Overview

of

SSC106

SSC106, **is in actual truth**, a simpler course than SSC105. Could sound annoying especially when you see the list of topics (like differentiation and integration – topics you probably know nothing about before this semester), however, it remains the truth. Having this application, you'll actually believe it very soon.

SSC106 contains a list of interesting topics, many of which are concepts economists and social scientists use specifically. Hence, no surprise that a topic in SSC106 focuses on the applications of mathematics (calculus) to

economics and management sciences (a topic which was as well delineated in this book).

The nature of questions set in SSC106 also makes it interesting for breeds that don't like mathematics ***(many of which are the types of students taking SSC106)*** even though there is no single probability of seeing objective questions.

Questions include definition of terms, something you couldn't have seen in SSC105, hence, it is no surprise seeing a question like **"What is a matrix?"** in a mathematics exam, that is just what SSC106 is.

Turn through the pages to see the list of topics in this course, a thorough review of them all and tips on how to use this textbook to kill off SSC106. It'll be no surprise if **hundreds of students** eventually get 90+ as their total score in SSC106 this year, it's a simple truth, there is nothing else that can impede such massive success in this course with the android application **– THE SSC106 WAY!**

[The SSC106 way, it's beyond just a textbook]

LIST OF TOPICS IN SSC106

Below are the lists of topics in SSC106 in the order in which they have been treated in this textbook, avoid jumping one topic to read another, you won't help yourself in doing that. In this welcome aspect of this application, you have, **basic operations in mathematics,** a topic that helps you sort out some basic mathematical problems you may have that can impede your flow in reading this. Ensure you read that topic before reading the main deal in SSC106.

- Functions
- Matrices
- Differentiation (Differential calculus)
- Partial differentiation
- Applications of differentiation
- Integration (Integral calculus)
- Differential equations
- Application of calculus to economics and management sciences
- Mathematics in economics and management sciences.

[The SSC106 way, it's beyond just a textbook]

FUNCTIONS

This is the pretty simplest aspect of SSC106 and more importantly the topic that forms a basic understanding you must have. Many new concepts like multivariate functions which will be used really in differentiation, partial differentiation and differentiation applications and all are established here; hence, simple as it is, you cannot afford to take it with levity. Very interestingly, there is little or no single calculation in this topic.

THE SSC106 WAY offers everything you need, definitions, sketches and everything, it brings you into the real light of operating functions, knowing function notations – a key backbone to understanding every other topic in this course.

MATRICES

Simply assume you didn't do matrices in SSC105, many new concepts in matrices are introduced in SSC106.

Real meaning of several types of matrices will be made known as hence, it is as good as a new topic. Concepts of thorough types of matrices such as orthogonal matrices, idempotent matrices and many other are thoroughly explained.

The most interesting aspect of this is the aspect of proving, could be annoying if you don't understand it but is just perfect if you understand it.

Simultaneous equations using matrices is however also very much included here.

Without any doubt, **THE SSC106 WAY** offers you every single thing you need in this topic. No stone is left untouched as it carefully pans out all the concepts in matrices sequentially

in the order they're meant to follow. The aspect of proving is one aspect this textbook totally got destroyed, you have nothing to fear and as a matter of fact, after reading this topic, you'll be angry, really angry, if you do not see matrix proving in the exam you'll be writing this semester.

DIFFERENTIATION

Probably the first time many SSC106 students will be seeing this topic. It's a pretty interesting topic though and needs a student to just settle down and enjoy learning something new – read from the scratch and basics as it has been made available for you in this app.

Differentiation is the study of derivatives, the study of rates of changes, the study of *dee why, dee ex* and study of *eff prime of ex* and many other. Seriously! Seriously! Seriously! It's really interesting, you just need to enjoy it.

THE SSC106 WAY! Yet again, makes easy this topic, it makes it look so easy! Too many examples, and you'll keep wondering if the examples will stop.

Right there! Examples make understanding better. We got your back! Includes both explicit and implicit differentiation, explicit forms the major part of it, however, implicit differentiation was also put because it is needed in **THE SSC106 WAY.**

[The SSC106 way, it's beyond just a textbook]

PARTIAL DIFFERENTIATION

Nothing different from differentiation, just that whilst ordinary differentiation deals with single-variable functions, partial differentiation deals with multivariable functions.

No new differentiation rules involved, none at all. You only need the same rules learnt in differential calculus, with an extension to multivariable functions, scared? **Or you don't even understand these grammars,** relax! Stop searching! You're studying, once you read functions, you'll understand most of the grammar above.

As usual, step by step analysis and explanation of this concept was provided in **THE SSC106 WAY.**

It's a usual norm, no topic lagged behind so never get tired of seeing the truth that everything you need, per topic is provided in this textbook.

APPLICATIONS OF DIFFERENTIATION

When calculus starts getting real. Applications of differentiation (both ordinary differentiation and partial differentiation) into different aspects.

With differentiation having a very long host of applications, SSC106 covers two important applications which are **increasing and decreasing functions**, and **function optimization.**

Hence, it is a topic you need to watch out for. Ever heard of Lagrange (or the Lagrangean multiplier, or the Lagrangian equation), you'll know of everything in this course, as it has been properly explained in this textbook.

THE SSC106 WAY makes this topic look so easy, you'll at the end of the day keep wondering what is difficult in the whole thing after reading this.

INTEGRATION

Undoubtedly, the strangest topic to SSC106 students, if some have heard of differentiation, virtually all SSC106 students have integration as a completely new concept.

Not to worry, I'll go straight to assure you of what you have in this textbook – **THE SSC106 WAY.** A completely self-sufficient text, little wonder integration is 276 pages in this textbook, filled with examples, explanation, examples and further explanations.

20 examples in explaining integration by substitution, and further about 10 examples in all other concepts under integration.

It recaps polynomial and partial fractions, all because you'll need it in integration as reality makes it real that most SSC106 students either didn't understand or understood the concepts faintly in SSC105.

Indeed, special attention was put in integration in the context of **THE SSC106 WAY** because it's an abstract and somewhat difficult concept that needs special attention.

THE SSC106 WAY didn't fail to offer that special attention it needs though, hence, you have all it takes to attack integration.

DIFFERENTIAL EQUATIONS

Combination of the understanding of differentiation and integration, differential equation is a topic, a normal topic, which seems abnormal.

If the gamble can work out in any other topic to attempt reading a topic in this textbook without reading the topics before, ***it is totally impossible to understand or even catch a glimpse of differential equations without understanding differentiation and integration.***

Though the name looks to align much to differentiation, differential equations is really more of integration and hence, integration, the just previous chapter must be understood.

Includes some theoretical understanding aspects, which involves the order and degree of differential equations, some free marks up for grabs by knowing what the order and degree of a differential equation is.

As usual, **THE SSC106 WAY** covers everything you need, no mincing of words or a situation of maybe, undoubtedly, **THE SSC106 WAY** didn't lag behind in any topic, differential equations isn't an exception.

[The SSC106 way, it's beyond just a textbook]

APPLICATION OF CALCULUS TO ECONOMICS AND MANAGEMENT SCIENCES

Smiles, definitely the most interesting part of this, the penultimate chapter. The real life chapter, where mathematics looks real and indeed useful.

Marginal functions, cost, revenue, profit, elasticity, demand, supply, and etc., how many can be mentioned.

No need for stories, **THE SSC106 WAY** delineates this concept thoroughly, you can open it to see for yourself. We always got your back.

MATHEMATICS IN ECONOMICS AND MANAGEMENT SCIENCES

Weirdest topic. Truth though.

It's something SSC106 lecturers like a lot.

Explain why mathematics is useful in social sciences, explain why mathematics is increasingly being used as a tool of analysis in economics, why is mathematic useful in social sciences?

All the above questions are real exam questions in SSC106, the need this topic was put here.

In **THE SSC106 WAY,** this is the shortest topic of just eight pages, enlisting the need for mathematics in economics and management, and also, the shortcomings of mathematics in the field.