

**I.R.M.J.C.R.**  
**International Refereed  
Journal of Arts, Science & Commerce**

PRINT ISSN:2319-5789, ONLINE ISSN:2320-3145

# SCHOLARS WORLD

International Refereed  
Multidisciplinary Journal  
of Contemporary Research

Volume V

Issue IV

October 2017

**U.G.C. Approval Journal No: 63511**

**IMPACT FACTOR:**

**Scientific Impact Factor: 4.433**

**INDEXING:**

Universal Impact Factor: 1.22

International Impact Factor: 0.65

Science Impact Factor: 0.48

Directory of Open Access Journals, Sweden

Ulrich's Web Global Series Directory, USA

Open J- Gate, India

Advanced Science Index (ASI), Germany

Cite Factor- Academic Scientific Journal, Canada/USA

Academic.edu - Unlocking Academic Careers

Yampu - Switzerland

.docstock- we make your business better-Santa Monica, CA

DRJI- Directory of Research Journals Indexing, India

Base- Bielefeld Academic Search Engine

Calameo- Publish, Share, Browse- USA

Indian Citation Index- India

Slide Share- News Letters- San Francisco

Scientific Indexing Services

Worldcat.org

Pub-Res (International Research Library)

**IRMJCR**



### EDITORIAL BOARD

<b>EDITOR IN CHIEF</b> <b>DR. MOHAMMED YAHYA SABA,</b> Kirori Mal College- Delhi Delhi University (India)	<b>EDITOR</b> <b>DR. MANOJ KAMAT,</b> Sr. Faculty At Vvm's Shree Damodar College- Goa (Goa University)-India
--	---

**MANAGING EDITOR (Publisher)**  
*Ishtiyaque Ahmed - (India)*

### ASSOCIATE EDITORS

<b>Ramel D. Tomaquin, Ph.D., DPA,</b> <i>Cas Surigao Del Sur State University ,                  Philippines</i>	<b>Bhanu Shrestha</b> <i>Kwangwoon University,                  Seoul, Korea</i>
<b>Professor. Nawab Ali Khan</b> <i>Al- Kharj Salman Bin Abdulaziz University                  (Kingdom of Saudi Arabia)</i>	<b>Jeffrey Kahan, Professor,</b> <i>University of La Verne.                  California</i>
<b>Dr. Hajjah Jariah Mohd Jan</b> <i>University Of Malaya, Malaysia</i>	<b>Professor.Jacinta A.Opara, Phd</b> <i>(Austria)</i>

### MEMBERS OF EDITORIAL BOARD (INTERNATIONAL)

<b>Dr. Loo Fung Ying,</b> <i>University of Malaya,                  Malaysia</i>	<b>Dr. Loo Fung Chiat,</b> <i>University Putra Malaysia,                  Malaysia</i>	<b>Réagan (Edith) Lorraine L.</b> <i>Bilingual Higher Ed Business-                  France</i>
<b>John Kaiser S. Calautit,</b> <i>University of Leeds, Uk</i>	<b>Anjali Hans,</b> <i>University of Dammam Saudi Arabia</i>	<b>Ramadan Elaieess, Ph.D,</b> <i>University of Benghazi- Libya</i>
<b>Mohd. Abaee Shoushtary,</b> <i>Isfahan (Iran)</i>	<b>Djebbari Zakia,</b> <i>University of Tlemcen, Algeria</i>	<b>Bensafi Abd-El-Hamid,</b> <i>University of Tlemcen-Algeria</i>
<b>Dr. Suma Parahakaran,</b> <i>Wawasan Open University (Penang) Malaysia</i>		<b>Jiban Shrestha</b> <i>Scientist (Plant Breeding &amp; Genetics)Nepal</i>

### MEMBERS OF EDITORIAL BOARD (NATIONAL)

<b>Dr. Beeran Moidin B. M,</b> <i>P.A.College Of Engineering,                  Karnataka India</i>	<b>Dr. R. S. Deore</b> <i>M.S.G College- Malegaon                  (Camp)-India</i>	<b>Dr. M. Jaya,</b> <i>Asan Memorial College Of Arts                  &amp; Science, Chennai- India</i>
<b>Dr. K. Abdul Gafoor,</b> <i>University Of Calicut, Calicut-                  India</i>	<b>Dr. Artee Aggrawal,</b> <i>Director, Academics Prakritim                  Business School, Mumbai- India</i>	<b>Dr. Sunil Kumar Mishra,</b> <i>Dronacharya College                  Of Engineering, Gurgaon- India</i>

<b>EDITOR IN CHIEF</b> <b>DR. MOHAMMED YAHYA SABA,</b> <i>Kirori Mal College- Delhi</i> <i>Delhi University (India)</i>	<b>EDITOR</b> <b>DR. MANOJ KAMAT,</b> <i>Sr. Faculty At Vvm's Shree Damodar College- Goa</i> <i>(Goa University)-India</i>
--	---

**Associate Editor,**

**Ramel D. Tomaquin, Ph.D., DPA,**  
*Cas Surigao Del Sur State University ,*  
*Philippines*

**Professor. Nawab Ali Khan**  
*Al- Kharj Salman Bin Abdulaziz University*  
*(Kingdom of Saudi Arabia)*

**Dr. Hajjah Jariah Mohd Jan**  
*University Of Malaya, Malaysia*

**Bhanu Shrestha**  
*Kwangwoon University,*  
*Seoul, Korea*

**Jeffrey Kahan, Professor,**  
*University of La Verne.*  
*California*

**Professor. Jacinta A. Opara, Phd**  
*Kampala-Uganda*

**Managing Editor (Publisher)**

*Ishtiyaque Ahmed (India)*

**Disclaimer:**

The views articulated in the journal are those of author(s) and not the publisher or the Editorial Board. The readers are informed, authors, editors or the publisher do not owe any responsibility for any damage or loss to any person for the result of any action taken on the basis of the work. © The articles/papers published in the journal are subject to copyright of the publisher. No part of the publication can be copied or reproduced without the permission of the publisher.

**Published By:**

**MAAZ PUBLICATIONS,**

H.No.117, S.No.170, Zaitoon Pura, Malegaon Nasik, Maharashtra, India, 423203

CONTENTS

1.	<p style="text-align: right;"><b>Physics</b></p> <p>On The Correct Formulation of the Starting Point of Classical Mechanics                      Temur Z. Kalanov (Uzbekistan)</p>	01-23
2.	<p style="text-align: right;"><b>Biotechnology</b></p> <p>Phytochemical Analysis and Antimicrobial Activity of Leaf and Seed Extract of <i>Cassia fistula</i>                      Ritu Rana, Kumud Saklani , N. Gaurav (India)</p>	24-30
3	<p style="text-align: right;"><b>Polymer Chemistry</b></p> <p>Aniline/<i>o</i>-Anisidine Copolymer MMT clay nanocomposites: Mechanochemical Synthesis and Characterization                      Kalaivasan Natarajan , Praveenraj Perumal (India)</p>	31-38
4.	<p style="text-align: right;"><b>Forest Science</b></p> <p>Assessment of Species Wise and Girth Wise Trees Number of Trees Per Hectare and Volume (m<sup>3</sup>) Per Hectare in Mukundpur Forest Range of Satna, Forest Division, Madhya Pradesh                      Prachi Singh, P.K. Singh, Sherendra Sahu                      Anoop Singh, N. Gaurav, Neeta Singh (India)</p>	39-46
5.	<p style="text-align: right;"><b>Chemistry</b></p> <p>EPOXIDE ASSISTED SOL-GEL SYNTHESIS OF MOLYBDENUM DOPED Ce<sub>2</sub>SiO<sub>5</sub> NIR REFLECTIVE YELLOW NANO PIGMENTS                      George Giable (India)</p>	47-52
6.	<p style="text-align: right;"><b>Chemistry</b></p> <p>Different Food Additives and Their Uses                      Waghmare Bhagyashri Bhima (India)</p>	53-55
7.	<p style="text-align: right;"><b>Economics</b></p> <p>Role of MSME Assistance in Economic Development of Backward areas of Uttar Pradesh-With Special Reference to Barabanki District                      Amit Trivedi, Niharika Verma (India)</p>	56-64
8.	<p style="text-align: right;"><b>Finance and Accountancy</b></p> <p>Post- Consolidation and Banks' Profitability in Nigeria (2003-2016): Investigating the Nexus                      Tonye Ogiriki, Ph.D &amp; Andabai Priye Werigbelegha, Ph.D (Nigeria)</p>	65-71
9.	<p style="text-align: right;"><b>Economics</b></p> <p>Financial Deepening and the Nigerian Economy (1990-2016): A Causality Investigation                      Andabai Priye Werigbelegha (Nigeria)</p>	72-78

10.	<i>Economics</i> An Economic Analysis of Mango Cultivation in Dindigul District, Tamil Nadu Dr. N. Saravanakumar (India)	79-82
11.	<i>Business School</i> Consumer Attitude towards Security of Mobile Wallets in the City of Lucknow Dharmendra Pandey, Dr Rinki Verma, Dr. Nimish Gupta (India)	83-89
12.	<i>Management Sciences</i> Scope for Apartment Projects in Tire-II Cities Dr. Jelince Dhinakar Abraham, Umesh.C (India)	90-95
13.	<i>Commerce</i> Understanding Customer Experiences in Destination Building: A Demographic Analysis of Kashmir Tourism Development Corporation Customers Prof. Neetu Andotra, Dada Ab. Rouf Bhat (India)	96-105
14.	<i>English Literature</i> Integrating Retention-based Strategies for Teaching Vocabulary in the ESL Classroom D. Loyola Innaci , D. Praveen Sam (India)	106-111
15.	<i>Tribes Education</i> A Study of Identity Crisis of the Tribes of North-East India Dr. Judy Grace Andrews (India)	112-115
16.	<i>Geography</i> Geographical Analysis of Pomegranate Orchids in Dhule District Prof. Dr. N. B. Bachhav (India)	116-121
17.	<i>Humanities</i> De-Notified Tribes in India & Their Problems Dr. Vijeta S. Singh (India)	122-125
18.	<i>समाजशास्त्र</i> छत्तीसगढ़ राज्य के कोरबा जिले में आत्महत्या : सामाजिक चुनौती डॉ विमला सिंह (India)	126-132
19.	<i>Management Studies</i> Dimensions of Emotional Intelligence in Healthcare Sector – A Comparative Study of Public and Private Doctors Dr. Harpreet Singh, Sarupriya Gumber (India)	133-141
20.	<i>Marketing Management</i> Travelers' Perception on Cyber Bus Ticket Booking in Erode City Dr. S. Vishnuvarthani (India)	142-146
21.	<i>Chemistry</i> Role of Environmental Chemistry in Human life (A review) Dr. Ansari Farzana Wahiduzzeman (India)	147-150

----

## Different Food Additives and Their Uses

**Waghmare Bhagyashri Bhima**

Assistant professor  
Department of Chemistry, M.S.G.College, Malegaon-Camp  
Email ID - [bhagyashri207@gmail.com](mailto:bhagyashri207@gmail.com)

### Abstract

Nowadays packaged food and different beverages are consumed all over the world for their durability, thirst-quenching properties, nutritional value. With changing lifestyles and huge demands people now often prefer packaged food products over homemade products. The food has a limited shelf life in order to increase the shelf life and maintain or improve the safety, taste, texture, freshness, or appearance of certain preservatives and additives are used. The study represents the usages of different forms of additives in the packaged food industry to serve the consumer's needs.

**Keywords:** shelf life, packaged food, beverages, nutritional value, additives

### Introduction:

Since prehistoric time additives have been added to food to perform special perform. Different food additives have been developed over time. Additives are added to ensure processed food remains safe and in good condition throughout its journey from factories to consumers. Food additives can be prepared /synthesized from plants, minerals or animals. There are several thousand food additives used all of which are designed in making food safer. Here I am mentioning the different types of food addictive with their uses.

#### 1. Preservatives:

*There are three types of Preservatives used in food;*

##### a) Antimicrobial:

It is useful in increasing the self-life of food from preventing the growth of micro-organism.

E.x . **E and INS numbers ranging from 200 to 290.**

##### b) Antioxidant:

It is used to prevent lipid or vitamin oxidation in food products. It is used to prevent auto-oxidation and subsequent development of ranacidity and off-flavor.

E.x.**INS-300-326 and E300-E326**

##### c) Antibrowning agent:

It is a chemical used to prevent enzymatic and non-enzymatic browning in food.

E.x. **Vitamin C, Citric Acid and Sodium Sulfite**

#### 2. Nutritional Additives:

These are added to food products to restore nutrients lost in food processing and to maintain the nutritive value of the food. These are added mainly in cereals and cereals product.

### 3. Flavouring agents:

*These are added to food to improve aroma or taste. There are three main types of flavouring agents are used;*

#### a) Sweetener:

Sucrose, glucose, fructose and lactose are used as a sweetener and also some low caloric and non-caloric sweeteners are used such as Saccharine and aspartame.

#### b) Natural and synthetic flavor:

These include flavoring substances/extracts/preparations, which give the food its taste and odor. Natural flavor are obtained from vegetables, bark, pices, fruits, buds, leaves, dairy products, meat, seafood, poultry, and etc. These substances are chemically purified from an aromatic source or synthesized and have the same chemical composition as natural products.

Artificial Flavouring Substances: Artificial flavours are simply chemical mixtures synthetic flavours rather than extracted from the natural sources.

Ex. **Alcohols, esters, ketones, pyrazines, and phenolics**

#### c) Flavor enhancer:

To modify or magnify the flavour of the food and do not contribute any flavour of their own. These flavor enhances are highly valued in the food products as these substances contribute significantly into cost reduction.

E.x **Monosodium Glutamate**

### 4. Coloring Agent:

It is used to improve the overall attractiveness of food products. Various natural and synthetic additives are used to color food.

Ex. **Sodium nitrite is used as an antimicrobial and also to fix the colour of the meat.**

### 5. Texturizing agent:

It is used to the overall texture or mouthfeel of the food products. Following are some additives in this category;

#### a) Emulsifier-

The main purpose of this for addition to food product to allow flavor and oils to be dispersed throughout the food products.

e.x. Natural substances such as lecithin, mono and diglycerides

#### b) Stabilizers-

It is used to provide desired texture in the products and to prevent evaporation of volatile flavour oil.

e.x. Carrageenan, natural and modified starches

#### c) Phosphate-

It is used to modify the texture of the food which contain starch and protein and mainly used in dairy and meat products.

#### d) Dough Conditioner-

It is used to simplify and expedite the bread-making process.

e.x. Sodium silico illuminate and steryl-2-Lactylate

## 6. Thickeners:

*It is used to increase viscosity. There are four types of thickeners;*

- a) Binder
- b) Bodying agent
- c) Texturizing agent
- d) Thicker

## Conclusion:

As the demand of the readymade food products increases day by day as a result for maintaining quality of food product the use of natural /synthetic additives are also increases.

## References:

- Souza ELD, Almeida ETDC, Guedes JPDS. The potential of the incorporation of essential oils and their individual constituents to improve microbial safety in juices: A review. *Comprehensive Reviews in Food Science and Food Safety*. 2016;15:753-772. DOI: 10.1111/1541-4337.
- D.N.Karunaratne and G.K.Pamunuwa, Introductory Chapter: Introduction to Food Additives DOI: 10.5772/intechopen.70329
- Ahmed N. 2013. Naturally Occurring Preservatives In Food And Their Role In Food Preservation. *International Journal Of Pharmaceutical & Biological Archive*,4(1):22-30.
- Tavakoli HR, Mashak Z, Moradi B, Sodagari HR. Antimicrobial activities of the combined use of *Cuminum cyminum* L. essential oil, nisin and storage temperature against *Salmonella typhimurium* and *Staphylococcus aureus* in vitro. *Jundishapur Journal of Microbiology*. 2015;8(4): e24838. DOI: 10.5812/jjm.8(4)2015.24838
- Food Additives and Ingredients Association. E numbers. [Internet] 2017. Available from: <http://www.faia.org.uk/e-numbers/> [Accessed: April 28, 2017]
- Pamunuwa KMGK, Bandara CJ, Karunaratne V, Karunaratne DN. Optimization of a liposomal delivery system for the highly antioxidant methanol extract of stem-bark of *Schumacheria castaneifolia* Vahl. *Chemical and Pharmaceutical Research*. 2015;7(4):1236- 1245. ISSN: 0975-7384

----