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Research Article

EFFECTIVE METHODOLOGY FOR SCORING EINENGINEERING MATHEMATICS

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ABSTRACT

Basically, in general the engineering students would feel quite difficult to understand Mathematics with that of the other subjects they would study during their academic educational study. This article would help the students to overcome the challenges faced in understanding Mathematics as well as to bring in interest to easily learn the same to score good marks in this specific subject.

Key Words:

Planning - Scheduling - Vector calculus -
Ordinary differential equation - Laplace
transform - Analytic function - Complex
integration - Implementation

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INTRODUCTION

Mathematics is a subject which would help the engineering students contributing the best to enhance their overall marks during the academic study. This would comprise of three key parameters which are Planning, Scheduling and Implementation.



What's in it for Mathematics - II?

Below are the five key units that would be covered as part of this exercise

- Vector Calculus
- Ordinary differential equation
- Laplace Transforms
- Analytic function
- Complex integration

Vector Calculus

Vector calculus, or vector analysis, is a branch of mathematics concerned with differentiation and integration of vector fields, primarily in 3-dimensional Euclidean space R^3 .

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Ordinary differential equation

Ordinary differential equation is a Differential equation contains one or more functions of one independent variable and its derivative.

Laplace Transforms

Laplace Transform is an Integral transform takes a function of a positive real variable t to a function of a complex variable s

Analytic function

An analytic function is a function that is locally given by a convergent power series. There exist both real analytic functions and complex analytic functions, categories that are similar in some ways, but different in others.

Complex integration

Complex integration is an integration of a function of complex variable along an open or closed curve in the plane of the complex variable.

Planning

Planning is the first basic step for doing any activity successfully. The planning process identifies the goals or objectives to be achieved, formulates strategies to achieve them

and implements directs and monitors all steps in proper sequence.

- Mathematics cannot be read just like that as other subjects as it involves logics and requires analytical skills
- Practice makes a man perfect hence working out the problems and deriving solutions on daily basis would cultivate interest as wells to come out with appropriate solutions through successful colors.
- Important formulae and hints to be noted to use them for effective calculations and derivations
- Raise questions whenever any doubt arises and get it clarified through all available sources

Scheduling

Why it is important? A plan for carrying out a process or procedure, giving lists of intended events and times. Also, a plan of procedure usually written for a proposed objective especially with reference to the sequence of and time allotted for each item or operation necessary to its completion.

Basically, the important topics for prioritization to be picked up and listed as stated below

S. no	Units	Important Topics	Duration to complete
1	Vector calculus	Gauss divergence theorem Greens theorem Stokes theorem	2 days
2	Ordinary differential equation	Method of variation of parameters Cauchy's linear equation Higher order ordinary differential equation	1 day
3	Laplace Transform	Periodic function Convolution theorem Solving differential equation using Laplace Transform technique	2 days
4	Analytic function	Construction of analytic function Bilinear transformation Harmonic conjugate Laurent's Series	1 day
5	Complex integration	Contour integration Cauchy's residue theorem	2 days

Implementation

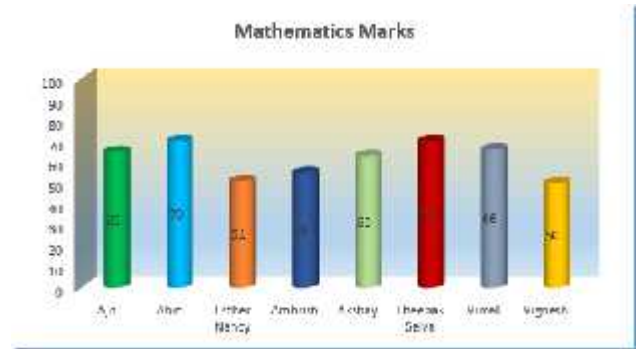
A process of moving an idea from concept to reality.

- Analyzing the problem statement to solve them using mathematical techniques
- Write the relevant formulae which is applicable for the problem identified
- Solve in a right manner to ensure the result is appropriate
- Correlate with real time situations to better understand mathematics so that things can be remembered easily during problem solving.

As part of implementation phase let's determine the trend of before and after implementation of this methodology.

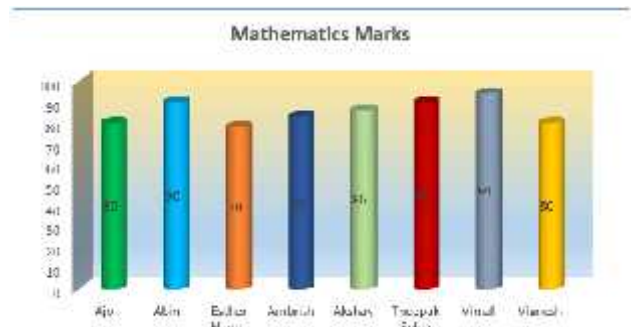
Before Implementation

The below bar chart will self-explain the marks scored by the engineering students when they study as usual without the methodology applied.



After Implementation

The following bar chart would represent the after effects of the methodology applied which shows the increasing trend of marks scored by the students in Mathematics.



CONCLUSION

The key pointers mentioned in this article namely planning, scheduling and Implementation are highly critical to incorporate in understanding Mathematics better and to score good marks as part of the academic study. Apparently, scoring good marks in mathematics would enhance the overall total marks in the academic study.

References

1. Zachariah Kariuki Mbugua, Komen Kibet, George Mungiria Muthaa, George Reche Nkonke, Factors Contributing To Students' Poor Performance in Mathematics at Kenya Certificate of Secondary Education in Kenya: A Case of Baringo County, Kenya
2. Dr. Damodharan V. S. ACCA, AICWA and Mr. Rengarajan.V AICWA, Innovative Methods of Teaching
3. S. S. SAZHIN School of Engineering, University of Brighton, Cockcroft Building, Moulsecoomb, Brighton BN2 4GL, UK, Teaching Mathematics to Engineering Students
4. Douglas A. Grouws and Kristin J. Cebulla, Improving student achievement in mathematics.
