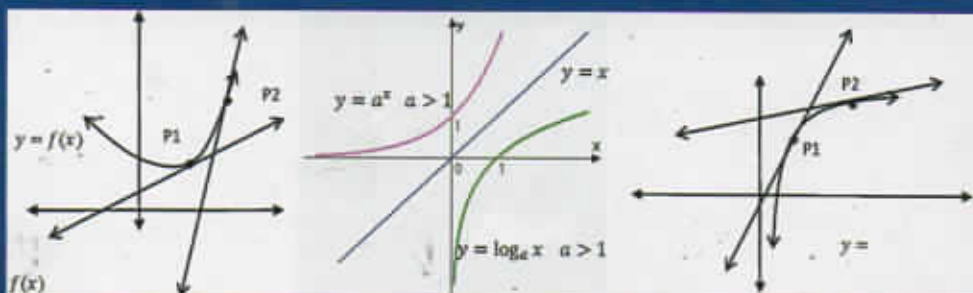


$$y = \tan x$$

DIFFERENTIAL CALCULUS

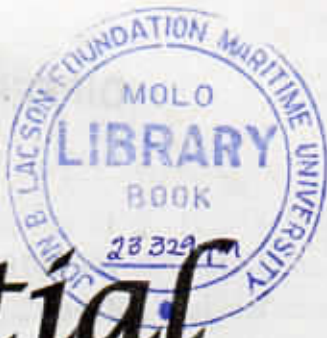


A Work Text

Revised Edition

CORAZON S. ASPURIA
LIBERTY GAY C. MANALO
MA. FELISA A. MOLINA
EDERLINA B. MANIQUIZ - SAGALES

fil
515-93
D569
2019



Differential Calculus

A

Work Text

• Revised Edition •

**CORAZON S. ASPURIA
LIBERTY GAY C. MANALO
MA. FELISA A. MOLINA
EDERLINA B. MANQUIZ - SAGALES**

TABLE OF CONTENTS

<i>Preface</i>		<i>i</i>
<i>Acknowledgement</i>		<i>li</i>
Chapter 1:	Function of a Variable	1
	Graph of a Function	2
	Values of the Function	3
	Odd and Even Function	4
	Inverse Function	6
	Continuity	7
	Limit of a Function	8
	Indeterminate Form	10
	Review Exercises	13
Chapter 2:	Differentiation	27
	The Derivative	27
	Review Exercises	31
	Rules for Differentiation	39
	The Chain Rule	41
	The General Power Formula	42
	Derivative of Higher Order	45
	Review Exercises	47
	Implicit Differentiation	67
	Review Exercises	69
Chapter 3:	Equations of Tangents and Normal	73
	Review Exercises	77
Chapter 4:	Maxima and Minima	85
	Concavity and Point of Inflection	86
	Test for Max-Min Values	87
	Curve Sketching	90
	Rolle's Theorem	92
	Mean Value Theorem	93
	Review Exercises	95
	Maxima and Minima Problems	105
	Related Rates	108
	Rectilinear Motions	112
	Review Exercises	115
Chapter 5:	Differentiation of Trigonometric Functions	131
	The Function $\frac{\sin u}{u}$	135

	Derivatives of Trigonometric Functions -----	136
	Review Exercises -----	139
	The Inverse Trigonometric Functions -----	147
	Review Exercises -----	151
Chapter 6:	Logarithmic and Exponential Functions -----	155
	Derivatives of Logarithmic Functions -----	156
	Logarithmic Differentiation -----	159
	Derivatives of Exponential Functions -----	161
	Review Exercises -----	163
Chapter 7:	Hyperbolic Functions -----	173
	Review Exercises -----	177
	Inverse Hyperbolic Function -----	181
	Review Exercises -----	185
Chapter 8:	Solution of Equation -----	189
	Review Exercises -----	197
Chapter 9:	Transcendental Curve Tracing -----	201
	Review Exercises -----	207
Chapter 10:	Parametric Equations -----	211
	Review Exercises -----	227
Bibliography	-----	239