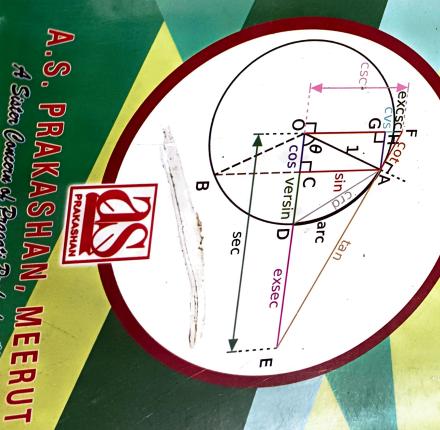
NUMBER U. R. TYAGI JATINDER KAUR TRIGNOMETRY AND THEORY

SUSHIL SAINI UPASNA

PANKAJ KALRA

B.A./B.Sc. Semester - I



H Sates Courses of Broom France

NUMBER GONOMETR

For B.A./B.Sc. I Year (Second Semester) Students of M.D.U./K.U. and C.D.L.U.

U. R. TYAGI

Ex.-Lecturer
Department of Mathematics
Govt. College
BAHADURGARH

JATINDER KAUR

Head, Department of Mathematics Gurunanak Girls College, YAMUNA NAGAR

UPASNA

Department of Mathematics Dayanand Mahilla Mahavidalya, KURUKSHETRA

PANKAJ KALRA

Department of Mathematics
Govt. Girls College,
REWARI

SUSHIL SAINI

Department of Mathematics
Dronacharya Govt. College,
GURGAON



SPECIMEN COPY



Contains	
Divisibility Divisibility 1 Problem on divisibility by mathematical induction 6 Division algorithm 9 Fundamental theorem of arithmetic 18 Exercise 23	1-23
Congruences and Diophantine Equations Congruences 24 Linear congruences 32 Diophantine equations 44 Exercise 51	24-52
Fermat and Wilson Theorems Fermat theorem and its applications 53 Wilson theorem 58 Exercise 62	53-62
Euler's and Chinese Remainder Theorems Euler's \$\phi\$ function and its properties 63 Residue systems and Euler's theorem 69 Chinese Remainder theorem 74 Exercise 78	63-78
Quadratic Residues Quadratic Residues and Gauss Lemma 79 Quadratic Reciproeity law 95 Exercise 102	79-102
Some Functions of Number Theory Greatest integer function 103 Arithmetic function 110 Mobius functions 116 Exercise 121	103–121
De-Moivre's Theorem and its Applications De-Moivre's theorem 122	122–159

ω. P. I.

2 : w

ö io i− io

4 % % !- **.-**

ω ₁ ο ο

Solution of equation 139

Roots of a complex number by De-Moivre's theorem

131

Exercise 159

8.

Exponential Circular and Hyperbolic Functions of Exponential function of a complex variable 160 1. Circular functions of complex variables 163 2. Hyperbolic functions 169 3. Hyperbolic functions 100 Separation of circular and hyperbolic functions into real and imaginary parts **Logarithmic and General Exponential Functions** 9. 1. Logarithmic functions 187 The general exponential function 193 2. Exercise 197 10. Inverse Circular and Inverse Hyperbolic Function Inverse trigonometric functions of a real variable 199 Inverse circular functions of a complex variable 212 2. 3. Inverse hyperbolic functions 216 4. Gregory's series 222 Exercise 224 11. Summation of Series Series involving sines and cosines whose angles are in A.P. $\,225$ 1. 2. Method of Differences 231 3. "C+iS" method of summation 236 "C+iS" involves the binomial or G.P. series 237 4. "C+iS" involves exponential, sine and cosines series 241 6. "C + iS" involves logarithmic series 243 7. "C+iS" involves the series $\tan^{-1} x$ 246 8. Summation of series depending on hyperbolic series 248 Exercise 249

160-1

187-1

199-2

225-2

Short Answer Type Questions Examinations Papers