1. Record Nr. UNINA9910431346903321

Titolo	Sugar and Sugar Derivatives: Changing Consumer Preferences / / edited by Narendra Mohan, Priyanka Singh
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2020
ISBN	981-15-6663-1
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XXIV, 307 p. 67 illus., 58 illus. in color.)
Disciplina	633.61
Soggetti	Agriculture Botanical chemistry Food - Microbiology Plant Biochemistry Food Microbiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter 1: Pioneer Knowledge of Sugarcane and Sugar -- Chapter 2: Sugar Quality and Pricing Pattern for Economic Sustainability of the Indian Sugar Industry -- Chapter 3: Exploiting technologies in the emerging bio-economy -- Chapter 4: Sugar and Sugar Substitutes: Recent Developments and Future Prospects -- Chapter 5: Sugar Quality – Process Options to address Sustainability of Sugar Industry -- Chapter 6: Development and Classification Technique of Indian Sugars -- Chapter 7: Speciality Sugars: Kinds and Specifications -- Chapter 8: Packaging/Labelling and Quality Management System for Indian Sugar Industry to Meet Consumer Demands -- Chapter 9: Sugar Fortification – possibilities and Future Prospects -- Chapter 10: Diversification of sugar and sugarcane industry: Agro-industrial alternatives -- Chapter 11: Sugar Industry: A hub of useful bio-based chemicals -- Chapter 12: Expanding horizon of sugars application: Skin care and cosmetics -- Chapter 13: Sugar Industry and Speciality Sugar Manufacturing -- Chapter 14: Carbonation & Phosphatation Process for Refined Sugar Production: A Comparative Evaluation -- Chapter 15: Sugarcane and Sugar Diversification: Opportunities for small scale entrepreneurship -- Chapter 16: Sugar – Myths and Reality -- Chapter 17: An Insight to

DEFCO Melt Crystallization Process -- Chapter 18: Shelf-life of Pineapple and Lime-flavoured, Ascorbic Acid-added and Ready-to-Serve Sugarcane Juice Beverage -- Chapter 19: Jaggery (Gur): The Ancient Indian Non-Centrifugal Sugar.

Sommario/riassunto

Sugarcane enjoys a prominent position among agro-industrial crops and is commercially grown in 115 tropical and subtropical countries around the world. However, fluctuations in sugar prices have forced the sugarcane industry worldwide to broaden its revenue base by moving from single-commodity manufacturing to a range of value-added products. Utilizing the by-products in an innovative manner to create value-added products is the new course of action for sugar-producing countries. For many years sugarcane was regarded as a single-product crop, i.e., only useful for producing sugar. Its actual potential is now increasingly being recognised by the industry and there is a growing trend toward the manufacturing of allied products from sugarcane. Therefore, the focus is now on the establishment of sugar-agro-industry complexes, processing not just sugar but a range of other products. This book provides a comprehensive overview of sugarcane not only as a sourceof sweetening agents but also for many other uses, including as a source of bio-energy. It also explores the trend of sugar consumption and suggests practices to curb the consumption of sugar products in order to tackle obesity and reduce public health costs. The book underscores the need to diversify sugarcane and highlights means of doing so, while also addressing various innovations and technologies being developed in connection with sugar, sugar derivatives, and sugar industry by-products for sustainable utilization in the sugar-agro industry. Accordingly, it offers a valuable resource for professionals and R&D units in the sugar industry, and for students of agronomy and related fields. .

2. Record Nr. UNINA9910337626903321

Autore	Esmailzadeh Ebrahim
Titolo	Analytical Methods in Nonlinear Oscillations : Approaches and Applications / / by Ebrahim Esmailzadeh, Davood Younesian, Hassan Askari
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2019
ISBN	94-024-1542-4
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (296 pages)
Collana	Solid Mechanics and Its Applications, , 0925-0042 ; ; 252
Disciplina	531.32
Soggetti	Vibration Dynamics Statistical physics Computer science - Mathematics Vibration, Dynamical Systems, Control Applications of Nonlinear Dynamics and Chaos Theory Computational Science and Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Chapter I: Introduction -- Why Nonlinear Oscillations? -- Brief Review of Nonlinear Oscillations History -- Overview of the Book -- Nonlinear Dynamical Systems -- Conservative Oscillatory Systems -- Non-Conservative Oscillatory Systems -- Parametrically Excited Vibration -- Resonance in Nonlinear Systems -- Chapter II: Classical Methods -- Nonlinear Differential Equations -- Perturbation Methods -- Parametric Excitation and Hill’s Equation -- Practice Problems -- Chapter III: Energy Balance Methods -- Part I Approach -- Fundamentals of the Energy Balance Method -- Modified Energy Balance Method: Galerkin Approach -- Modified Energy Balance Method: Least Square Method -- Hamiltonian Approach -- Modified Hamiltonian Approach -- Rational Energy Balance Method -- Part II Applications -- Generalized Duffing Equation -- Nonlinear Dynamic Buckling of an Elastic Column -- Vibrations of Cracked Rectangular Plate -- Relativistic Oscillator -- Plasma Physics Equation -- Nonlinear Oscillator with Discontinuity -- Nonlinear Oscillator with Fractional-Power Restoring Force --

Generalized Conservative Oscillatory Systems (Type 1) -- Generalized Conservative Oscillatory Systems (Type 2) -- Duffing Harmonic Oscillator -- Helmholtz Duffing Oscillator -- Autonomous Conservative Oscillatory System -- Nonlinear Oscillation of Rigid Bar on Semi-Circular Surface -- Nonlinear Oscillations of Centrifugal Governor Systems -- Nonlinear Lateral Sloshing in Partially-Filled Elliptical Tankers -- Nonlinear Oscillations of Elevator Cable in in a Drum Drive Elevator -- Chapter IV: Residual Methods -- Part I Approach -- Basic Idea -- Frequency Amplitude Formulation -- Max-Min Approach -- Part II Applications -- Generalized Duffing Equation -- Generalized Conservative Oscillatory Systems (Type 1) -- Generalized Conservative Oscillatory Systems (Type 2) -- Nonlinear Oscillator with Fractional Power -- Nonlinear Oscillation of a Mass Attached to a Stretched Elastic Wire -- Nonlinear Schrödinger Equation -- A Rigid Frame Rotates at a Fixed Rate -- Conservative Lienard Type Equation -- Part III Practice Problems -- Chapter V: Semi-Inverse and Variational Methods -- Semi-Inverse and Variational Approaches -- Part I Approach -- Variational Principle.-Semi-Inverse Method -- Variational Approach.-Hamiltonian Approach -- Relationship between Hamiltonian and Variational Approaches -- Part II Applications -- Generalized Duffing Equation -- Elastic Force with Rational Characteristic Equation -- Elastic Force with Non-integer Fractional Characteristic Equation -- Higher-Order Hamiltonian Approach to Duffing Equations -- Hamiltonian Approach to Rational and Irrational Oscillator -- Hamiltonian Approach to Nonlinear Oscillator with Discontinuity -- Nonlinear Oscillator with Quintic Nonlinearity -- Nonlinear Schrodinger’s Equation -- Thomas-Fermi Equation -- Heat Conduction Equation -- Lane-Edmen Type Equation -- Dynamic Analysis of Centrifugal Governor System -- Duffing Harmonic Equation -- Part III Practice Problems -- Chapter VI: Ingegral Based Methods -- Part I Approaches -- Adomian Decomposition Method -- Variational Iteration Method -- Homotopy Analysis Method -- Part II Applications -- Volterra-Integro Differential Equations -- Nonlinear Schrödinger Equations -- Van der Pol Equation -- Korteweg-de Vries Equation -- Part III Practice Problems -- Chapter VII:Nonlinearities in Nano and Micro Systems -- Duffing Equation in NEMS and MEMS -- Parametric and Self-Excited Oscillations -- Nonlinear Coupled Oscillators -- Other Types of Nonlinearities -- Part III Practice Problems.

Sommario/riassunto

This book covers both classical and modern analytical methods in nonlinear systems. A wide range of applications from fundamental research to engineering problems are addressed. The book contains seven chapters, each with miscellaneous problems and their detailed solutions. More than 100 practice problems are illustrated, which might be useful for students and researchers in the areas of nonlinear oscillations and applied mathematics. With providing real world examples, this book shows the multidisciplinary emergence of nonlinear dynamical systems in a wide range of applications including mechanical and electrical oscillators, micro/nano resonators and sensors, and also modelling of global warming, epidemic diseases, sociology, chemical reactions, biology and ecology.