

CONTENTS.

	<i>Page.</i>
DISSERTATION	i
<i>NOTES AND ILLUSTRATIONS.</i>	
A. Scholiasts of BHÁSCARA	xxv
B. Astronomy of BRAHMEGUPTA	xxviii
C. <i>Brahma-sidd'hánta</i> , Title of his Astronomy	xxx
D. Verification of his Text	xxxix
E. Chronology of Astronomical Authorities, according to Astronomers of <i>Ujjayaní</i>	xxxiii
F. Age of BRAHMEGUPTA, from astronomical data	xxxv
G. ÁRYABHATÁ's Doctrine	xxxvii
H. (Reference from p. ix. l. 21.) Scantiness of Additions by later Writers on Algebra	xl
I. Age of ARYABHATÁ	xli
K. Writings and Age of VARÁHA-MIHIRA	xlv
L. Introduction and Progress of Algebra among the Italians	li
M. Arithmetics of DIOPHANTUS	lxi
N. Progress and Proficiency of the Arabians in Algebra	lxiv
O. Communication of the Hindus with Western Nations on Astrology and Astronomy	lxxviii

BHÁSCARA.

ARITHMETIC (Lilávati.)

CHAPTER I. Introduction. Axioms. Weights and Measures	1
CHAPTER II. <i>Sect. I.</i> Invocation. Numeration	4
<i>Sect. II.</i> Eight Operations of Arithmetic: Addition, &c.	5
<i>Sect. III.</i> Fractions	13
<i>Sect. IV.</i> Cipher	19

CONTENTS.

CHAPTER III.	Miscellaneous.	
	<i>Sect. I.</i>	Inversion 21
	<i>Sect. II.</i>	Supposition 23
	<i>Sect. III.</i>	Concurrence 26
	<i>Sect. IV.</i>	Problem concerning Squares 27
	<i>Sect. V.</i>	Assimilation 29
	<i>Sect. VI.</i>	Rule of Proportion 33
CHAPTER IV.	Mixture.	
	<i>Sect. I.</i>	Interest 39
	<i>Sect. II.</i>	Fractions 42
	<i>Sect. III.</i>	Purchase and Sale 43
	<i>Sect. IV.</i>	A Problem 45
	<i>Sect. V.</i>	Alligation 46
	<i>Sect. VI.</i>	Permutation and Combination 49
CHAPTER V.	Progression.	
	<i>Sect. I.</i>	Arithmetical 51
	<i>Sect. II.</i>	Geometrical 55
CHAPTER VI.	Plane Figure	58
CHAPTER VII.	Excavations and Content of Solids	97
CHAPTER VIII.	Stacks	100
CHAPTER IX.	Saw	101
CHAPTER X.	Mound of Grain	103
CHAPTER XI.	Shadow of a Gnomon	106
CHAPTER XII.	Pulverizer (<i>Cuttaca</i>)	112
CHAPTER XIII.	Combination	123

ALGEBRA (Vija-ganita.)

CHAPTER I.	<i>Sect. I.</i>	Invocation, &c.	129
	<i>Sect. II.</i>	Algorithm of Negative and Affirmative Quantities	133
	<i>Sect. III.</i>	———— of Cipher	136
	<i>Sect. IV.</i>	———— of Unknown Quantity	139
	<i>Sect. V.</i>	———— of Surds	145
CHAPTER II.		Pulverizer	156

CONTENTS.

CHAPTER III.	Affected Square. <i>Sect. I.</i>	170
	<i>Sect. II.</i> Cyclic Method	175
	<i>Sect. III.</i> Miscellaneous	179
CHAPTER IV.	Simple Equation	185
CHAPTER V.	Quadratic, &c. Equations	207
CHAPTER VI.	Multiliteral Equations	227
CHAPTER VII.	Varieties of Quadratics	245
CHAPTER VIII.	Equation involving a Factum of Unknown Quantities	268
CHAPTER IX.	Conclusion	275

BRAHMEGUPTA.

CHAPTER XII. *ARITHMETIC (Ganita.)*

<i>Sect. I.</i>	Algorithm	277
<i>Sect. II.</i>	Mixture	287
<i>Sect. III.</i>	Progression	296
<i>Sect. IV.</i>	Plane Figure	305
<i>Sect. V.</i>	Excavations	312
<i>Sect. VI.</i>	Stacks	314
<i>Sect. VII.</i>	Saw	315
<i>Sect. VIII.</i>	Mounds of Grain	316
<i>Sect. IX.</i>	Measure by Shadow	317
<i>Sect. X.</i>	Supplement	319

CHAPTER XVIII. *ALGEBRA (Cuttaca.)*

<i>Sect. I.</i>	Pulverizer	325
<i>Sect. II.</i>	Algorithm	339
<i>Sect. III.</i>	Simple Equation	344
<i>Sect. IV.</i>	Quadratic Equation	346
<i>Sect. V.</i>	Equation of several unknown	348
<i>Sect. VI.</i>	Equation involving a factum	361
<i>Sect. VII.</i>	Square affected by coefficient	363
<i>Sect. VIII.</i>	Problems	373