.M.Harika) for her valuable suggestions and insights which helped me to improve the project work.

Aparitha  
Last but not least, I would like to express my gratitude towards my supervisor (Mrs.P.Surekha) in charge of Dept. of Mathematics whose constant help and support, stimulating suggestions and encouragement helped me in all time of project and writing of this report. Also without her help, this project would not been possible.



## PREFACE

The Mathematics curriculum described by the Dr.B.R.Ambedkar University, Srikakulam for the B.Sc VI semester cluster (Mathematics) includes study project, as for the guidelines I have selected the topic "Application of Mathematics in Real Life" in this context I have conducted an in depth survey of data on the said topic. I am presenting a project report based on the result to the Mathematics, Govt. Degree & PG College, Narasannapeta, Srikakulam.

Date :

(25/8/2024)

Station:

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## The simple pendulum:-

A simple pendulum consists of a mass 'm' hanging from a string of length 'L' and fixed at a fixed point P. When displaced to an initial angle and released, the pendulum will swing back and released, the pendulum will swing back and forth with periodic motion. By applying Newton's second law for rotational systems, the equations of motion for the pendulum may be obtained.

$$\tau = I\alpha \Rightarrow -mg \sin\theta L = mL^2 \frac{d^2\theta}{dt^2}$$

and rearranged as

$$\frac{d^2\theta}{dt^2} + \frac{g}{L} \sin\theta = 0$$



If the amplitude of angular displacement is small enough that the small angle approximation ( $\sin \theta \approx \theta$ ) holds true, then the equation of motion reduces to the equation of simple pendulum harmonic motion.

$$\frac{d^2\theta}{dt^2} + \frac{g}{L}\theta = 0$$

The simple harmonic solution is

$$\theta(t) = \theta_0 \cos(\omega t + \phi)$$

with  $\omega = \sqrt{g/L}$  being the natural frequency of the motion.



## Fun Algebraic Equations to use in Every day Life :-

Ah, Algebra. what a pain it can be to memorize formulas and how to solve them. For those who did not like maths class, "I'm never going to use this!" rings through your mind as you do your homework.

But guess what, you do use it and probably don't even realize it. you even use it do fun, everyday activities



## calculating Gaming Time: $(x/y) * a/b = c$

You want to spend a couple of hours playing your new game with your friends tonight, but your parents say you have to read or exercise for 30 minutes for every 20 minutes of game time. How long do you have to read or exercise to get your 2 hours of game time in? Use  $(x/y) * a/b = c$  to find out.