Colon Classification for Macro-Documents in Mathematics.
(Classification problems. 76). (Design series. 42). (CC Ed 7 series. 2).

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[Enumerates the objectives of revision of the Colon Classification (CC) schedule for the classification of subjects going with the Basic Subject "B Mathematics". The methods adopted for implementing the prescriptions of the Law of Parsimony, and for improving the facet structure are briefly discussed. A revised schedule of CC for Mathematics for subjects embodied in Macro-documents, such as a book taken as a whole, is given. An index to the schedule, one hundred and thirty four examples of subjects classified according to the scheme, and an alphabetical index to these subjects, are given].

ABBREVIATIONS USED

(BS) = Basic Subject	(IN) = Isolate Number
(CC) = Colon Classification	(MM) = Matter Method Isolate
(CN) = Class Number	(MP) = Matter Property Isolate
(E) = Energy Isolate	(P) = Personality Isolate

0 Scope of the Paper

This paper is occasioned by the work on the preparation of Ed 7 of Colon Classification. Specifically, the paper gives a scheme for the classification of subjects going with the (BS) " B Mathematics". The schedules are deemed to be adequate only for the classification of subjects of macro-documents taken as a whole — and not for a micro-subjects such as those embodied in a chapter or section of a book or an article in a periodical. The method adopted in the revision of the schedules is also outlined.

It is proposed to publish in instalments revised classification schedules for macro subjects going with different (Basic Subject).

1 Objectives of Revision

The general objectives of the revision of the schedule are:

1 To bring the sequence of isolates enumerated in line with a generally accepted view of a majority of specialists;

2 To enumerate in the schedule as many of the isolates as may be adequate for the classification of macro-documents. The requirements of a classification for microdocuments such as articles in periodicals, was not specifically taken into account.

In enumerating the special isolates, to provide means for the interpolation of new isolates that may come up in future, without considerable disturbance to the sequence of the isolates now enumerated, and to the (IN) now assigned; and

3 To respect, as far as possible, the Law of Parsimony (4) in the Notational Plane, without prejudice to the implementation of the findings in the Idea Plane in respect of objectives 1 and 2.

11 LAW OF PARSIMONY

The Law of Parsimony was, in general, sought to be implemented as follows:

1 By respecting the integrity of Class Numbers wherever such a procedure will not do violence to the firdings of Idea Plane, the purpose being to keep to a minimum the change of Class Numbers already assigned to documents according to Ed 6 of CC; and

2 To restrict the number of digits in an (IN) generally to less than four.

2 Methods Adopted for Improving the Facet Structure

21 DETERMINATION OF FACET STRUCTURE

The work of improving the facet structure for the Compound Subjects going with Mathematics was done along the following lines:

1 With a view to modify the schedules, the literary warrant was checked, that is, an extensive study of current books was made. This pragmatic approach consisted in examining the kind of documents listed in the *British national bibliography* and also in the catalogues of publishers.

This investigation showed that several books could not be classified with the existing schedule, thereby confirming the view that the existing schedule was not sufficient for the purpose, and that it should be augmented by interpolating new isolates.

2 Utilising the recent advances made in the General Theory of Library Classification — as for example, the clear view of the concept of five fundamental categories and that an isolate in a Compound Subject is a manifestation of one and only one fundamental category, the application of the postulates and principles, and the advances made in the versatility of the Nota-

tional plane (1, 2) especially for interpolation and extrapolation of new (BS) and isolates; and

3 Using the recently developed concept of Adjunct Primary Basic Subject. An Adjunct Primary Basic Subject is a Primary Basic Subject closely related to an already existing Primary Basic Subject but not identical with it (3). By using this recent development, the subject field Astronomy has been given the status of an Adjunct Primary Basic Subject.

22 DOCUMENTS USED

The following were the principal documents used for information on the different concepts of the subject field Mathematics:

General:

  1 ENCYCLOPAEDIA BRITANNICA. 1965. 24V.

  2 McGRAW-HILL ENCYCLOPEDIA of science and technology. 1971. 15V.

Mathematics:

  1 BERGAMINI (D). Mathematics. 1965.

  2 KUIPERS (L) and TIMMAN (R), *Ed.* Handbook of mathematics. 1969.

  3 RICHARDSON (M). Fundamentals of mathematics Ed 3. 1966.

3 Mathematics and Its Adjunct Primary Basic Subjects

In conformity with the General Theory of Library Classification, which recognises the emergence of new Primary Basic Subjects, the schedule of Basic Subjects incorporates the following as Adjunct Primary Basic Subjects to " B Mathematics".

B	Mathematics
BT	Statistical calculus
BTT	Operation research
BTV	Information theory
BV	Cybernetics
BX	Astronomy
BYC	Astrophysics
BYE	Astrochemistry
BYG	Astrobiology
BYT	Astrometry

4 Comparative Study of the Schedules

41 CENSUS OF ISOLATES

The following table gives the number of special isolates enumerated under the different Secondary Basic Subjects of the Primary Basic Subject Mathematics.

42   NUMBER OF ISOLATES IN THE DIFFERENT SCHEDULES

SN	Name of (BS)	CC, Ed 6		Present Schedule		Remarks
		CN	N of (I)	CN	N of (I)	
1	Mathematics	B	No (I) exclusive to this (BS)	B	5	
2	Arithmetic ⎫	B1	32	B1	12	⎧ New Secon-
3	Theory of Numbers ⎬			B1X	43	⎨ dary (BS)
4	Algebra	B2	44	B2	93	
41	Statistics	B18	11	BT		New Primary (BS)
5	Analysis	B3	95	B3	126	
6	Other Calculus	B4	10	B34	9	
7	Trigonometry	B5	2	B5	3	
8	Geometry	B6	33	B6	44	
9	Topology			B6T	85	New Secon- dary (BS)
10	Mechanics	B7	47	B7	47	
11	Physico-mathe- matics	B8	2	B8	2	
12	Astronomy	B9	105	BX		New Primary (BS)
	Total N of (I) in " B Mathematics " and its divisions		265		469	

Note. — The number of isolates mentioned in the table includes all the types, namely Personality, Matter and Energy Isolates.

43 ANNOTATION

In the revised schedule, Statistical Calculus and Astronomy have been given the status of Primary Basic Subject. In Ed 6 of CC, Statistical Calculus was considered a division of Algebra and given the (CN) B28, and Astronomy was considered a canonical division of " Mathematics " and given the (CN) B9.

2 In the revised schedule, there are two new Secondary Basic Subjects — B1X Theory of Numbers and B6T Topology. In Ed 6, Theory of Numbers was enumerated as a part of B1 Arithmetic, and Topology was enumerated as an isolate going with B3 Analysis.

3 A schedule of (1P1) isolates for the Primary (BS) B Mathematics is given.

4 There has been an overall increase of about 200 isolates in the new schedule compared with the schedule in CC, Ed 6. The number of isolates in each of the schedules for Arithmetic and Theory of Numbers, Algebra, Analysis and Geometry has increased considerably. In addition, the schedules for the new Secondary Basic Subjects have about 85 isolates.

44 SYSTEMS

The current concept of " Systems " — that it is a Lamination of Kind 2 — has been implemented in the notational plane. Hence, the systems of Algebra and Geometry which were treated as Array divisions of the respective subjects are now represented as B2-A and B6-A. Similarly, the systems B6T of Topology.

45 DEVICES USED

The following devices have been used in the schedules.

1 Chronological Device. Used for deriving
   (a) Special arithmetic function in B1X Theory of Numbers;
   (b) Special equations in (1P1) schedule of B2 Algebra;
   (c) Systems of Algebra;
   (d) Special series in (1P1) schedule of B3 Analysis;
   (e) Systems of Geometry;
   (f) Systems of Topology, etc.

2 Divide-like Device. — Used for forming array divisions of certain isolates, such as Algebraic number, Complex and hyper complex number in B1X Theory of Numbers.

5 Consultation with the Specialists

Before finalising the schedules, the opinion of some specialists in mathematics on the structuring of the subject as a whole by the scheme, the isolates, and their sequence in the schedule and the helpfulness of the arrangement of the subjects obtained by classifying with the schemes was obtained.

To facilitate the evaluation by specialists, a classified catalogue of 134 recent books in mathematics was prepared. The books, selected from a larger set, were fairly representative of the different branches of mathematics and of the various facets of subjects in each of the branches.

51 MATSCIENCE INSTITUTE
     The schedules together with the classified catalogue, were
first sent to the Librarian of the Matscience Institute, Madras,
with a request to discuss the scheme for classification with some
of the research workers in mathematics in the Institute. Guidance
was also given to the librarian as to what points may be discussed
with the specialists, what might be presented to them for evalua-
tion, how the arrangement of subjects by (CN) and the use of
the alphabetical index to subjects may be explained to the readers,
etc. The Librarian did accordingly and collected the opinion
of some specialists. He also classified about 250 books in the
field of mathematics available in his library, according to the
provisional scheme, with a view to identifying any subject or
isolate not included in the schedule.   The findings were then
communicated to us.

52 INDIAN INSTITUTE OF SCIENCE
     A similar procedure was adopted to elicit the opinion of
the specialists in mathematics of the Indian Institute of Science,
Bangalore, on the provisional scheme prepared. The findings
were communicated to us.

53 INCORPORATION OF SUGGESTIONS
     The suggestions made by the specialists of both the insti-
tutes were carefully considered, and changes suggested by them
were incorporated in the revised schedule.

6 Index to Schedule
     Note.— 1 The terms enumerated in the schedules are
listed in this index. However, terms denoting ideas the number
for which are indicated to be derived by a device are not included.
     2 The number from the schedule given against each index
entry is preceded by an abbreviation for the name of the appro-
priate Fundamental category — for example, (1P1), (1MP1),
(1MM1), (1E) etc.

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7 Schedule

B Mathematics

SECONDARY BASIC SUBJECTS
B1   Arithmetic
B1X   Theory of Numbers
B2   Algebra
B3   Analysis
B5   Trigonometry
B6   Geometry
B6T   Topology
B7   Mechanics
B8   Physico-mathematics

B   Mathematics

Isolates in (1P1)
1   Foundation
2   Axiomatic
3   Genetic
4   Church's theorem
5   Goedel's theorem

B1   Arithmetic

Isolates in (1P1)
1   Lower arithmetic
11   Numeration
112   Binary system
12   Notation
121   Decimal
13   Arithmetical operation
131   Addition
134   Subtraction
135   Multiplication
136   Division
138   Logarithm
14   Approximation

B1X   Theory of Numbers

Isolates in (1P1)
2   Real number
21   Rational number
24   Irrational number

3   Integer/Directed number
31   By nature of number
32   Defined by factor properties
322   Prime number
324   Quadratic
327   Highly composite number
35   Defined by partition properties
36   Natural number, positive integers

380   Zero
385   Negative integers
387   Infinity

4   Imaginary number
41   Pure imaginary number
5   Algebraic number
        (to be divided as B1X, 3)
6   Complex and hypercomplex number
        (to be divided as B1X, 3)
8   Transcendental number

Isolates in (1MP1)
For (1P1) isolates 3 to 8
b   Primality and divisibility
c   Distribution
d   Diophantine equation
        Note.— Special equations by (CD).
        (Illustrative)
dK   Pell's equation

e   Equality and inequality
e2   Substitution
f   Form including partition
        Note.— Special forms by (CD).
        (Illustrative)
fK   Fermat's last theorem
fL   Goldbach's theorem
fL5   Waring's problem

g   Computability and decidability
h   Ratio

j	Fraction		*Note.— Particular special*
k	Percentage		*equations by* (CD)
m	Square root		(*Illustrative*)
r	Arithmetic function	39M	Abelian equation
	Note.—Special arithmetic	39M7	Sylow equation
	functions by (CD).		
	(*Illustrative*).	3X	Abstract algebra
rL	θ function	3X1	Universal algebra
rM	μ function		
rM9	Merten's function	4*Z	Algebraic structure
rN	Multiplicative function	4	Set
		4d	Group
	Isolates in (1MM1)	4e	Free
	For (1P1) isolates 3 to 8	7f	Cyclic
		4g	Nil potent
1	Elementary arithmetical	4h	Solvable
	method	4k	Finite
2	Algebraic method	4m	Infinite
21	Elementary algebraic method	4p	Permutative
22	Method of rational approxi-	4p5	Symmetric
	mations by continued frac-	41	Semigroup
	tions	42	Commutative group
23	Congruence		(Abelian)
25	Method of algebraic form	421	Module (Rotation)
28	Method of probability	43	Non-commutative group
3	Analytical method	47	Continuous group
36	Method of infinite series		(Topological)
	and product	471	Lie group
38	Method of complex variable	4711	Linear lie group
39aZ	By use of special function	48	Galois group
	(to be divided as B3, 9aZ)	5	Ring
6	Geometrical method	51	Semi-ring
		52	Field
B2	**Algebra**	521	Integral domain
		6	Vector space
		6a	Zero dimension
	Isolates in (1P1)	6b	One dimension
1	Elementary algebra	6n	n dimension
13	Fundamental operation	6x	Infinite dimension
	and Law	61	Linear algebra (Vector space
15	Ratio and proportion		with a multiplication law
16	Progression		defined)
161	Arithmetic progression	61a	Zero algebra
163	Harmonic progression	611	Complex number
166	Geometric progression	615	Quaternion
17	Permutation and combination	616	Matrix
2	Continued fraction		*Note.— Special determi-*
21	Finite		*nants by* (CD).
3	Equation		(*Illustrative*)
31	Simple equation (linear)	616M	Alternant
32	Quadratic equation		
33	Cubic equation		
34	Biquadratic equation	62	Nonassociative algebra
36	Simultaneous equation	62M	Lie algebra
37	nth degree equation	7	Lattice
38	Transcendental equation	71	Simply ordered
39A	Special equation	73	Distributive (Modular)

	Isolates in (1MP1)	01	Approximation
b	Orientation	011	Limit
c	Structure	03	Neighbourhood
d	Homomorphism	06	Internal
d2	Cohomology	07	Continuity
d7	Ideal		
e	Homotopy	11	Number
f	Isomorphism	11b	Ordinal
f1	Automorphism	11c	Cardinal
g	Endomoɩphism	11d	Transfinite
d1	Direct sum		*Note.— Other divisions as*
h2	Direct product		*in the schedule of (1P1) isolates*
j	Tensor product		*of the (BS) " B1X Theory of*
m	Functor		*Numbers "*
p	Measure		*(Illustrative)*

	Isolates in (1MM1)	112	Real number
1	Solution	1124	Irrational number
11	Numerical	115	Algebraic number
13	Symmetric	118	Transcendental number
14	Elimination (Resultant)		
15	Formal	13	Function-space
16	Graphical	13N	Hilbert-space
17	Existence of solution		
	(Galois theory)	2	Calculus
		21	Differential
5	Transformation	24	Partial differential
51	Linear transformation	25	Integral
518	Special invariant	255	Definite integral
52	Quadratic	28	Multiple integral
528	Special invariant	281	General curvilinear coordinates
53	Cubic transformation		nates
538	Special invariant	282	Triple integral
57	n-ic transormation	283	Spherical coordinates
578	Special invariant	284	Polar coordinates
58	Determinant	285	Volume of solids of revolution
585	Matrix	286	Rectangular coordinates
59A	Special transformation	287	Cylindrical coordinates
	Note.—Particular special	288	Spherical coordinates
	transformation by (CD)	2891	Surfaces of revolution
	(Illustrative)		
59M	Cremona transformation	3	Differential and integral
B2-A	**Systems of Algebra**		equation
		3a	By Order
	Note.—Particular systems	3b	First order
	by (CD)	3c	Second ,,
	(Illustrative)	3d	Third ,,
B2-M7	Set theory	3e	Fourth ,,
B2-M9	Combinatorial algebra	3f	Fifth ,,
B2-N	Boolean algebra	3n	n-th ,,
B2-N4	Homological algebra		
B2-N5	Category theory	30Z	By degree
		31	Linear
B3	**Analysis**	314	Quasi-linear
		31Z	Non-linear
	Isolates in (1P1)	32	Quadratic
0z	Foundation	33	Cubic

34	Quartic	91r	Functions with multiple varia-bles
35	Quintic		
36	Sextic	94s	Two variables
37	nth degree	91t	More than two variables
		91u	Composite function
3A	By kind		
3B	Ordinary	91Z	Higher transcendental func-tion
3C	Simultaneous		
3D	Total differential	92	Integral of algebraic function
3E	Partial		*Note.— Divisions by* (CD)
3F	Integral		*(Illustrative)*
3L	Hyperbolic	92L	Hyperbolic function
3M	Elliptic	92L8	Elliptic function
3M	Parabolic	93	Function defined by contour integral
4	Continuous group		*Note — Divisions by* (CD)
			(Illustrative)
6	Series	93L	Gamma function
621	Series with positive terms	93M	Lie function
625	Series with negative terms	93M2	Bessel function
63	Alternating series	93M21	Newmann function
64	Convergent ,,	93M22	Hankel function
66	Divergent ,,	93M23	Kelvin function
67	Comparison ,,	93M24	Airy function
68	Power ,,	93N	Eigen function
6A	Special series	94	Function defined by differen-tial and integral equation
	Note.—Particular special series by (CD)		*Note.— Divisions by* (CD).
	(Illustrative)		*(Illustrative)*
6M	Fourier series	94L	Laplace function
6M3	Dirichlet's series	94M	Green's function
		94M3	Lame's function
7	Real variable	94M7	Mathieu's function
71	Single ,,		
72	Two ,,	96	Function defined by infinite series and product
77	n ,,		
			Note.— Divisions by (CD)
8	Complex ,,		*(Illustrative)*
81	Single ,,	96M	Hypergeometric series
82	Two ,,	6M3	Integral function
87	n ,,	96M5	Zeta function
9aZ	Special ,,	97	Function defined by group (Automorphic function)
91	Elementary function		
91c	Continuous ,,	98	Function of position defined (in the manner of Riemann)
91c	Trigonometric ,,		
91e	Logarithmic ,,	991	Function qualitatively defined
		991M	Metamorphic function
91f	Exponential function	991N	Quasi-analytic function
91g	General exponential function	991N2	Almost periodic function
91h	General logarithmic function		
91j	Primitive function		Isolates in (1MP1)
91k	Inverse ,,	b	Eigen value
91m	Cyclometric ,,	d	Boundary value problem
91n	Rational ,,	p	Measure
91p	Irrational algebraic function		

	Isolates in (1MM1)	0Y*Z	By Dimension
	For (1P1) 3 Differential and integral equation	0Y	Point
		1	Line
1	Numerical solution	2	Plane
5	Formal solution	21	Configuration essentially made up of points and straight lines only
52	Algebraic theory		
53255	Solution by definite integral		
56	Solution by infinite series	22	Second degree curve
58	Singular solution	23	Third
6	Graphical solution	24	Fourth
7	Existence of solution	25	Fifth
		27	Algebraic curve (in general)
	For (1P1) 7 Real variable and 8 Complex variable	271	Circle
		272	Radian
		273	Parabola
1	Cauchy's theorem	274	Hyperbola
2	Analytical representation	275	Ellipse
22	Approximation by polynomial	276	Cone
23	As a contour integral	28	Transcendental curve
26	As an infinite series		
265	As an infinite product	3	Three dimensions (solid)
3	Analytical continuation	31	Configuration essentially made up of points, straight lines and planes only
4	Singularity		
41	Pole		
45	Essential singularity	32	Second degree surface
5	Distribution of value	33	Cubic
6	Conformal representation	34	Quartic
7	Maximum-minim principle	36	Curve in space
8	Inequality and mean value	39M	Knot
9aZ	Special function as method		
	Note.— Division as for "9aZ Special Function" in the schedule of (1P1) isolates (Illustrative)	4	Four dimensions
		5	Five dimensions
		7	n .dimensions
92L8	Elliptic function		
			Isolates in (1MM1)
		0Z	By Method of study
B3A	Other calculus	1	Enumerative geometry
B3B	Finite difference	2	Algebraic
B3C	Calculus of variation	23	Analytical (Coordinate) geometry
B3D	Functional analysis		
B3E	Graphical (nomography)	25	Higher algebra
B3G	Vector and tensor		
B3G3	Tensor	3	Differential
B3G6	Vector	32	Infinitesimal
B3J	Operator theory	35	Higher differential
B3M	Numerical analysis	36	Vectorial
		4	Practical
B5	**Trigonometry**	5	Descriptive
		6	Pure
	Isolates in (1P1)	8	Mapping
2	Plane	91	Foundation
3	Spherical		
33	Spherical triangle	**B6–A**	**Systems of Geometry**
			Note — Particular systems by (CD) (Illustrative)
B6	**Geometry**		
	Isolates in (1P1)		

B6–M	Non-Euclidean	C	Topological algebraic structure
B6–M2	Projective		*Note.— Division as in the*
B6–M3	Elliptic		*schedules of* (1P1) *isolates of*
B6–M8	Hyperbolic		" *B2 Algebra.*"
B6–N	Line-complex		(*Illustrative*)
		C4d	Group
B6T	**Topology**	C5	Ring
		C52	Field
	Isolates in (1P1)	M	Non-mathematical object
0Z	By topological space		
1	Simple closed curve		Special component
11	Circle	b	Constant curvature
12	Ellipse	c	Convex
13	Triangle	f	Smooth
17	Polygon		
2	Plane domain		Isolates in (1MP1)
3	Closed space		Property Isolates
31	Sphere		
33	Cube	c	Orientability
35	Anchor-ring/Torus	d	Connectedness
3Z	Non-Euclidean space	d1	Continuity
42	Riemann surface	d7	Completeness
43	Hausdorff space	e	Compactness
431	Metrizable	e5	Non-compactness
44	Metric space	j	Invariant
444	Pseudometric space	j1	Homotopy
4442	Semipseudometric space	m	Correspondence
447	Complete space	m1	Homomorphism (Topological
4471	Linear space (Banach space)		equivalence)
45	Compact space	m3	Congruence
45b	Constant curvature	p	Cluster point
45c	Symmetric curvature	r	Convergence
45f	Non-symmetric curvature	s4	Singular point
451	Continuum	s2	Limit point
452	Compactum	s3	Fixed point
452Z	Complex	t1	Cartesian product
453	Simplicial complex	t2	Relational product
454	Manifold	v	Sum
4541	Stiefel manifold	x	Distributive law
4542	Differential manifold		
4543	Analytical manifold		Isolates in (1E)
4546	Topological manifold		
455	CW complexes	0Z	Operation
457	Knots and links	1	Generation
46	Bundle	11	Inductive
466	Vector bundle	17	Projective
467	Fibre bundle	31	Immersion
468	Tangent bundle	32	Embedding
47	Product space		
48	Peano space		Isolates in (2MM1)
5Z	Collection		
61	Point set	1	Mapping
62	Number	2	Jordan curve theorem
63	Function	7	Homology
632	Spinor	71	Cohomology
8	Polytope	9B	Extension Theory

9C	Dimension theory	111	Centre
9D	Critical point theory	112	Moment
		12	D'Alembert
B6T–A	Systems	13	Hamilton's least action
	Note. —Particular systems	15	Archimedes'
	by (CD).	151	Centre of pressure
B6T–N	Algebraic topology (Combi-	162	Virtual velocity
	natorial topology)	163	Virtual work
B7	**Mechanics**	2	Statics
		291	Floating body
	Isolates in (1P1)	3	Motion, Dynamics
1	Solid	31	Kinematics
11	Particle	32	Kinetics
117	System of particles (Chain)	321	Single force. Central force
12	Surface	322	Multiple force
127	System of surfaces (flexible	324	Impulse
	surface)	34	Constrained motion
13	Rigid body	35	Irrotational
137	System of rigid bodies	351	Streamline
	jointed frame)	353	Turbulent
15	Elastic body	354	Discontinuous
19	Special system	39	Rotational
192	Top, (gyroscope)	391	Motion of solid (in liquid and
193	Ballistic		gas)
196	Pendulum	5	Vibration
		55	Wave
5	Liquid	61	Tautochrone
51	Perfect	63	Brahystochrone
55	Compressible	66	Isochronism
56	Viscous		
8	Gas	**B8**	**Physico-Mathematics**
			Schedule of (1P1) isolates
	Isolates in (1MP1)	3	Potential function and attrac-
			tion
1	Fundamental principle	5	Wave function
11	Inertia		

8 Examples

81 ALPHABETICAL INDEX TO SUBJECTS

Given below is an alphabetical index to the subjects of the documents listed in " Sec 82 Classified Part." In addition to the Serial Number given as the index number against each entry in this section, the Class Number is also given. The alphabetical subject index has been prepared according to chain indexing.

Subject Index Entry	Class Number	Serial N
Abelian group, Agebra	B2,42	30, 31
Abstract algebra	B2,3X	23 to 46
Algebra	B2	21 to 52
Algebraic curve, Geometry	B6,27	100
Algebraic geometry	B6;2	90, 91
Algebraic method, Plane, Geometry	B6,2;2	99
Algebraic method, Three dimensional Geometry	B6,3;2	103
Algebraic number, Theory of Numbers	B1X,5	20
Algebraic topology	B6T-N	132—133
Almost periodic function, Analysis	B3,991N2	80
Analysis	B3	53 to 85
Analytical, Geometry	B6;23	91
Analytical manifold, Topology	B6T,4543	124
Analytical method, Plane, Geometry	B6,2;23	99
Analytical method, Three dimensions, geometry	B6,3;23	103
Approximation, Analysis	B3,01	55
Arithmetic	B1	5 to 16
Arithmetical operation	B1,13	15, 16
Axiomatic foundation, Mathematics	B,2	3
Bessel function, Analysis	B3,93M2	74
Binary system, Arithmetic	B1,112	12
Boolean algebra	B2N	49
Bundle, Topology	B6T,46	126
Calculus, Analysis	B3,2	59
Calculus of variation	B3C	81
Category theory	B2-N5	52
Closed space, Topology	B6T,3	11
Cohomology, Group, Algebra	B2,4d;d2	26
Cohomology, Topology	B6T;71	111
Combinatorial algebra	B2-M9	48
Compact space, Topology	B6T,45	118 to 125
Complex, Topology	B6T,452Z	119
Complex variable, Analysis	B1,8	68 to 70
Connectedness, Topology	B6T;d	106
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92 Acknowledgement