

Swarup Ghanshyam (10) 70 (GA)

Tandon P N (2) 86 (BR)

Tandon Rajat (6) 25; (7) 28 (GA)

Tejaswi N V (12) 70 (GA)

Thangavelu S (10) 3 (AIB)

Varma R K (8) 8 (Guest Article)

Varughese Cherian (7) 78 (BR); (12) 23(GA)

Vasudeva R (5) 73 (CR)

Vatsala S (11) 75 (GA)

Venkataraman G (7) 3 (AIB)

Verghese C George (2) 2 (AIB)

Verghese George C (2) 2 (AIB)

Vijayan M (6) 2 (AIB)

Vijaykumar A K (6) 78 (BR)

Vinay V (4) 72 (GA)

Viswanath K (7) 74 (CR); (8) 73 (BR)

Watve Milind (1) 79 (BR)

Yogananda C S (3) 2 (AIB); (9) 92 (IA)

SUBJECT INDEX

Abel (7) 28 (GA)

Adams J F (2) 8 (SA)

Ageing (8) 67 (RN)

Age-specific mortality rate (8) 67 (RN)

Albert Einstein - The man behind the myths by
John Stachel (8) 76 (RF)

Algebra (1) 8 (SA)

Algebra in ancient and modern times by
V S Varadarajan (6) 80 (BR)

Algebraic integers (7) 28 (GA)

Algebraic number theory (7) 28 (GA)

Algorithmic complexities (4) 72 (GA)

Almost complex structure (2) 8 (SA)

Amphihaline (10) 59 (GA)

An introduction to measure and integration by
Inder K Rana (8) 73 (BR)

Anning N H (3) 70 (TIO)

Antibody binding (3) 32 (GA)

Antiferromagnetism (7) 8 (SA)

Archimedes principle (11) 18 (GA)

Arithmetic mean (2) 69 (CR)

Aromaticity (4) 88 (GA)

Artificial neural networks (9) 45 (GA)

Assembly language (12) 43 (GA)

Astronomical spectroscopy, stellar spectra (5)
24 (GA)

Asymptotic sieve (3) 71 (RN)

Atiyah M F (2) 8 (SA)

ATP Synthase (2) 45 (GA)

Authentication (9) 61 (FA)

Avogadro number (10) 96 (TIO)

Axioms of probability (4) 103 (CL)

B and T cells (1) 15 (SA)

Barium sulfate mineral (3) 59 (GA)

Barytes (3) 59 (GA)

Bateman's principle (4) 64 (GA)

Bats, breeding patterns of; (6) 62 (FA)

Bats, gestation period in; (6) 62 (FA)

Bats, reproductive cycles of (6) 62 (FA)

Benzene (4) 88 (GA)

Bet-hedging strategies (11) 30 (GA)

Bhabha H J, profile (7) 3 (AIB)

Bilinear map (2) 8 (SA)

Binary quadratic forms (6) 25 (GA)

Bipomial distribution (4) 103 (CL)

- Biochemistry (12) (GA)
 Biological rhythms (2) 53 (GA)
 Biometry (12) (GA)
 Bipartite graph (3) 62; (11) 87 (CR)
 Birch–Swinneton–Dyer conjecture
 (8) 33 (GA)
 Black tipped hanging flies (1) 36 (GA)
 Body mass decline (1) 74 (RN)
 Body mass estimation (1) 74 (RN)
 Bombieri, Enrico (3) 71 (RN)
 Bose J C (2) 53 (GA)
 Brahmagupta (6) 25 (GA)
 Bucky bowl (11) 82 (FA)
 Buffon's needle problem revisited (9) 70 (CR)
- C**
 Cardano G (1) 8 (SA)
 Cayley A (1) 8 (SA)
 Cayley numbers (1) 8 (SA)
 Cellular architecture (5) 48 (FA)
 Chaos (4) 6; (6) 8; (10) 8 (SA)
 Chebyshev's theorem (3) 2 (AIB)
 Chemical analysis (3) 69 (CR)
 Chemical flag (2) 77 (CR)
 Chemical kinetics (10) 89 (CR)
 Chemiosmotic principle (7) 45 (GA)
*Chemistry of conscious states – Towards a
 unified model of the brain and the mind*
 by J Allan Hobson (2) 89 (BR)
 Chronobiology (2) 53 (GA)
 Class numbers (6) 25 (GA); (7) 28 (GA)
 Cognitive psychology (9) 35 (GA)
 Common knowledge (8) 46 (GA)
 Competition (1) 36 (GA)
 Complex geometry (2) 8 (SA)
 Complex structure (2) 8 (SA)
 Computer availability (2) 35 (GA)
 Computer reliability (2) 35 (GA)
 Computer security (2) 35 (GA)
 Computer virus (2) 35 (GA)
 Conditional probability (4) 103 (CL)
 Congruent number (8) 33 (GA)
 Constraint optimisation (12) 83 (CR)
 Continuity (7) 74 (CR)
 Control function (7) 74 (CR)
 Converges (7) 74 (CR)
 Corannulene (11) 82 (FA)
 Cosmic rays, Indian research (7) 18 (GA)
 Courtship dance in insects (1) 36 (GA)
- D**
 Dedekind (7) 28 (GA)
 Dichogamy, second-order dichogamy
 (11) 30 (GA)
 Dido's problem (10) 49 (GA)
 Differential equation (9) 26 (GA)
 Differential operator (9) 26 (GA)
 Digital data (9) 61 (FA)
 Diophantus (8) 33 (GA)
 Dirichlet, Gustave Lejuene (3) 71 (RN)
 Discovering biodiversity (2) 62 (CR)
 Discriminant (6) 25 (GA)
 Diurnal rhythms in plants (2) 53 (GA)
 Division algebra (1) 8 (SA)
 Dot product (1) 8 (SA)
*Dreams of a final theory – The search for the
 fundamental laws of nature* by S Winberg
 (2) 83 (BR)
Drosophila melanogaster (8) 67 (RN)
- E**
 Edges (11) 87 (CR)
 Eigenfunctions (9) 26; (10) 49 (GA)
 Eigenvalues (9) 26; (10) 49 (GA)
 Einstein, the man (8) 76 (GA)
 Einstein's last dream: The space-time unification
 of fundamental forces by Abdus Salam
 (1) 81 (RF)
 Einstein's work in 1905 (8) 74 (CL)

- Electroluminescent devices (10) 16 (SA)
 Electro-optic devices (10) 16 (SA)
Elemental mind: Human consciousness and the new physics by Nick Herbert (2) 86 (BR)
 Elemental test (3) 69 (CR)
 Elementary physics, pitfalls in (12) 69 (CR)
 Elementary physics, pitfalls, Newtonian relativity, frames of reference (4) 94 (CR)
 Elements (11) 75 (GA)
 Elliptic curves (8) 33 (GA)
 Encephalization quotient (1) 74 (RN)
 Encryption (2) 35 (GA)
 Endangered species (8) 56 (FA)
Environmental Biology by Biswarup Mukherjee (5) 81 (BR)
 Enzyme activity (10) 70 (GA)
 Enzymes (2) 45; (3) 32; (6) 31; (7) 38 (GA)
 Equivalence relation (6) 25 (GA)
 Erdos, Paul (3) 2 (AIB)
 Erdos–Mordell inequality (3) 62 (CR)
 Euclidean space (9) 26 (GA)
 Euler L (1) 8 (SA)
 Euryhaline (10) 59 (GA)
 Events (4) 103 (CL)
 Evolutionary history of genes (2) 28 (GA)
 Expert systems (3) 46 (GA)
 Extract from Salam's Nobel Prize Acceptance Speech, Stockholm, December 8, 1979 (1) 89 (RF)
 Extremozymes (3) 32 (GA)
- F**abrication of materials (4) 30 (SA)
 Fault tolerance (2) 35 (GA)
 Fermat's last theorem (7) 28 (GA)
 Ferrimagnetism (7) 8 (SA)
 Ferromagnetism (7) 8 (SA)
 Fluid mosaic model (7) 45 (GA)
- Flying buttresses, entropy and O-rings: The world of an engineer* by James L Adams (3) 76 (BR)
 Formal analysis (7) 74 (CR)
 Fourier series, Fourier transforms (10) 3 (AIB)
 Fractal membrane (10) 58
 Freedlander J (3) 71 (RN)
 Frequencies (9) 26 (GA)
 Function (7) 74 (CR)
 Fundamental discriminant (6) 25 (GA)
 Fundamental tone (9) 26 (GA)
- G**alaxy, most distant (6) 76 (RN)
 Galois (7) 28 (GA)
 Game theory (1) 27; (7) 53 (GA)
 Gauss's divergence theorem (11) 18 (GA)
 Gene duplication (2) 28 (GA)
 Gene evolution, at molecular level (2) 28 (GA)
 Generated repertoire (1) 15 (SA)
 Genetics (12) (GA)
 Geometric mean (2) 69 (CR)
 Glandular trichomes (3) 41 (GA)
 Goldfeld D (6) 25 (GA)
 Gompertz equation (8) 67 (RN)
 Gompertz model (8) 67 (RN)
 GPS satellite (8) 25; (9) 14 (GA)
 Graph theory (11) 87 (CR)
 Graph, vertices and edges of (3) 62 (CR)
 Graves J (1) 8 (SA)
 Gravitational potential (12) 23 (GA)
 Gross B H (6) 25 (GA)
 Gurukula botanical sanctuary (2) 62 (CR)
- H**aemoglobin genes (2) 28 (GA)
 Haemophilia (5) 76 (RN)
 Haldane, evolution, genetics, biochemistry (12) 36 (GA)
 Haldane, statistics, human genetics, biometry



- (12) 32 (GA)
- Hamilton W R (1) 8 (SA)
- Hardy G H (3) 81 (RF)
- Hardy's "A Mathematician's Apology" (9) 83 (RF)
- Harold (6) 25 (GA)
- Hausdorff topological space (2) 8 (SA)
- Heegner (6) 25 (GA)
- Heilbronn (6) 25 (GA)
- Hermaphroditism, sequential, simultaneous (4) 64 (GA)
- Hierarchy of protein structure (3) 32 (GA)
- High level language (12) 43 (GA)
- Hill coefficient (10) 70 (GA)
- Himalaya, hollow (1) 21 (GA)
- Hodgkin, D (6) 2 (AIB)
- Holographic neural networks (7) 45 (GA)
- Homogeneous polynomial (6) 25 (GA)
- Homogenous solid (12) 23 (GA)
- Homotopic groupoid (2) 8 (SA)
- Hopf space (2) 8 (SA)
- Hornbill, breeding habits, feeding habits (8) 56 (FA)
- Hornbills, diversity and biogeography, nest cavities of hornbills (8) 56 (FA)
- H-space (2) 8 (SA)
- Hückel E (8) 3 (AIB)
- Human genetics (12) (GA)
- Hurwitz A (1) 8 (SA)
- Hurwitz's theorem (1) 8 (SA)
- Hyperpolarizability (8) 14 (SA)
- Hypotheses (11) 69 (GA)
- ICM 1998 & the Fields medals (10) 100 (IA)
- Ideal (7) 28 (GA)
- Ikeda, A (10) 49 (GA)
- Immune systems (1) 15 (SA)
- Independence (4) 103 (CL)
- Indigo (4) 88 (GA)
- Induction, backward (2) 69 (CR)
- Induction, empirical (2) 69 (CR)
- Induction, mathematical (2) 69 (CR)
- Inference engine (3) 46 (GA)
- Inner product (1) 8 (SA)
- Insect resistance to crops (3) 41 (GA)
- Integral distances (3) 70 (TIO)
- Intermolecular interactions (4) 30 (SA)
- Inverse problem (9) 26 (GA)
- Ionisation, thermal (5) 2 (AIB)
- Iono-osmoregulation (10) 59 (GA)
- Iron-sulfur proteins (6) 52 (GA)
- Irreducible (7) 28 (GA)
- Isometric (9) 26 (GA)
- Isoperimetric inequalities (10) 49 (GA)
- Isospectral (9) 26 (GA)
- Isospectral domains (10) 49 (GA)
- Iwaniec H (3) 71 (RN)
- JBS: The life and work of JBS Haldane* by Ronald W Clark (12) 91 (BR)
- Kac, Mark (3) 81 (RF); (9) 26 (GA)
- KAM Theorem (4) 43 (GA)
- Kepler's first law (5) 30 (GA)
- Kinetics experiment (10) 89 (CR)
- Knowledge base (3) 46 (GA)
- Knowledge engineering (3) 46 (GA)
- Kolmogorov, contributions to mathematics (4) 59 (GA)
- Kolmogorov, contributions to probability theory (4) 2 (AIB)
- Kronecker (7) 28 (GA)
- Kummer (7) 28 (GA)
- Lagrange J L (1) 8 (SA)
- Lagrange multiplier (12) 83 (CR)

- Langmuir–Blodgett films (4) 30 (SA)
 Laplace equation (12) 23 (GA)
 Laplace operator (10) 3 (AIB); (10) 49 (GA)
 Laplacian (9) 26 (GA)
 Laser cooling, trapping of atoms (2) 16 (GA)
 Lattice point (11) 87 (CR)
 Laws (11) 69 (GA)
 Laws of diminishing returns (4) 64 (GA)
 Laws of probability (4) 103 (CL)
 Learning models (1) 27; (6) 40 (GA)
 Leonardo, Pisano (8) 33 (GA)
 Liber Quadratorum (8) 33 (GA)
 Limit inferior (7) 74 (CR)
 Limit superior (7) 74 (CR)
 Limits (7) 74 (CR)
Linear algebra by Henry Helson (11) 94 (BR)
Linear analysis by Bela Bollabas (7) 78 (BR)
 Liquid crystals (5) 6 (SA)
- M**
 Macaulay's expansion (2) 69 (CR)
 Machine translation (7) 61 (GA)
 Macromolecules (1) 67 (CR)
 Marriage problem (2) 69 (CR)
 Material devices (10) 14 (SA)
 Mating environments (11) 30 (GA)
 Mating systems (1) 36 (GA)
 Mechanically equivalent systems (11) 18 (GA)
Mendel, Curie, Darwin, Faraday, Galileo, Newton, Halley and Einstein by John and Mary Griffin (11) 90 (BR)
 MHC molecules (1) 15 (SA)
 Minerals (3) 59 (GA)
 Mobile computing (5) 48 (FA)
 Modular forms (8) 33 (GA)
 Molecular amplifier (12) 4 (SA)
 Molecular brake (12) 4 (SA)
 Molecular conductors (5) 6 (SA)
 Molecular magnets (7) 8 (SA)
 Molecular materials (4) 30; (7) 8; (8) 14; (10) 16; (12) 4 (SA)
 Molecular rectifier (12) 4 (SA)
 Molecular scale devices (12) 4 (SA)
 Molecular solids (4) 30 (SA)
 Molecular weight (1) 67 (CR)
 Molecular wire (12) 4 (SA)
 Monopole, magnetic (5) 83 (GA)
 Monotone sequence (7) 74 (CR)
 Mordell L J (3) 2 (AIB)
 Multiplicative inverse (7) 28 (GA)
 Multiplication, octonionic (2) 8 (SA)
 Multiplication, quarternionic (2) 8 (SA)
 Mutagenesis (3) 32 (GA)
- N**
 $\text{Na}^+\text{-K}^+$ ATPase (2) 45 (GA)
 Nash equilibrium (7) 53 (GA)
 Natural language processing (7) 61 (GA)
 Nature study activities (2) 62 (CR)
 Neutrino oscillation (12) 13 (GA)
 Newton's theorem (12) 23 (GA)
 Nilgiri tahr, body size (5) 43 (FA)
 Nobel Prize, Chemistry 1997 (2) 45 (GA)
 Nobel Prize, Physics (2) 16 (GA)
 Noether Emmy (9) 2 (AIB)
 Non-glandular trichomes (3) 41 (GA)
 Non-linear optical materials (8) 14 (SA)
 Normal modes (9) 26 (GA)
 Nutrient uptake by plant (7) 45 (GA)
- O**
 Octonionic (2) 8 (SA)
 Octonions (1) 8 (SA)
 Ohno's formula (5) 76 (RN)
Oncorhynchus masu (Salmon) (10) 59 (GA)
 Optical neural networks (9) 45 (GA)
 Overtones (9) 26 (GA)
- P**
 Parallel Algorithms (1) 47 (GA)

- Parallel computers (1) 47 (GA)
 Parallel programming (1) 47 (GA)
 Parallel programming languages (1) 47 (GA)
 Paramagnetism (7) 8 (SA)
 Parameter estimation (6) 40 (GA)
 Pell's equation (6) 25 (GA)
 Perception (9) 35 (GA)
 Periodic function (10) 3 (AIB)
 Periodic table (11) 75 (GA)
 pH (9) 81 (TIO)
 Pharmaceutical industry (3) 41 (GA)
 Phenotypic gender (11) 30 (GA)
 Photosynthesis (6) 74 (TIO)
 Physical chemistry (3) 73 (BR)
 Physical world, current concepts (7) 80 (GA)
 Pillai, Siva Sankaranarayana (3) 81 (RF)
 Planetary motion (4) 43 (GA)
 Plant gender (11) 30 (GA)
 Polymers (1) 67 (CR)
 Polymers, conducting (5) 6 (SA)
 Possibilities of human evolution by JBS Haldane
 (12) 96 (CL)
 Potential theory (12) 23 (GA)
 Prime number theorem, elementary, proof of
 (3) 2 (AIB)
 Prime number theorem (3) 81 (RF)
 Primes in arithmetic progression (3) 2 (AIB)
 Principal ideal domain (PID) (7) 28 (GA)
 Probabilistic number theory (3) 81 (RF)
 Program (4) 72 (GA)
 Programming languages (12) 43 (GA)
 Program correctness (4) 15 (SA)
 Program termination (4) 15 (SA)
 Protein kinases (10) 70 (GA)
 Protein phosphorylation (10) 70 (GA)
 Protein-protein interactions (10) 70 (GA)
 Proteins (6) 52 (GA)
 Protons and neutrons, mass (5) 84 (GA)
 Pseudogenes (2) 28 (GA)
 Quadratic fields (7) 28 (GA)
 Qualitative organic analysis (3) 69 (CR)
 Quantifiers (7) 74 (CR)
 Quaternionic (2) 8 (SA)
 Quaternions, algebra of (1) 8 (SA)
 Rademacher, H (3) 81 (RF)
 Ramanujan and I by Paul Erdős (3) 81 (RF)
 Ramanujan, S (3) 81 (RF)
 Ramsey numbers (3) 62 (CR)
 Random sequences (4) 72 (GA)
 Randomness (4) 72 (GA); (4) 103 (CL)
 Reasoning, syllogistic, propositional (9) 35 (GA)
 Recombinant DNA technology (3) 41 (GA)
 Reduced forms (6) 25 (GA)
 Relativity special (1) 61; (5) 64 (CR)
 Repeated games (8) 46 (GA)
 Resultant force (11) 18 (GA)
 Resultant torque (11) 18 (GA)
 Ring (7) 28 (GA)
 Ring of polynomials (7) 28 (GA)
 Rocks, movement (10) 41 (GA)
 Rödl V (3) 62 (CR)
 Rule based systems (3) 46 (GA)
 Saha equation, thermal ionization (5) 2 (AIB)
 Salam, A. (1) 3 (AIB)
 Salinity (10) 59 (GA)
 Scarab beetles (1) 36 (GA)
 Schrödinger's cat states (2) 79 (RN)
 Second harmonic generation (8) 14 (SA)
 Selberg A (3) 2 (AIB)
 Sex change in plants (4) 64; (11) 30 (GA)
 Sexual behaviours in insects (1) 36 (GA)
 Sexual segregation, periodic segregation of sexes
 (5) 43 (FA)

- Sexual selection (1) 36 (GA)
 Shannon sampling theorem (10) 3 (AIB)
 Siegel C L (6) 25 (GA)
 Skolemisation (7) 74 (CR)
 S^n , units sphere in R^{n+1} (2) 8 (SA)
 Solar interior (3) 18 (GA)
 Sonochemistry (9) 56 (GA)
 Species extinction, extinction, mass (3) 8 (GA)
 Spectroscopy, astronomical (5) 24 (GA);
 (6) 16 (GA)
 Spectrum (9) 26 (GA)
 Square-integrable (10) 3 (AIB)
Srinivasa Ramanujan: A Mathematical Genius
 by K Srinivasa Rao (12) 93 (BR)
 Stark (6) 25 (GA)
 Statistics (12) (GA)
 Stenohaline (10) 59 (GA)
 Subgame perfect equilibrium (8) 46 (GA)
 Sunada, T (10) 49 (GA)
 Superconductors, tunneling in (11) 8 (SA)
 Survivorship curves (8) 67 (RN)
 Szekeves G (3) 62 (CR)
- T**
 Chebychev's theorem (3) 81 (RF)
 Temperature, negative absolute (6) 70 (CR)
 The missing string (1) 73 (TIO)
 The origin of mass in neutrons and protons by
 M N Saha (5) 81 (CL)
 The present concept of the physical world by
 H J Bhabha (7) 80 (RF)
*The red queen: Sex and the evolution of human
 nature* by Matt Ridley (1) 79 (BR)
*The refrigerator and the Universe: Under-
 standing the laws of energy* by
 Martin Goldstein and Inge F Goldstein
 (3) 78 (BR)
The story of spin by Sin Itiro Tomonaga (11)
 89 (BR)
- The theory of probability by A N Kolmogorov
 (4) 103 (CL)
 Theories (11) 69 (GA)
 Thermodynamics (3) 78 (BR)
 Thin film transistors (10) 16 (SA)
 39th IMO (6) 92 (IA); (9) 92 (IA)
 Topological group (2) 8 (SA)
 Topology (2) 8 (SA)
 Torque-vector (11) 18 (GA)
 Transistor, discovery (9) 6 (SA)
 Tunnell's theorem (8) 33 (GA)
 Turan, Paul (3) 2 (AIB)
- U**
 Ultrasound (9) 56 (GA)
 Unification of forces (1) 81 (GA)
 Unique factorization domain (UFD) (7) 28 (GA)
 Upper half-plane (6) 25 (GA)
- V**
 Variance bias tradeoff (6) 40 (GA)
 Variance minimisation (6) 40 (GA)
 Vector field (2) 8 (SA)
 Vector product (1) 8 (SA)
 Vector space (7) 28 (GA)
 Vertices (11) 87 (CR)
 Vignerass, Marie-France (10) 49 (GA)
- W**
 Wandering scientists by Dorothy Hodgkin
 (6) 82 (RF)
 Waring's problem (3) 81 (RF)
 Watermarks (9) 61 (FA)
 Wave equation (9) 26 (GA)
What makes nature tick? by Roger G Newton
 (6) 78 (BR)
 Wireless communication (5) 48 (FA)
 Work and Energy (12) 69 (CR)
- Z**
 Zagier D (6) 25 (GA)

