

STATISTICS AND RESEARCH IN THE FACE OF COVID-19 PANDEMIC

Dr. Bilal Ahmad



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Faculty of Fisheries, Rangil Ganderbal, SKUAST-Kashmir, J&K

Dedication

This Book is dedicated to My Dear Parents,
Teachers, Students, Researchers, Friends
And Family members with Love.

About the Book

The subject of Statistics has the most important role as this subject precisely is a tool which binds all fields of sciences, social sciences and humanities overtly as well as covertly and its applications empowers all field to face the challenges and provide solutions. This book is a compilation advocating usefulness of Statistics for scientists in the fields of Agricultural, Biological, Medical and Social Sciences. This book shall also be useful for researchers in all other fields as reading different papers which are presented in a quite simple language to be understandable to a beginner too, will provide inputs, motivation and innovative ideas on applications of Statistics for handling/solving their respective challenges/problems in research. Statistics is a scientific approach to analyze numerical data in order to enable us to maximize our interpretation, understanding and use. This means that statistics in real sense helps us to turn data into information. Statistical software allows researchers to avoid routine mathematical mistakes and produce accurate figures in their research if they correctly input all data. In this book statistical software's with applications are also discussed. Renowned scientists in fields of Information Theory, Statistical Modelling, Bayesian Theory, Fisheries, Health and Medical Statistics, Biotechnology, Food and Nutrition, Horticulture, Pharmacology, Pharmaceuticals, Languages, Climate change, Tourism etc have contributed significantly in this book and definitely this book is bound to guide researchers on significance of Statistics in development and growth of knowledge in their respective field besides would provide a platform from where they easily take off and reach meaningful solutions for their research challenges and contribute to well-being of the society.



Dr. Bilal Ahmad Bhat

Preface

Statistics is playing a crucial role in developing the world. It teaches people to use a limited sample to make intelligent and accurate conclusions about a greater population. The use of tables, graphs, and charts play a vital role in presenting the data being used to draw these conclusions. In this book maximum research papers were presented in the National Conference held in SKUAST-Kashmir during 2021. The book covers research papers in various fields and is expected to be helpful for active researchers and practitioners in various fields. This book is specially written for the use of scholars from the wide range of backgrounds and also designed to equip them with hands on knowledge and experience in handling numerous statistical problems. Therefore, the statistics introduced in this textbook require basic knowledge of statistics at master's level. The layout of this book is designed in a way that it covers application of statistical techniques in various fields. It is no surprise that with the advancement of computers, statistics has found its well-spread application opportunities within the click/touch distance of the mouse or mobile devices. The book is intended for scholars interested in application of statistical methods in biological, agricultural, social and medical sciences. The first chapter of this book entitled, Forecast the Dynamics of COVID-19 Epidemic in Haryana using ARIMA Model by Manoj Kumar, Alisha Mittal and Vikas Sumit presents Autoregressive Integrated Moving Average (ARIMA) approach, to analyse the temporal dynamics of the COVID-19 outbreak in Haryana. The second chapter entitled, A Study on Impact of COVID-19 Pandemic on the Mental Health of the Elderly Population by Bilal Ahmad Bhat, Bilal Ahmad Zargar, Nasir Husain, Rizwana Malik, Sabahat Hussain, Shaziya Gull and Bilkees Nazir discusses impact of COVID-19 infection on the mental health of elders. The researchers suggested in this paper every individual should follow his/her religion and support advisory of health ministry to protect him/her from COVID-19 infection. The third chapter entitled, Estimation and Validation of Robust Models in Quadratic and Square root Production Function in Case of large Data by Rizwan Yousuf and Manish, utilizes robust regression methods for the estimation of the production functions of simulated data contaminated with outliers and influential observations. The fourth chapter entitled, Attitude of people towards the medicinal plants during the times of COVID-19: A Review by Laraibah Hamid, Suhail Ahmad Mir, Shazia Shafayat, Syed Sabahat Ashraf and Bilal Ahmad Bhat, discusses the use of traditional herbs during COVID-19 to boost the immunity in these tough times. Further, it was reported that during COVID-19 pandemic attitude of people has changed towards the use of herbal medicines. The fifth chapter entitled, Pandemic COVID- 19, impacts on fisheries and global aquaculture: A Review by Asim Iqbal Bazaz, Tasaduq H. Shah, Irfan Ahmad, Nafhat-ul-Arab and Zaib Hafeez, discusses the impact of Covid-19 on fisheries and global aquaculture. The sixth chapter entitled, A Study on Legal Awareness of Girl Students in Kashmir Valley by Durdana Qazi, Syed Zainab Jalali, Bilal Ahmad Bhat, Fareed Ahmad Rafiqi, Irfan Ahmad Khan and Ensha Sani, assesses the Legal Awareness of among Girl Students in Kashmir. This study presents a comprehensive analytical research about how the awareness of legal rights helps our society to uplift in terms of prosperity and overall sustainable development. The seventh chapter entitled, Ethno-veterinary and medicinal plants: A case study of district Bandipora of J&K, India by Asma Sultan, T. H. Masoodi, Jauhar Rafeeq, Saima Farooq, Bilal A. Bhat and Shaista Khan was conducted to document the quickly vanishing folk knowledge of medicinal plants in Bandipora district of Jammu and Kashmir. The valuable folk knowledge about flora and fauna is playing an essential role as per researchers in supporting healthcare system of both livestock and human in remote areas which lack modern

medical care. In chapter 8, entitled, A Study on COVID-19 Pandemic and its Impact on Children's Education, Health and Wellbeing by Bilal Ahmad Bhat et al., discusses the impact of COVID-19 on Children's Education, Health and Wellbeing. It was found that childrens in Kashmir experienced psychological issues due to the COVID-19 pandemic. It was suggested that authorities continuously optimize the online education program and ensure equal access to digital learning opportunities to students. In chapter 9, entitled, Impact of pandemic COVID 19, on the global environment with special reference to India: A Review by Asim Iqbal Bazaz, Tasaduq H. Shah and Irfan Ahmad, discusses the Impact of COVID 19 on the global environment with special reference to India. In chapter 10, entitled, Efficacy of Turmeric (*Curcuma longa*) and Ginger (*Zingiber officinale*) against experimentally induced coccidiosis in broiler chicken reared across the Kashmir Valley by Yasmeena Jan, Syed Tanveer, Rafiq Ahmad Shahardar and Bilal Ahmad Bhat, reported that turmeric powder was more effective than ginger powder in the treatment and control of coccidiosis. In chapter 11, entitled, Disturbance in mental health of children and adolescents by COVID-19 pandemic: A Review by Shaziya Gull, Solihah Gull and Bilal Ahmad Bhat review work was carried out to know whether there is occurrence of any identifiable risk factors to know adverse mental health aspects of adolescents and children. The current work was carried out by selecting various articles and organizing them thematically. In chapter 12, entitled, An Extension of Rayleigh Distribution with Bayesian Estimation Using R-Software by Bilal Ahmad Bhat, S.P. Ahmad and Hummara, Bayes estimation of the model using R software was discussed. In chapter 13, entitled, Significance of statistical software in data analysis: SPSS by Bilal Ahmad Bhat and Manish Kumar Sharma discusses in brief SPSS Package with some numerical illustrations. In chapter 14, entitled, Vegetative propagation of *Morus alba*: Optimizing the effect of IBA on root formation and growth in shoot cuttings by Jauhar Rafeeq, A.H Mughal and Asma Sultan, it was reported on the basis of studies conducted that IBA@ 100 ppm is the best plant growth regulator to be used for vegetative propagation of *Morus alba* under existing conditions. In chapter 15, entitled, Neyman's Factorization Theorem Concerning a Sufficient Statistics for a Parameter by Bilal Ahmad Bhat a theorem was proposed and numerical illustrations were also given. In chapter 16, entitled, An Assessment of Distance Learning during the COVID-19 Pandemic among University Students in Kashmir by Mir Misbah et al., the authors focused on the identification of the student's academic challenges and the unforeseen benefits of distance learning during COVID-19 crises. In chapter 17, entitled, Some New Results on Relative Information Generating Function with utilities by Parmil Kumar, Bilal Ahmad Bhat and D. S. Hooda, the authors defined relative information generating function with utilities and discussed its particular and limiting cases. In chapter 18, entitled, Assessment of the Knowledge and Belief among Expectant Mothers of Kashmir in Their Last Trimester about Significance of Primary Teeth and Their Care by Shayesta Rahi et al., the authors reported that the knowledge of respondents understudy towards infant oral health care was not satisfactory. It was suggested that implementing educational awareness among women about primary teeth and their significance can bring change in mindset of expectant mothers, thus decreasing risk for early childhood caries. In chapter 19, entitled, Plant Virus-Ecology and Epidemiology by Baby Summuna et al., the authors reported that a good understanding of the virus ecology and epidemiology is required for developing the best management program for a crop viral disease. In chapter 20, entitled, Covid-19 Pandemic: Issues and Challenges associated with governance in India by Arshad Bhat, et al., the authors reported that covid-19 pandemic has left its imprints on all the walks of life and all the macroeconomic variables of Indian economy. In chapter 21, entitled, Transgenesis, construction of transgene and methods of gene delivery system by Saima Andleeb et al., the authors discuss Transgenesis,

construction of transgene and methods of gene delivery system in detail. In chapter 22, entitled, Human Capital: Powerful Tool for Organizational Growth and Success by Mubashir Iqbal Kitaba, Mubashir Ahmad Aukhoon and Upasana Tyagi, the authors reported that it is recognized and accepted by academicians, scholars and business leaders that success of business is solely dependent upon its employees. So, it is imperative for the companies to sharpen and update their human capital of their organizations. In chapter 23, entitled, A new Mixed Generalized Negative Binomial Distribution by Ishfaq and Peer Bilal Ahmad, a generalized version of negative binomial–beta exponential distribution with application has been discussed. In chapter 24, entitled, Effect on growth performance, condition factor and blood profile of Common Carp (*Cyprinus carpio* L., 1758) challenged with *Pseudomonas* by Rasy Fayaz Choh Wani, Ibraq Khurshid, Fayaz Ahmad and Bilal Ahmad Bhat, the topic deals with the pathogenicity of *Pseudomonas aeruginosa* on length weight relationship and hematology in the cultured fish, *Cyprinus carpio*. In chapter 25, entitled, Analysis of Public Private Partnership in Sericulture in UT of Jammu and Kashmir by Aabid Ahmad Bhat et al., discusses the public private partnership in sericulture. In chapter 26, entitled, Historical profiling of natural disasters of Kashmir valley with emphasis on earthquakes, floods and epidemics by Mimmona Shah, Snober Shah and Durdana Shah, the authors reported that perusal of historical records pertaining to Kashmir valley reveal that Kashmir is multi hazard prone area. There effective strategy for prevention and mitigation of disasters is need of hour. In chapter 27, entitled, Impact of COVID-19 Pandemic on Indian Economy: With special reference to Agriculture by Balaji Nithin Gowda et al., the authors were of the opinion that Covid-19 pandemic had not only created fear of getting affected among people but also affected their day-to-day living. It has no doubt impacted all, large to marginal farmers to varying proportions, but this pandemic has proved to have highlighted those areas of shortcomings on the part of the policy structure that cannot be ignored. In chapter 28, entitled, A Study on Waste Management Laws by Keezia Khurshid et al., the authors discuss the waste management laws. In chapter 29, entitled, A Study on Impact of Social Media in the Covid-19 Pandemic by Afreen Niyaz, Ronika Yousuf and Bilal Ahmad Bhat, the authors discuss the impact on social media in the COVID-19 crisis and suggested to follow a responsible use of social media when disseminating information. In chapter 30, entitled, A Study on Relationship between Mathematics and Music by Bilal Ahmad Bhat, Muhammad Ashraf Wani, Nusrat and Sidrat Ul Muntaha Anees, the authors discussed the relationship between Mathematics and Music. It has been found that there is a positive significant correlation between the two subjects. In chapter 31, entitled, Pesticide toxicity in humans and fish by Mehak Hafeez et al., authors discussed the pesticide toxicity in humans and fish. In chapter 32, entitled, Clinical Manifestations, Course of Infection, Treatment and Control of *Trypanosoma evansi* Infection in Camels by Urfeya Mirza, Uase Bin Farooq and Bilal Ahmad Bhat, the authors reviews the epidemiology, clinical manifestations, diagnosis and treatment of trypanosomiasis in camels. In chapter 33, entitled, Local Perception of Climate change and Its impact on Food Production in North Kashmir of J&K Region by Sidrat-Ul-Muntaha Anees et al., reported that socio-economic profile and people awareness regarding food production have to be modified to cope with climate change impact. In chapter 34, entitled, Biochemical analysis of potential pathogenic bacteria in cultured carp (*Cyprinus carpio* Linnaeus, 1758) by Rasy Fayaz Choh Wani et al., the authors aimed to determine whether there were any potentially disease-causing bacteria in carp cultivated in Central and South Kashmir, as well as what species they were. This study provided some information on the likelihood of bacterial contamination of fish and fish products, which can endanger public health. In chapter 35, entitled, Traditional Marriage of Kashmir and Attitude of Kashmiri Youth towards Marriage, Family life and Healthy Living by

Qamar un Nisa et al., the authors discussed traditional marriage in Kashmir and attitude of youth towards marriage. Further, authors discussed importance of marriage and issues related to marriage in Kashmir. In chapter 36, entitled, A Study On Knowledge And Awareness About Procedure Of Right To Information Act Among University Students In Kashmir by Shaikh Ghulam Rasool et al., the authors discussed RTI procedure and assessed the knowledge and awareness about procedure of RTI among students. It was found that students have average knowledge and awareness about the procedure for seeking information under Right to Information Act and majority of respondents believe that every student must have a good knowledge about RTI Act. In chapter 37, entitled, A study on religious, Social and Economic Significance of Ganderbal District, Kashmir Valley by Uzma Nazir et al., the authors highlight some of the most important destination sites demonstrating the religious, social and economic significance of this area. In chapter 38, entitled, Entrepreneurial behavior of rural women in Rangil, Ganderbal Ifra Tabasum, Rizwana Malik and Bilal Ahmad Bhat discussed the entrepreneurial behavior of rural women in terms of their socio-economic, education and family background attributes. In chapter 39, entitled, Generating Functions and recurrence relations by Aafaq A. Rather et al., authors discussed the generating functions of numeric functions and their recurrence relations. In chapter 40, entitled, Ethics and Approach of University Students towards Moral Values in Kashmir Region by Anisa Ismail et al., the authors assessed the approach of University students of Kashmir valley towards moral values. It was suggested by researchers that moral education should be compulsory in every education institution as it helps in creating responsible citizenship among the students.

The research papers are included in this book with the hope that the scholars working in different fields find it worthwhile in conducting their research. However, as always there is scope of improvement, the suggestions and constructive criticism of the matter to improve the quality of the book will be welcomed. The editor sincerely acknowledges the support of author(s) who contributed in this book. The author personally thanks all faculty members, students of Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir and Jammu for their support in writing this book.



Dr. Bilal Ahmad Bhat
Editor
Professor (Statistics)

Acknowledgement

First and foremost, I would like to praise and thank Allah, the almighty, who has granted countless blessing, knowledge, and opportunity to the writer, so that he has been finally able to accomplish the book. This book is a collection of research papers received for presentation in one day national conference in 2021 and some invited research papers from researchers working in different fields. I extend my loyal and venerable thanks to Hon'ble Vice Chancellor, SKUAST-K and SKUAST-J, Director Education, Director Research, Director Extension), Director Planning & Monitoring, Registrar, Dean, Faculty of Fisheries, SKUAST-K, Associate Director Research for their support and guidance. The editor thank from the core of his heart to all reputed researchers especially Prof. D.S.Hooda, Prof. Tirupati Rao Padi, Prof. Aquil Ahmad, Mr. Hemant Kumar Lohia (IPS), Professor Manish Kumar Sharma, Professor Parmil Kumar and all heads of divisions of faculty of fisheries and other faculty members for their support. The editor specially thank to his colleagues of Division of Social Sciences, Dr. S.H.Baba, Dr. S.A.Saraf, Dr. Nasir Husain, Dr. Rizwana Malik, Dr. Mudasir M. Kirmani and Dr. Bilal A. Zargar for providing their support. The editor would like to thank academicians from different institutions/faculties for their support especially to Professor A.H.MIR, Professor M.H.Balkhi, Professor S.E.H.Rizvi, Professor Anwar Hassan (University of Kashmir), Professor M.A.K.Baig (University of Kashmir), Professor M.S.Pukhta (SKUAST-K), Professor Rahul Gupta (University of Jammu), Professor S.H.Baba, Dr. Samira Khan (Arab), Dr. Ibraq Khurshid (CUK), Dr. Anupam Deka (Head Dept. of Statistics, Handique Girls's College, Guwahati Assam, India), Dr. Vikas Doshi (Medical College, Baroda, Anand, Gujrat, India), Dr. Tariq Rashid Jan (Kashmir University), Dr. Parvaiz A. (Kashmir University), Dr. Peer Bilal A. (IUST), Mr. M. Rajab Bhat, Mr. Tahir Khan, Mr M.Yunus, Mr. Arif, Mr. Hardeep Singh, Mr. Itfaq. My parents (Mr. Gh. Qadir and Ms. Khatija), friends, students as well as family members, *Dr. Syed Javed Iqbal Kamili (Principal Vishwa Bharti Women's college, Rainawari Srinagar)*. Dr. Munazah Yaqoob, Dr. Najimaana Wani, Dr. S.N.Z.Geelani, Dr. Shaikh Gh. Rasool, Dr. Syed Sabahat Ashraf, Dr Naveed Bhat, Mr, Ab. Rashid Bhat, Dr. Naveena Nazim, Mr. Asim Iqbal, Ms. Iqra Farooq, Ms. Arizo Jan, Ms. Asma Sultan, Ms. Bilkees Nazir, Mr. Abid, Ms. Lariabah, Ms. Rasy Fayaz, Ms. Asifa Ali, Mr. Intizar, Mr. Altaf, Mr. M.Shafi, Mr. Rahil Rafiq, Mr. Inam, Mr. Aamil, Ms. Nusrat, Mr. Zehran, Ms. Naseema, Ms. Qamar un Nisa, Ms. Snober Shah, Ms. Uzma, Ms. Anisa, Ms Mimoona, Ms Aafreen Niyaz, Ms. Lubna Altaf, Ms.Sayima Majeed, Ms.Sabreena Bhat, Ms.Uzma Nazir, Ms Asma Sultan, Ms Iqra, Ms Asima Gazi, Ms. Nuzhat Jan, Ms. Binishah Jan, Ms. Arshi Tariq deserve special thanks for their continuous support and prayers. The main aim of writing this book was to popularize the use of Statistics in every day life and show its application in different fields especially during COVID-19 crisis. This book includes papers received for presentations in the conference and some good papers written in simple language to benefits beginners. The editor thank from the core of his to whole team of **Bright MP Publisher** for their support in publishing this book.



A stylized, handwritten signature in black ink, appearing to read 'Bilal'.

Dr. Bilal Ahmad Bhat
(Editor)

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Book are the sole responsibility of author(s).
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Forward

This book edited/authored by my dear friend Dr. Bilal Ahmad Bhat is a perfect compilation advocating usefulness of Statistics for scientists in the fields of Agricultural, Biological, Medical and Social Sciences. The New Education Policy (NEP), 2020 envisages introduction and development of Research Aptitude at an earlier level of Higher Education and aims at development of interdisciplinary and multidisciplinary fields of knowledge so that the end product can be skilled enough to contribute to social and economic development of the nation, in general and harbinger industry-academia partnership, in particular, besides becoming fit to be employable/useful in the current changing global market requirements in all fields including Agriculture, Health/Medical and Life (Biological) Sciences. To meet aims and objectives of NEP, 2020 the subject of Statistics has the most important role as this subject precisely is a tool which binds all fields of sciences, social sciences and humanities overtly as well as covertly and its applications empowers all fields to face the challenges and provide solutions. This compilation shall be useful for researchers working in different fields as reading different papers which are presented in a quite simple language to be understandable to a beginner too, will provide inputs, motivation and innovative ideas on applications of Statistics for handling/solving their respective challenges/problems in research. Renowned scientists in fields of Information Theory, Statistical Modelling, Bayesian Theory, Fisheries, Health and Medical Statistics, Biotechnology, Food and Nutrition, Horticulture, Pharmacology, Pharmaceuticals, Languages, Tourism and Sports have contributed significantly in this output and definitely this book is bound to guide researchers on significance of Statistics in development and growth of knowledge in their respective fields besides would provide a platform from where they easily take off and reach meaningful solutions for their research challenges and contribute to well-being of the society. Finally, I acknowledge the efforts of Dr. Bilal Ahmad Bhat for his efforts in bringing out this useful output with great admiration and congratulate him for setting up the stage for further research and development for the welfare of mankind and this civilization.



Professor Rahul Gupta
Dean, Faculty of Mathematical Sciences &
Rector, Bhaderwah Campus,
University of Jammu, Jammu,
J&K

Greeting Message

At the outset, many Congratulations to the Organizers for flawless conduct of one days national conference on 29th June, 2021 with the theme “Impact of COVID-19 From Statistical Perspective” in Faculty of Fisheries, SKUAST-Kashmir, J & K. The conference attracted widespread participation from researchers and scholars from different parts of the country. In the conference, about 100 Eminent Speakers/researchers participated, including presentation of research papers,(virtually) by 30 scholars, from different parts of the country, covering their respective research, in various fields. It is expected that this book will be of immense help for active researchers and practitioners working in different fields. I specially congratulate the Editor Dr. Bilal Ahmad Bhat of the book, which is excellently written and thus will be a great gift to the user buyers. I sanguinely hope that this receives accolades and the appreciation it deserves, by Readers and Scholars, Globally.



Mr. Hemant Kumar Lohia
(IPS)
Commandant General,
VHsG, Civil Defence &
UTDRF, J & K



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14.	Vegetative propagation of <i>Morus alba</i>: Optimizing the effect of IBA on root formation and growth in shoot cuttings ¹ Jauhar Rafeeq, ² A.H Mughal and ³ Asma Sultan ¹ Division of Silviculture and Agroforestry Faculty of Forestry SKUAST-K ² Directorate of Research, SKUAST-K Shalimar ³ Division of Forest Resource Management, Faculty of Forestry, SKUAST-K, J&K Email: jauharparrey93@gmail.com	211-219
15.	Neyman's Factorization Theorem Concerning a Sufficient Statistics For a Parameter Bilal Ahmad Bhat <i>Division of Social Sciences, Faculty of Fisheries, S.K. University of Agricultural Sciences and Technology Kshmir (J&K)</i> Email: bhat_bilal@redoiffmail.com	220-224
16.	An Assessment of Distance Learning During the COVID-19 Pandemic Among University Students in Kashmir ¹ Mir Misbah, ² Sabreena Nazir, ³ Aadil Tibetbaqal, ² Saima Khurshid, ³ Nusrat, ⁴ Sayima Majeed Wani, ⁵ Sabahat Husain and ¹ Bilal A.Bhat ¹ Division of Social Sciences, Faculty of Fisheries, SKUAST-Kashmir, J&K ² M.A. Education, Directorate of Distance Education, University of Kashmir, Hazratbal Srinagar, J&K ³ IMFA, University of Kashmir, Hazratbal Srinagar, J&K ⁴ Division of Aquaculture, Faculty of Fisheries, Rangil Ganderbal, SKUAST-K, J&K ⁵ Institute of Home Science, University of Kashmir, Srinagar, 190006, J&K Email: mirmisbah787@gmail.com	225-234
17.	Some New Results on Relative Information Generating Function with Utilities ¹ Parmil Kumar, ² Bilal Ahmad Bhat and ³ D. S. Hooda ¹ Deptt of Statistics, University of Jammu, Jammu, J&K ² Division of Social Sciences, FoFy, Rangil Ganderbal, SKUAST-K, J&K ³ Jaypee Institute of Engineering and Technology, A.B.Road, Raghogarh, Distt. Guna, M.P.India Email: bhat_bilal@rediffmail.com	235-244

18.	<p>Assessment of the Knowledge and Belief Among Expectant Mothers of Kashmir in Their Last Trimester About Significance of Primary Teeth and Their Care</p> <p>¹Shayesta Rahi, ²Syed Sabahat Ashraf, ³Shaziya Gull, ⁴Sherub Ayoub and ⁵Bilal Ahmad Bhat</p> <p>¹Consultant, Obstetrics and Gynaecology, Govt. Lalla Ded Hospital, Srinagar Kashmir, J&K</p> <p>²Regional Research Institute of Unani Medicine, NaseemBagh Campus, University Of Kashmir-19006, Srinagar</p> <p>³Department of Zoology, University of Kashmir, Hazratbal, Srinagar, Kashmir, J&K</p> <p>⁴Department of Biotechnology, Baba Ghulam Shah Badshah University, Rajouri, J&K</p> <p>⁵Division of Social Science, Faculty of Fisheries, SKUAST-Kashmir, J&K</p> <p>Email: bhat_bilal@rediffmail.com</p>	245-252
19.	<p>Plant Virus-Ecology and Epidemiology</p> <p>¹Baby Summuna, ¹Subaya Manzoor, ¹F.A.Bhat, ¹Shaheen K. Jan, ²P.A.Sheikh, ¹Vikas Gupta, ¹Addafer Gulzar and ³W.A.Dar</p> <p>¹Division of Plant Pathology, FoA, Sher-e-Kashmir University of Agricultural Sciences and Technology, Kashmir</p> <p>²Division of Plant Pathology, FoH, Sher-e-Kashmir University of Agricultural Sciences and Technology, Kashmir</p> <p>³MARES, Gurez, SKUAST-K</p> <p>Email:summunabhat @gmail.com</p>	253-276
20.	<p>Covid-19 Pandemic: Issues and Challenges associated with governance in India</p> <p>¹Arshad Bhat, ²Tawseef A. Bhat, ³H. A. Malik, ⁴Abid Sultan, ⁵Abid Qadir, ⁶Iqra Qureshi and ⁷Aamir Qureshi</p> <p>¹Rajiv Gandhi Chair in Contemporary Studies on Livelihood and Food Security, ³K.V.K. Bandipora, ⁴School of Agricultural Economics and Horti-Business Management, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir,</p> <p>²Centre of Cntral Asian Studies, ⁷The Business School, University of Kashmir, Depermant of Environmental Studies, ⁵The Glocal University & ⁶Central Institute of Temperate Horticulture</p> <p>Email: bhataarshad09@gmail.com</p>	277-284
21.	<p>Transgenesis, construction of transgene and methods of gene delivery system</p> <p>¹Saima Andleeb, ²Keezia Khurshid, ¹Mehak Hafeez, ¹Irfan Ahmad and ³Bilal Ahmad Bhat</p> <p>¹Division of Fish Genetics and Biotechnology, Faculty of Fisheries, Sher-e-Kashmir University of Agricultural Sciences & Technology of Kashmir, Rangil, Ganderbal, Jammu and Kashmir, India, 190006</p>	285-295

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22.	Human Capital: Powerful Tool For Organizational Growth And Success ¹ Mubashir Iqbal Kitaba, ² Mubashir Ahmad Aukhoon and ³ Upasana Tyagi ^{1,2} IGNOU Academic Counselors ³ Faculty RTU, Rajasthan Email: mubashirkitaba@gmail.com	296-301
23.	A New Mixed Generalized Negative Binomial Distribution ¹ Ishfaq S. Ahmad ¹ and ² Peer Bilal Ahmad ^{1,2} Department of Mathematical Sciences, IUST, Awantipora, India Email: bilalahmadpz@gmail.com	302-312
24.	Effect on growth performance, condition factor and blood profile of Common Carp (<i>Cyprinus carpio</i> L., 1758) challenged with <i>Pseudomonas</i> ¹ Rasy Fayaz Choh Wani, ² Ibraq Khurshid, ³ Fayaz Ahmad and ⁴ Bilal Ahmad Bhat ¹ Advanced Research Laboratory, Department of Zoology, University of Kashmir, Hazratbal, Srinagar – 190006 Jammu and Kashmir, India ² Department of Zoology, Central University of Kashmir, Ganderbal, Jammu & Kashmir, India ³ Department of Environmental Sciences, University of Kashmir, Hazratbal, Srinagar – 190006 Jammu and Kashmir, India ⁴ Division of Social Sciences, Faculty of Fisheries, Rangil Ganderbal, SKUAST-Kashmir, J&K Email: rasyfayaz@gmail.com	313-325
25.	Analysis of Public Private Partnership in Sericulture in UT of Jammu and Kashmir ¹ Aabid Ahmad Bhat, ¹ Lubna Altaf, ² Bilal Ahmad Bhat and ³ Towfeeq Ahmad Qurashi ¹ College of Temperate Sericulture-Mirgund, SKUAST-Kashmir, J&K ² Division of Social Sciences, Faculty of Fisheries, Rangil Ganderbal, SKUAST-Kashmir, J&K ³ Cluster university, Srinagar, Kashmir, J&K Email: bhat_bilal@rediffmail.com	326-335
26.	Historical profiling of natural disasters of Kashmir valley with emphasis on earthquakes, floods and epidemics ¹ Mimoona Shah, ² Snober Shah and ³ Durdana Shah	336-340

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27.	<p align="center">Impact of COVID-19 Pandemic on Indian Economy: With special reference to Agriculture Sector</p> <p align="center">Balaji Nithin Gowda K.V., Dr. Sajad A. Saraf and Qudsiya Bano, Surayya Jabbar Agricultural Economics, Faculty of Agriculture, Wadura, Sopore, Sher-e-Kashmir University of Agricultural Science and Technology, Kashmir, J&K Email: saraf.sajad@gmail.com</p>	341-351
28.	<p align="center">A Study on Waste Management Laws</p> <p>¹Keezia Khurshid, ²Mehak Hafeez, ³Saima Andleed, ³Bilal Ahmad Bhat and ¹Feroz Ahmad Shah ¹Division of Aquatic Animal Health Management, Faculty of Fisheries, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K), Rangil-190006, Ganderbal, India ²Division of Fish Genetics and Biotechnology, Faculty of Fisheries, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K), Rangil-190006, Ganderbal, India ³Division of Social Sciences, Faculty of Fisheries, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir (SKUAST-K), Rangil-190006, Ganderbal, India Email: keeziakhurshid.kk@skuastkashmir.ac.in</p>	352-358
29.	<p align="center">A Study on Impact of Social Media in the Covid-19 Pandemic</p> <p>¹Afreen Niyaz, ²Ronika Yousuf and ³Bilal Ahmad Bhat ¹Research Scholar, Institute of Home science, University of Kashmir, Hazratbal, Srinagar, J&K ²Vishwa Bharti Womens College Rainawari Srinagar, Kashmir, J&K ³Division of Social Sciences, Faculty of Fisheries, SKUAST-Kashmir, Rangil, Ganderbal, J&K Email: afreeniaz@gmail.com</p>	359-364
30.	<p align="center">A Study On Relationship Between Mathematics And Music</p> <p>¹Bilal Ahmad Bhat, ²Muhammad Ashraf Wani, ³Nusrat and ⁴Sidrat Ul Muntaha Anees ¹Division of Social Sciences, Faculty of Fisheries, Rangil Ganderbal, SKUAST-Kashmir ² Department of History, University of Kashmir, Srinagar, Jammu & Kashmir ³Faculty of Music and Fine Arts, University of Kashmir, Srinagar, Jammu & Kashmir ⁴Department of Geography & Regional Development, University of Kashmir, Srinagar, Jammu & Kashmir Email: s.anees13@gmail.com</p>	365-374