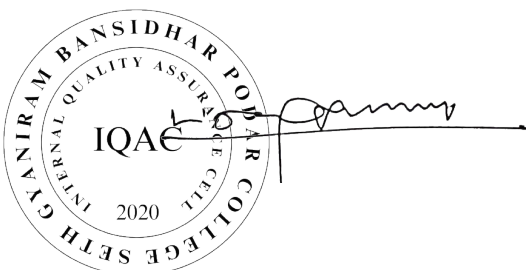


SETH GYANIRAM BANSIDHAR PODAR COLLEGE

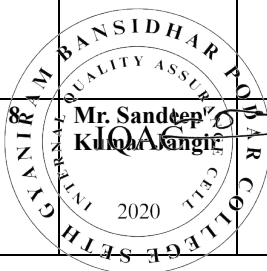
Accredited with Grade 'A' (3.04 CGPA) by NAAC-UGC
Recognition of college under Section 2(f)/12(B), UGC Act, 1956
Affiliated to Pandit Deendayal Upadhyaya Shekhawati University, Sikar

3.2.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during the year.

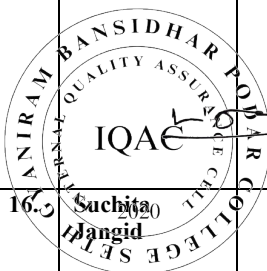
3.2.2.1 - Total number of books and chapters in edited volumes/books published and papers in national/ international conference proceedings year wise during year



3.2.2 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during year										
Sl. No.	Name of the teacher	Title of the book/ chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
1.	Dr. Daulal Bohra		Veterinary Drugs and Associated Impact on Vulture Health in Asia	Raptors Conservation 2023, Suppl. 2		International	2023		Seth G. B. Podar College, Nawalgarh (Raj)	Almaty, Kazakhstan.
2.	Dr. Daulal Bohra		Veterinary Drugs and Their Effects On The Health Of Mountain Birds In Asia	Raptors Conservation 2023, Suppl. 2		International	2023		Seth G. B. Podar College, Nawalgarh (Raj)	Almaty, Kazakhstan.
3.	Dr. Daulal Bohra		Upcoming Uses of Sewage Water And Their Impact On Cement factory In Nawalgarh, Jhunjhunu, Rajasthan	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8729	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
4.	Dr. Satyendra Singh		Ab-Initio Study Of Znpo Semiconducting Nanowires	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8730	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
5.	Prof. Kavita Jangid		Digital Marketing-A Review	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8731	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
6.	Mr. Mukesh Kumar Saini		Banking Technology In India: Present Status & Future Trends	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8732	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
7.	Mrs. Rachna		Best Practices Of Management From Bhagavad Gita	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8733	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
	Mr. Sandeep Kumar Jangid		E-Commerce In India: Current Scenario And Future	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8734	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education

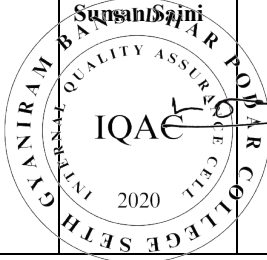


9.	Mr. Shrikant Sharma		Green Accounting: Urgent Need Of Modern World	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8735	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
10.	Deepak Sharma		The Partial Differential Equation And It's Application In Real World	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8736	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
11.	Roshan Saini		The Differential Geometry And Some Potential Topics	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8737	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
12.	Dr. Vikram Singh Jhakad		लिंगिक वषमता सामाजिक विकास म बाधक	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8738	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
13.	Shankar Lal		A Brief Introduction About Linear Transformations And Its Application	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8739	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
14.	Deepak Kumar Sharma		The Structure Of Finite Fields	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8740	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
15.	Dr. Bhupendra Singh Rathore		The Structural, Optical And Photocatalytic Properties Of Pmma Nanocomposite Films For Methylene Blue Photodegradation	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8741	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
16.	Suchita Jangid		Unlocking The Power Of Special Functions: A Guide For Beginners	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8742	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education

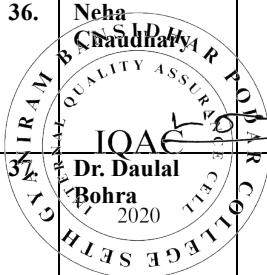


17.	Dr. Bhupendra Singh Rathore		Dielectric Properties & Surface Morphology Of Swift Heavy Ion Beam Irradiated Polymeric Thin Films	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8743	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
18.	Dr. Vidhyadhar Sharma		Preliminaries Recognition Of Complex Analysis And Its Applications	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8744	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
19.	Dr. Vidhyadhar Sharma		The Allure Of Linear Algebra And Its Application In Certain Real-World Scenerio	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8745	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
20.	Krishna Kumar and Dr. Bhupendra Singh Rathore		Study Of Thermal Properties Of Shift Heavy Ion Beam Irradiated Polycarbonate/Polystyrene Double Layered Film	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8746	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
21.	Raju Dadheech and Dr. Bhupendra Singh Rathore		Optical Properties Of Swift Heavy Ion Beam Irradiated Polymercomposites Films	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8747	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
22.	Dr. Bhupendra Singh Rathore		OPTICAL AND DIELECTRIC PROPERTIES OF 55 Mev CARBON BEAM	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8748	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
23.	Dr. Vidhyadhar Sharma		A Recognition Journey Of Measure Theory Through The Length Of Intervals	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8749	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
24.	Mukesh Kumar Saini		Decoding Digital Footprints	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8750	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education

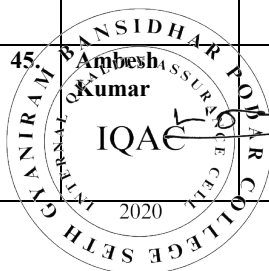
25.	Ramesh Pareek		Convergence Of Indian Accounting Standards With Ifrs-Prospects And Challenges	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8751	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
26.	Neha Chaudhary		Gene Therapy: As A Medical Condition Mechanisms Of Patho-Mechnism	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8752	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
27.	Rama Didwania		Assessment Of Faunal Diversity Of Udaipurwati Region, In Reference To Their Conservation Perspective	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8753	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
28.	Suman Saini and Ankit Kumar Jangid		Economic Importance Of Blue Green Algae And Role Of Algae In Agriculture	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8754	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
29.	Shyam Didwania		Study On Tinospora Cordifolia Ethanomedicinal Plants Of Shekhawati Region And Their Biochemical Analysis	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8755	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
30.	Ankit Kumar Jangid and Suman Saini		Comperative Analysis Of Bio-Culturing Of Fresh Water Algaespirogyra Communis, Chlorella Vulgaris And Spirulina Platensis	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8756	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education



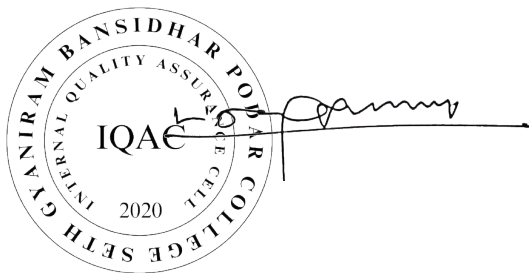
31.	Ravindra Goswami		Natural Biocides To Prevent Microbial Growth On Cultural	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8757	R.B.S. College, Agra	Chetana International Journal of Education
32.	Ankit Kuar Jangid		Physico-Chemical Parameter Of Domestic Waste Water With Special Reference To Blue Green Algae A Review In Nawalgarhregion District Jhunjhunu, Rajasthan (India)	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8758	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
33.	Dr. Daulal Bohra		Biodiversity Of Bats In Jhunjhunu	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8759	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
34.	Neha Chaudhary		Climate Change's Influence On Biodiversity	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8760	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
35.	Dr. Daulal Bohra		Introduce Of Black Buck (Antelope cervicapra) At Jhunjhunubeed, Jhunjhunu (Rajasthan)	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8761	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
36.	Neha Chaudhary		Overview Of Assisted Reproductive Technologies	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8762	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
	Dr. Daulal Bohra		Overview Of Indian Ivf And Embryo Technology	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8763	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education



38.	Neha Chaudhary		Role Of Genomic Sequencing In Covid	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8764	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
39.	Vinod Kumawat, Suman Saini and Ankit Kumar Jangid		Phytoremediation By Some Algal Species In Waste Water- A Review Of Nawalgarh	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8765	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
40.	Vishakha Punkhia		Beyond The Taste: Understand Chemistry Of Hazardous Combination Of Food	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8766	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
41.	Dr. Daulal Bohra		Availability Of Floride In Mandawa Ground Water	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8767	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
42.	Deepak Kumar		Climate Crisis: A Shared Responsibility For All	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8768	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
43.	Shanti Lal Joshi and Sunil Kumar Saini		Trade Route And Migration History Of Asia	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8769	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
44.	SUDARSHAN SHARMA		Catalysis In Green Chemistry: Advancements And Application	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8770	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education
45.	Ambesh Kumar		Green Materials For Energy Storage And Conversion	International Group of Conferences: Aravalli	International Group of Conferences: Aravalli	International	2023	ISSN-2455-8771	Seth G. B. Podar College, Nawalgarh (Raj)	Chetana International Journal of Education



51.	Prof. Mukesh Kumar Saini		E-Commerce Platform: Empowering Fair Trade In The Digital Age	International Conference on Innovative Research and Practices in Commerce, Management and it For Sustainable Development (Icipr-2024)	International Conference on Innovative Research and Practices in Commerce, Management and it For Sustainable Development (Icipr-2024)	International	2024	NA	Seth G. B. Podar College, Nawalgarh (Raj)	Department of Accountancy and Business Statistics, University of Rajasthan, Jaipur
52.	Dr. Ravindar Goswami	Advances in Tissue Culture and Plant Biotechnology				National	2024	978-81-973055-9-7		Alpine Publication, Agra



VETERINARY DRUGS AND ASSOCIATED IMPACT ON VULTURE HEALTH IN ASIA

Bohra D.L. (Department of Zoology, Seth G.B. Podar College, Nawalgarh, Jhunjhunu, Rajasthan, India)

Contact:

Dau Lal Bohra
daulalbohara@yahoo.com

Recommended citation: Bohra D.L. Availability of Veterinary Drugs Residues and Associated Impact on Vulture Health in Asia. – Raptors Conservation. 2023. S2: 175–177. DOI: 10.19074/1814-8654-2023-2-175-177 URL: <http://rrrcn.ru/en/archives/35001>

Veterinary non-steroid anti-inflammatory drugs, which have caused a catastrophic decline in vulture populations due to poisoning, sold in veterinary pharmacies in India. Photo by D. Bohra.

Ветеринарные нестероидные противовоспалительные препараты, ставшие причиной катастрофического сокращения численности падальщиков в результате отравления ими, продающиеся в ветеринарных аптеках Индии. Фото Д. Бора.

Үндістанның ветеринариялық дәріханаларында улану нәтижесінде жемтіктермен қоректенуші құстардың санының апатты азаюына әкелген ветеринариялық қабынуга қарсы препараттар сатылуда. Д. Бордын фотосы.



There are over 500 million livestock in India, and without infrastructure to dispose of dead livestock animals, pastoralism has historically depended on vultures (*Gyps* sp.) as environmental sanitizers. In their absence, carcasses of dead animals spend time out in the open or are disposed by farmers in water, both of which create an increased risk of disease and water pollution. This carrion also creates a new source of food for dogs and rats, increasing their population. Feral dogs and rats are a major source of rabies infections, a known public health issue in India. Rabies infection is lethal unless vaccination immediately after exposure. The collapse in India's vulture population occurred because of unintended poisoning following the availability of cheap generic versions of diclofenac for human use till 2008. Diclofenac was introduced in 1973 as a painkiller for humans, but in the mid-90s, along with approval for a generic version in 1993, the pharmaceutical industry in India started producing large quantities of the drug. This lowered the price to a point that made diclofenac use in livestock economically viable and by 1994, diclofenac was widely available across veterinary clinics. Diclofenac was the first NSAID shown to be toxic to scavenging birds and has been banned for

veterinary use in much of Asia vultures' range. Currently, there are fully gazetted bans on the manufacture, sale, and use of veterinary diclofenac in Bangladesh, Cambodia, India, Iran, Nepal, Oman, and Pakistan, and other countries are considering a similar ban. With the intervention of Human right commission in India, generic versions of multi dose packs of diclofenac for human use was banned in 2015 to stop misuse in animals treatments. In 2023, Ketoprofen, Aceclofenac more fully gazetted bans on the manufacture, sale and use of veterinary for vulture protection. Other than Diclofenac, Ketoprofen, Aceclofenac, two more agents including Nimesulide and their composition, and Flunixin are toxic to vultures. As per scientific reports and analysis in safety testing experiments have established that meloxicam and tolfenamic acid are safe. Use of medicines for One Health issue, and the use of veterinary medicines can have consequences affecting animal health, welfare, and ecosystems. According to Nambirajan, 2018 range of diclofenac 62.28 to 272.20 ng/g in 32 dead White-Backed Vultures (*Gyps africanus*). In another similar incidence, 14 White-Backed Vultures had diclofenac in kidneys in toxic range (70–908 ng/g), and in 12 Himalayan Griffons (*Gyps himalayensis*), diclofenac was in the range of 139.69 to 411.73 ng/g. In 2021, a new drug has caused four White-Rumped Vulture (*Gyps bengalensis*) deaths as nimesulide was detected in all the tissues (17–1395 ng/g). As veterinary aspects are critical to stakeholders of pharmaceutical industry, and we can leverage our multiple spheres of influence to help mitigate the animal and public health, as well as reduce the ecological footprints of medicine use. In addition, there is also a need to analyze the drug influence on vulture reproductive health in Central Asia.



ВЕТЕРИНАРНЫЕ ПРЕПАРАТЫ И ИХ ВЛИЯНИЕ НА ЗДОРОВЬЕ СИПОВ В АЗИИ

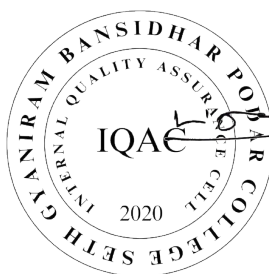
Бора Д.Л. (Кафедра зоологии Колледжа Г.Б. Подара, Навальгар, Джунджуну, Раджастан, Индия)

Контакт:
Дау Лал Бора
daulalbohara@yahoo.com

Рекомендуемая цитата: Бора Д.Л. Ветеринарные препараты и их влияние на здоровье сипов в Азии. – Пернатые хищники и их охрана. 2023. Спецвып. 2. С. 175–177. DOI: 10.19074/1814-8654-2023-2-175-177 URL: <http://trrcn.ru/ru/archives/35001>

В Индии насчитывается более 500 миллионов голов домашнего скота, и без инфраструктуры для утилизации мёртвых животных скотоводство исторически зависело от сипов (*Gyps* sp.) как санитаров окружающей среды. В их отсутствие туши мёртвых животных гниют на открытом воздухе или выбрасываются фермерами в воду, что создаёт повышенный риск заболеваний и загрязнения воды. Эта падаля также создаёт новый источник пищи для собак и крыс, увеличивая их популяцию. Дикие собаки и крысы являются основным источником заражения бешенством, известной проблемой общественного здравоохранения в Индии. Бешенство приводит к летальному исходу, если не начать вакцинацию сразу после заражения. Коллапс популяции сипов в Индии произошёл из-за непреднамеренного отравления после появления дешёвых дженериков диклофенака для использования людьми до 2008 г. Диклофенак был представлен в 1973 г. в качестве обезболивающего для людей, но в середине 90-х гг., после одобрения дженерика в 1993 г., фармацевтическая промышленность Индии начала производить препарат в больших количествах. Это снизило его цену до уровня, который сделал использование диклофенака в животноводстве экономически выгодным, и к 1994 г. диклофенак стал широко доступен в ветеринарных клиниках. Диклофенак был первым нестероидным противовоспалительным препаратом (НПВП), который оказался токсичным для сипов и был запрещён для ветеринарного использования на большей части ареалов азиатских видов. В настоящее время полностью опубликованы запреты на производство, продажу и использование ветеринарного диклофенака в Бангладеше, Камбодже, Индии, Иране, Непале, Омане и Пакистане, а другие страны рассматривают возможность введения аналогич-

ного запрета. Благодаря вмешательству Комиссии по правам человека в Индии в 2015 г. были запрещены версии многодозовых упаковок диклофенака для людей, чтобы остановить их использование при лечении животных. В 2023 г. для большей защиты сипов опубликованы запреты на производство, продажу и использование ветеринарных препаратов кетопрофена и ацеклофенака. Кроме диклофенака, кетопрофена, ацеклофенака, ещё два лекарства, нимесулид и его составляющие и флуниксин, токсичны для сипов. Научные отчёты и результаты испытаний на безопасность показали, что мелоксикам и толфенаминовая кислота безопасны для сипов. Использование лекарств для человека и домашнего скота может иметь последствия, влияющие на здоровье и благополучие животных в природных экосистемах. По данным Намбирадждана, в 2018 г. концентрация диклофенака составляла от 62,28 до 272,20 нг/г у 32 мёртвых африканских сипов (*Gyps africanus*). В другом аналогичном случае у 14 африканских сипов диклофенак в почках находился в токсичном диапазоне (70–908 нг/г), а у 12 кумаев (*Gyps himalayensis*) – в диапазоне от 139,69 до 411,73 нг/г. Из них в 2021 г. во всех тканях четырёх бенгальских сипов (*Gyps bengalensis*) был обнаружен новый препарат, применявшийся как альтернатива диклофенаку для снижения смертности сипов, нимесулид (17–1395 нг/г). Поскольку ветеринарные аспекты являются ключевыми для сторон, заинтересованных в производстве лекарств, мы можем использовать наши многочисленные сферы влияния, чтобы помочь смягчить последствия для здоровья животных и населения, а также уменьшить экологические последствия использования лекарств. Кроме того, существует также необходимость анализа влияния лекарств на репродуктивную сферу сипов в Центральной Азии.



ВЕТЕРИНАРИЯЛЫҚ ДӘРІЛЕР ЖӘНЕ ОЛАРДЫҢ АЗИЯДА АҚБАС ҚҰМАЙЛАРДЫҢ ДЕНСАУЛЫҒЫНА ӨСЕРІ

Бора Д.Л. (Подар колледжі, зоология кафедрасы, Г.Б., Навальгар, Джхунжхуну, Раджастхан, Үндістан)

Контакт:

Дау Лал Бора
daulalbohara@yahoo.com

Ұсынылатын дәйексөз: Бора Д.Л. Ветеринарные препараты и их влияние на здоровье сипов в Азии. – ПERNATЫЕ хищники и их охрана. 2023. Спецвып. 2. С. 175–177. DOI: 10.19074/1814-8654-2023-2-175-177 URL: <http://rrrcn.ru/ru/archives/35001>

Үндістанда 500 миллионнан астам мал басы бар және өлген жануарларды жою үшін инфрақұрылымы болмағандықтан, мал шаруашылығы тарихта қоршаған ортаны қорғау санитарлары ретінде ақбас құмайларға (*Gyps* sp.) тәуелді болды. Олар болмаған жағдайда өлген жануарлардың өлекселері ашық жерде шіриді немесе фермерлер суға лақтырып тастайды, бұл қауіпті аурулардың көбеюі мен судың ластану қаупін арттырады. Бұл өлекселер мұрделер иттер мен егеуқұйрықтар үшін жана қорек көзін жасап, олардың популяциясын арттырады. Жабайы иттер мен егеуқұйрықтар Үндістандағы белгілі қоғамдық денсаулық мәселесі болып табылатын құтырудың негізгі көзі болып табылады.

Вакцинациялау инфекциядан кейін бірден басталмаса, құтыру өлімге әкеледі. Үндістандағы ақбас құмайлар популяциясының құлдырауы 2008 жылға дейін адамға арналған диклофенактың арзан дженериктік нұсқаларының енгізілуінен кейін абайсызда улану салдарынан болды. Диклофенак 1973 жылы адамдарға ауырсынуды басатын дәрі ретінде енгізілді, бірақ 1993 жылы жалпы дженерик нұсқасы мақұлдағаннан кейін 90-жылдардың ортасында Үндістанның фармацевтикалық өнеркәсібі препаратты көп мөлшерде шығара бастады. Бұл оның бағасын мал шаруашылығында диклофенакты пайдалануды экономикалық тұрғыдан тиімді ететін деңгейге дейін төмендетті, ал 1994 жылға қарай диклофенак ветеринарлық клиникаларда кенінен қолжетімді болды.

Диклофенак ақбас құмайларға улы болатын алғашқы стероидты емес қабынуға қарсы препарат болды және азиялық түрлердің мекен ететін аймақтарының көп бөлігінде ветеринарлық қолдануға тыйым салынған. Қазіргі таңда Бангладеште, Камбоджада, Үндістанда, Иранда, Непалда, Оманда және Пәкістанда ветеринариялық диклофенакты өндіруге, сатуға және пайдалануға тыйымдар толығымен жарияланды, басқа елдер де

осындай тыйымдарды қарастыруда. Үндістандағы Адам құқықтары жөніндегі комиссияның араласуының арқасында 2015 жылы жануарлар ауруларында қолданылуын тоқтату үшін диклофенактың көп дозалы пакеттерінің адамдарға арналған нұсқаларына тыйым салынды.

2023 жылы ақбас құмайларды көбірек қорғау үшін кетопрофен және ацеклофенак ветеринариялық препараттарын өндіруге, сатуға және қолдануға тыйым салынды. Диклофенактан басқа кетопрофен, ацеклофенак, тағы екі дәрі, нимесулид және оның компоненттері, флуниксин ақбас құмайлар үшін улы. Ғылыми есептер мен қауіпсіздік сынақтарының нәтижелеріне сәйкес мелоксикам мен толфенамин қышқылы ақбас құмайлар үшін қауіпсіз болып шықты.

Адамдарда және үй жануарлары үшін дәрілерді қолдану табиғи экожүйелердегі жануарлардың денсаулығы мен әл-ауқатына әсер ететін салдарға әкелуі мүмкін. Намираджанның деректері бойынша, 2018 жылы диклофенак концентрациясы 32 қаза болған африкалық ақбас құмайларда (*Gyps africanus*) 62,28-ден 272,20 нг/г-ға дейін ауытқиды. Тағы бір ұқсас жағдайда 14 африкалық ақбас құмайдың бүйректерінде диклофенак улы диапазонында (70-908 нг/г), ал 12 құмайда (*Gyps himalayensis*) 139,69-дан 411,73 нг/г аралығында болды.

Олардың ішінде 2021 жылы ақбас құмайлардың өлімін азайту үшін диклофенакқа балама ретінде қолданылатын жана препарат, нимесулид (17–1395 нг/г) төрт бенгал құмайының (*Gyps bengalensis*) барлық тіңдерінде анықталды. Ветеринариялық мәселелер дәрі-дәрмек өндірісіндегі мүдделі тараптар үшін маңызды болғандықтан, жануарлар мен қоғамдық денсаулыққа тигізетін әсерін азайтуға және дәрілерді қолданудың қоршаған ортаға тигізетін әсерін азайтуға көмектесу үшін көптеген әсер ету салаларын пайдалана аламыз. Сонымен қатар, Орталық Азиядағы ақбас құмайлардың репродуктивті саласына дәрі-дәрмектің әсерін талдау қажет.





“ARAVALLI” INTERNATIONAL GROUP OF CONFERENCE 16th to 18th December 2023



Proceedings of
“ARAVALLI”
INTERNATIONAL GROUP OF
CONFERENCE (IGOC)

16th to 18th December 2023

Venue:

Dr Ramnath A Podar Auditorium, Seth Gyaniram Banshidhar Podar College,
Ram bilash Podar Road, Nwalgarh, Jhunjhunu, Rajasthan, India

ISSN-2455-8729

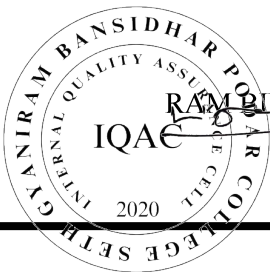
Online Event Promotion Partner:



Organized by:

SETH GYANIRAM BANSHIDHAR PODAR COLLEGE,

RAM BILASH PODAR ROAD, NWALGARH, JHUNJHUNU, RAJASTHAN, INDIA



~ 1 ~



Publisher:

Dr. Dau Lau Lal Bohra (Guest Editor)

Dr D. P. Singh (Chief Editor)

Research and Development Cell, Seth Gyaniram Banshidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India ©2023 and ECHETANA International Journal of Education (CIJE), Chakoli Educational & Social Development Society, Dholpur (Rajasthan), India Pin – 328001

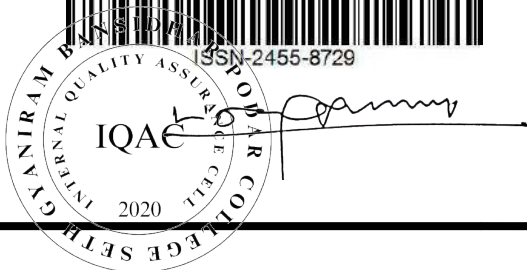


Chetana International Journal of Education/ December, 2023 Special Volume 08, No (2) II ISSN-2455-8729 SJIF 2023 – 7.286 score “ARAVALLI” INTERNATIONAL GROUP OF CONFERENCE (IGOC)

No part of this book can be reproduced in any form or by any means without prior written permission of the publisher. ISSN-2455-8729



ISSN-2455-8729



~ 2 ~



The Anandilal Podar Trust, Nawalgarh

Founder Trustees:

Mahatma Gandhi
Shri Madan Mohan Malviya
Shri Jammaal Bajaj
Shri Anandilal B. Podar



Message from Chairman's Desk

Past Chairmen

Mahatma Gandhi
(1922-1930)
Shri Madan Mohan Malviya
(1930-1946)
Raja Ramdeo A. Podar
(1946-1952)
Dr. Ramnath A. Podar
(1952-1989)
Shri Kantikumar R. Podar
(1989-2021)

Present Trustee:

Shri Rajiv K. Podar
Chairman
Shri Sudhanshu Kasliwal
Ms. Vedica R. Podar
Shri R.M. Bolya

Very Happy to learn that the Seth G. B. Podar College, Nawalgarh is organising the “Aravalli International Group of Conferences” from 16th-18th December, 2023.

Organizing such an event at this reinforces our objective of developing an environment for the exchange of ideas towards technological developments and innovation. The conference aims to deliberate on current issues of National and International relevance. A large numbers of quality research papers will be presented in the conference with speakers from across the world.

I am sure that this occasion will provide an affable environment for the researchers and academicians to freely exchange the views and ideas with others.

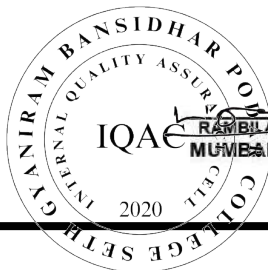
I convey my warm greetings to the organizing committee and the participants and extend my best wishes for the success of the conference.

(Rajiv K. Podar)

Chairman

&

Chief Patron of the Conference



RAMBILAS PODAR ROAD, NAWALGARH - 333 042 PHONE : 223138 FAX: (01594) 223198 E-MAIL - aptrust@rediffmail.com
MUMBAI OFFICE : PODAR HOUSE, 10 MARINE DRIVE, MUMBAI-400020, PHONE: 22041371, FAX: 22663845

आचार्य (डॉ.) अनिल कुमार राय
कुलपति

Professor (Dr.) Anil Kumar Rai
Vice-Chancellor



पंडित दीनदयाल उपाध्याय
शेखावाटी विश्वविद्यालय, सीकर (राज.)
Pandit Deendayal Upadhyaya
Shekhawati University, Sikar (Raj.)

वेबसाईट : <http://www.shekhauni.ac.in/>
ई-मेल : vc.shekhauni@gmail.com
दूरभाष नं. : +91-92573-87478, 01572-232411

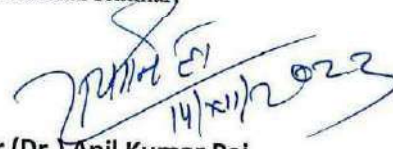
MESSAGE

It gives me great pleasure to know that **Seth Gyaniram Bansidhar Podar College, Nawalgarh, Rajasthan, India** is organizing the “**ARRAVALLI International Group of Conferences**” from 16th – 18th December, 2023.

This conference will definitely encourage participants from diversified cultures to learn new things. I am confident that the participants will work collaboratively with teams of people from a wide range of backgrounds and countries.

I would like to congratulate **Seth Gyaniram Bansidhar Podar College, Nawalgarh** for their efforts in organizing this conference. I am optimistic that this conference will be able to provide a forum for forming knowledge sharing relationships as well as providing the essential impetus for joint research collaborations projects. In this period of the new normal, this conference will provide new perspectives with innovative ideas. I believe that in this seminar, there will be presented by the scholars and researchers which will bring a new beginning towards the way of knowledge.

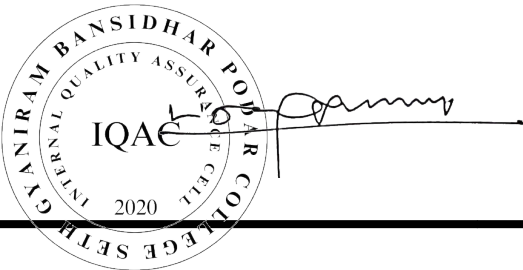
Best wishes to you and great success of the international seminars!



Professor (Dr.) Anil Kumar Rai

Vice-Chancellor

Pandit Deendayal Upadhyaya Shekhawati University
Sikar, Rajasthan





SETH GYANIRAM BANSIDHAR PODAR COLLEGE

(Grade “A” in NAAC Accreditation)

Podar Educational Campus, Nawalgarh - 333042 (Raj.)



Message from Principal’s Desk



Dear esteemed colleagues and participants,

It is with great pleasure that I introduce the proceedings of International Group of Conferences “ARAVALLI”. The papers and presentations included in this proceedings are a testament to the hard work and dedication of the authors, and I am honored to have been a part of such a prestigious research event. The research presented at this conference spans a diverse range of topics, and I am confident that the findings presented here will make a significant contribution to their respective fields.

I would like to express my appreciation to the keynote speakers for sharing their expertise with us, and to the conference organizers for their tireless efforts in bringing this event to fruition. I also extend my congratulations to all of the authors whose papers have been included in these proceedings. Your work is a testament to your dedication to your respective fields and to the advancement of knowledge.

I hope that this proceedings will serve as a valuable resource for researchers and practitioners in the years to come, and that they will inspire future generations to continue to push the boundaries of knowledge and innovation.

Thank you all for your contributions to this conference, and I look forward to seeing the impact of the research presented here in the years to come.

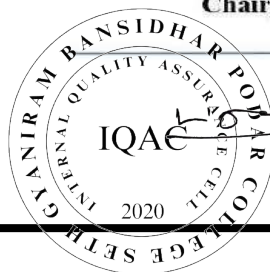
Best regards,

(Dr. Satyendra Singh)

Principal

&

Chairperson of the Conference



Rambilas Podar Road, Nawalgarh, Dist: Jhunjhunu – 333042

Contact No: 8619868884,

Web Site: www.podarcollege.com E-Mail: principal@podarcollege.com

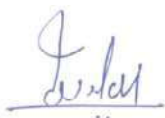
FROM THE DESK OF CONVENER

On behalf of Convener it is our proud privilege to welcome all International and National presenters, delegates and esteemed guests from all over India and abroad to the that Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) accredited with 'A' Grade (3.04 CGPA) by NAAC-UGC Organized "ARAVALLI" 3 DAYS INTERNATIONAL GROUP OF CONFERENCE "IGOC". However in the recent past there is a huge explosion of population and resultantly the rise of material needs of human beings. Globalization has ushered in new technology and the economic prosperity even in the developing countries like India and further opened new area of development. But it is having heavy impact on our environment. The consumption of various products

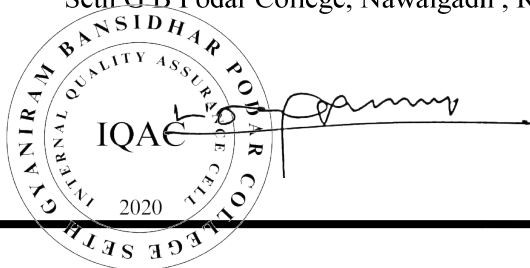


has increased to a large extent and as a result transportation of goods from place to place has increased several times. It hassled to the greater use of gasoline. In addition, the industry has expanded leaps and bounds in our country. The industrial waste and harmful chemicals are being released in the environment, in the rivers and the oceans. This has posed to dander to the wild life. Naturally this caused a lot of damage to the environment and its eco-system by way of water pollution, reduction in the forest, air pollution and other toxic elements of the nature. It has obviously precipitated terrible degradation of environment. All human being should make honest and sincere efforts to the earth. Each individual nation is responsible for the degradation of the environment and it is just a matter of degree. As far as India is concerned, being a developing nation and a highly population one, it has to take some harsh decision. An interdisciplinary approach will undoubtedly give a proper value orientation to our educational system. The conference has been planned to provide a platform for the eminent scientist, delegates and research scholars to interact and share their experiences in the field of Environment and Natural sciences. We are sure that the deliberations during the conference will be immensely useful for the participating Academicians, Scientist, Research Scholar, Students, and other Stakeholders in Interdisciplinary manner. We hope that the outcomes of the conference will be beneficial for everyone.

Once again we welcome you to Nawalgarh, Jhunjhunu and hope that this conference will challenge and inspire you, and result in new knowledge.



Dr Dau Lal Bohra, PhD, F.A.B.Sc., F.S.E.Z.R
CCM (Clinical Microbiology),
Head, P G Department of Zoology,
Seth G B Podar College, Nawalgadh , Rajasthan, INDIA





“ARAVALLI” INTERNATIONAL GROUP OF CONFERENCE 16th to 18th December 2023



INTERNATIONAL GROUP OF CONFERENCE ARAVALLI

16th to 18th December 2023

SETH GYANIRAM BANSIDHAR PODAR COLLEGE

Podar Educational Institutions, Nawalgarh 333042 (Raj.)

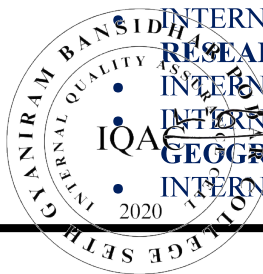
Accredited with 'A' Grade (3.04 CGPA) by NAAC-UGC

Affiliated with

PANDIT DEENDAYAL UPADHYAYA

SHEKHAWATI UNIVERSITY, SIKAR (RAJ.)

- INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE
- INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE
- INTERNATIONAL CONFERENCE ON PHARMACEUTICAL AND GREEN CHEMISTRY
- INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT
- INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE
- INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES
- INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES
- INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING



~ 7 ~

Proceedings of “ARAVALLI” IGOE Nawalgarh, Rajasthan, India

Chetana International Journal of Education/ December, 2023 Special Vol. 08, No (2) II ISSN-2455-8729

UPCOMING USES OF SEWAGE WATER AND THEIR IMPACT ON CEMENT FACTORY IN NAWALGARH, JHUNJHUNU, RAJASTHAN

DAU LAL BOHRA

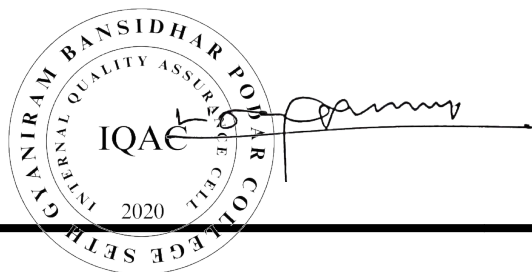
Head, Department of Zoology, Seth G. B. Podar College, Nawalgarh, Jhunjhunu

ABSTRACT

Cement manufacturing Industries is one of the key sectors of the Indian Economy has been fast growing at a rate over 8 % in India and it is predictable to grow more. Cement is a crucial product for the society deliver easy secure reliable modern housing and infrastructure. The contribution of pollution towards the environmental degradation is increasing at an alarming rate. In cement industries water is used only for cooling operation of manufacturing process. Process wastewater with high pH and suspended solids may be generated in some operations. Generally waster used for cooling purpose is recycled and reused in the process. Screening and for suspended solid reduction is done by using settling basin and clarifier. Water treated from waste water treatment plant should use for green belt development. At lime mining site and cement plant contaminated streams of rain water should be directed to the waste water treatment plant and should use for industrial process. Storm -water flowing through pet-coke, coal, and waste material stockpiles exposed to the open air may become contaminated. Rain water should be protected from contacting from coal depot clinker and lime and fly ash storage area to prevent contamination by covering the storage area and should collect at some tank for further use in dust suppression system at plant. If storm- water does contact storage yard than it may indicate presence of high value of sulphate in soil and toxic metals like Zinc, Lead and Chromium in the dust and high TDS value in ground water. Cement industries comes under red category as per CPCB norms. Waste matter from cement industries causing various kind of pollution (air, water and solid waste) should be treated effectively to reduce the pollution. Recycle of waste material and co processing of solid waste in cement kiln will help in minimizing waste material.

Key words: Sewage Water, Cement Factory.

¹Corresponding Author





Publisher:

Dr. Dau Lau Lal Bohra (Guest Editor)

Dr D. P. Singh (Chief Editor)

Research and Development Cell, Seth Gyaniram Banshidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India ©2023 and ECHETANA International Journal of Education (CIJE), Chakoli Educational & Social Development Society, Dholpur (Rajasthan), India Pin – 328001

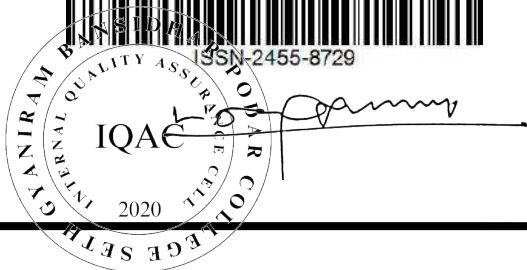


Chetana International Journal of Education/ December, 2023 Special Volume 08, No (2) II ISSN-2455-8729 SJIF 2023 – 7.286 score “ARAVALLI” INTERNATIONAL GROUP OF CONFERENCE (IGOC)

No part of this book can be reproduced in any form or by any means without prior written permission of the publisher. ISSN-2455-8729



ISSN-2455-8729



~ 2 ~



“ARAVALLI” INTERNATIONAL GROUP OF CONFERENCE 16th to 18th December 2023



INTERNATIONAL GROUP OF CONFERENCE ARAVALLI

16th to 18th December 2023

SETH GYANIRAM BANSIDHAR PODAR COLLEGE

Podar Educational Institutions, Nawalgarh 333042 (Raj.)

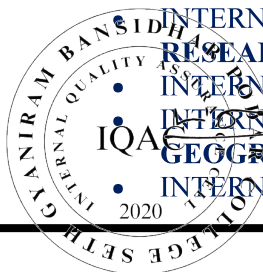
Accredited with 'A' Grade (3.04 CGPA) by NAAC-UGC

Affiliated with

PANDIT DEENDAYAL UPADHYAYA

SHEKHAWATI UNIVERSITY, SIKAR (RAJ.)

- INTERNATIONAL CONFERENCE ON APPLIED SCIENCE, MATHEMATICS AND COMPUTATIONAL TECHNIQUE
- INTERNATIONAL CONFERENCE ON ENVIRONMENT AND LIFE SCIENCE
- INTERNATIONAL CONFERENCE ON PHARMACEUTICAL AND GREEN CHEMISTRY
- INTERNATIONAL CONFERENCE ON COMPUTER SCIENCE AND MANAGEMENT
- INTERNATIONAL CONFERENCE ON ACCOUNTING, BANKING, ECONOMICS RESEARCH AND SOCIAL SCIENCE
- INTERNATIONAL CONFERENCE ON INDIAN LANGUAGE STUDIES
- INTERNATIONAL CONFERENCE ON ENVIRONMENTAL SUSTAINABILITY AND GEOGRAPHICAL SCIENCES
- INTERNATIONAL CONFERENCE ON EDUCATION AND LEARNING



~ 7 ~

Proceedings of “ARAVALLI” IGOE Nawalgarh, Rajasthan, India

Chetana International Journal of Education/ December, 2023 Special Vol. 08, No (2) II ISSN-2455-8729

ABS-001

**CONTRIBUTION OF BHAMASHAHS IN THE GOLDEN CITY OF SHEKHAWATI,
NAWALGARH**

SUNIL KUMAR SAINI

DEPARTMENT OF HISTORY

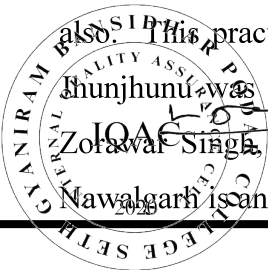
SETH GYANIRAM BANSIDHAR PODAR COLLEGE, NAWALGARH

MAIL- SUNILKUMARSAINI3821@GMAIL.COM

ABSTRACT

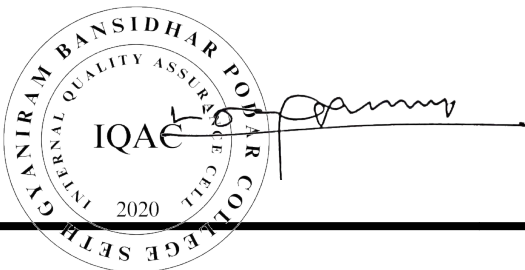
In Rajasthan, big moneylenders and rich people built huge mansions for their residence. These mansions were many storeyed. The havelis of Shekhawati region are more grand and architecturally different. And is artistic. The huge havelis standing in the towns of Ramgarh, Mandawa, Pilani, Sardarshahar, Ratangarh, Nawalgarh, Fatehpur, Mukundgarh, Jhunjhunu, Mahansar, Churu etc. of Shekhawati still present excellent examples of their architecture. The havelis of Rajasthan are famous for their intricate and fine carvings and wall paintings on their balconies, verandahs and windows. Sikar, Jhunjhunu and Churu of Rajasthan have been named Shekhawati. According to the experts of the written and unwritten history of Shekhawati, Shekhawat Rajputs had dominance in the Shekhawati area from the fifteenth century (1443) to the middle of the eighteenth century i.e. 1750. Then their empire extended up to Sikarwati and Jhunjhunuwati. The area under the dominance of Shekhawat Rajputs was called Shekhawati, but due to uniformity in language, lifestyle, food habits, attire and socio-cultural practices, Churu district also came to be considered a part of Shekhawati. In the preface of historian Surjan Singh Shekhawat's book 'A Brief History of Nawalgarh', it is written that Rajput Rao Shekha ruled here from 1433 to 1488. It is written at one place in the same book that Thakur Todar Mal, the ruler of Udaipurwati (Shekhawati), instead of appointing one of his sons as his successor, implemented the brotherly sect system. As a result, the partition took place so rapidly that even one village was divided into four-five Shekhawats. The same was repeated in Jhunjhunu state also. This practice transformed the Shekhawats from kings to bhaumiyas (owners of a land). Jhunjhunu was divided among the lands of the then ruler Thakur Shardul Singh's five sons - Zorawal Singh, Kishan Singh, Akhai Singh, Naval Singh and Keshar Singh. Nawal Singh's Nawalgarh is an example of the same Bhai Bunt tradition. The lack of central authority gave the

~ 30 ~





moneylenders and industrialists an opportunity to flourish. Nawalgarh, the golden city of Shekhawati, has the highest number of havelis scattered with their architectural beauty. Among the mansions here, Roop Niwas ki Haveli, Bhakts ki Haveli, Jalan ki Haveli, Poddar ki Haveli, Patodiya ki Haveli, Bhagoria ki Haveli etc. are famous.



ABS-004

DIGITAL MARKETING – A REVIEW

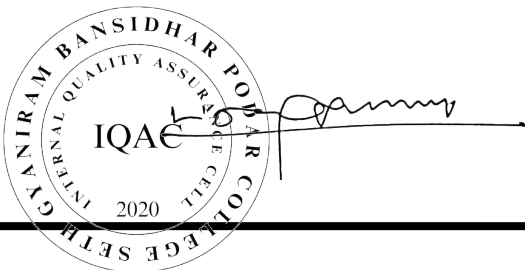
Mrs. Kavita Jangid

Assistant Professor Department of Commerce,
Seth G. B. Podar College, Nawalgarh, Jhunjhunu (Rajasthan)
E-mail ID- jangidkavita.18192@gmail.com

ABSTRACT

In the age of globalization in the 21st century, the internet plays a very important role in people's daily lives and business life. The Internet is a versatile place that helps people complete many simple and complex tasks easily and effortlessly. The easy way with just a few clicks nowadays, digital marketing has become a hot topic for many businesses and plays an important role in every company's marketing strategy. "Using the Internet as a virtual store to sell products directly to consumers (Kiang et al. 2000, P.383) Digital marketing involves the use of online channels to sell or promote products or services. These channels can be used in many ways., from advertising and content marketing to pay-per-click (PPC) advertising and search engine optimization (SEO). On the business side, digital marketing allows you to connect with potential and existing customers; this is important for business and brand awareness. Digital marketing is important because it allows you to be creative and stand out from your competitors in a crowded market. Not only is this important from a business perspective, but customers now rely on it as a way to learn about the company. Through this article, I want to clarify the concept of digital marketing, its different tools, then explain in more detail the social and business problems that arise in online commerce, draw solutions and conclusions.

Keywords: digital marketing, online marketing tools, challenges and solutions, search engine optimization, pay per click



ABS-005

BANKING TECHNOLOGY IN INDIA: PRESENT STATUS & FUTURE TRENDS

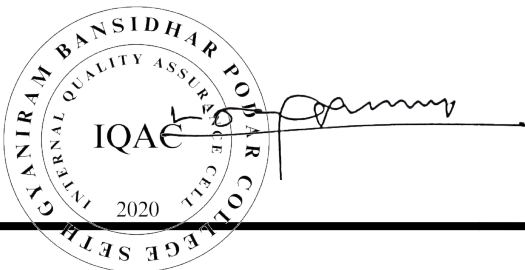
Mr. Mukesh Kumar Saini

Assistant Professor Department of Commerce,
Seth G. B. Podar College, Nawalgarh, Jhunjhunu (Rajasthan)
E-mail ID- mukeshsainimk94@gmail.com

ABSTRACT

The current status and emerging trends in banking technology, The Banking sector has embraced the use of technology to server its client's faster and also to do more with less. There is a close relationship between the development of banking sector and the new innovations in technology. The present research focuses on the benefits and challenges of changing banking trends. The term "Banking technology in India" interrelate to use of sophisticated information and conveying technologies together with computer science to enable banks to offer many good services to its customers in a secure. Banking technologies used to delivering services to customers. Many benefits of this technology like profitability, faster service and flexibility, customer satisfaction, 24X7process. In this research, I am focusing major technology trends API which will help in addressing the customer and business demands and also included latest banks technology.

KEYWORDS: Raised, Innovation, Mobile Banking, Quality, Banking Technology.



ABS-006

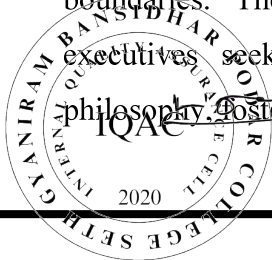
BEST PRACTICES OF MANAGEMENT FROM BHAGAVAD GITA

Mrs. Rachna

Assistant Professor Department of Management Studies,
Seth G. B. Podar College, Nawalgarh, Jhunjhunu (Rajasthan)
E-mail ID- rachnapsom08@gmail.com

ABSTRACT

This research paper aims to explore and analyze the timeless wisdom embedded in the Bhagavad Gita and its application as a guide to best management practices in the contemporary corporate landscape. The Bhagavad Gita, a revered ancient Indian scripture, offers profound insights into leadership, decision making, and ethical conduct. Drawing on the verses of the Gita, this study delves into key managerial principles that can be extracted and applied to enhance organizational effectiveness and leadership excellence. The paper begins with an overview of the Bhagavad Gita, highlighting its historical and philosophical significance. It then focuses on specific chapters and verses that elucidate principles relevant to modern management. Topics include strategic decision-making, team dynamics, conflict resolution, and the cultivation of ethical leadership. Through a comparative analysis with established management theories, the research establishes connections between the Gita's teachings and contemporary business literature. Case studies and real-world examples are employed to illustrate the practical application of Bhagavad Gita principles in corporate settings. The study also addresses potential challenges and limitations in integrating these ancient teachings into modern management practices. Emphasis is placed on the adaptability of the Gita's principles to diverse organizational cultures and leadership styles. The findings of this research contribute to the burgeoning field of spiritual and ethical leadership, offering a unique perspective that transcends cultural and religious boundaries. The paper concludes with recommendations for organizational leaders and executives seeking to incorporate the Bhagavad Gita's wisdom into their management philosophy. Fostering a holistic and values-driven approach to leadership in the 21st century.



ABS-007

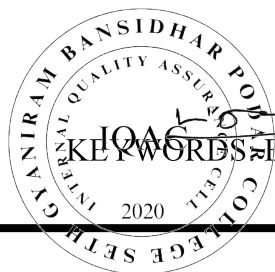
**E-COMMERCE IN INDIA: CURRENT SCENARIO AND FUTURE
PROSPECTUS**

Mr. Sandeep Kumar Jangir

Assistant Professor Department of Commerce,
Seth G. B. Podar College, Nawalgarh, Jhunjhunu (Rajasthan)
E-mail ID- jangirkumarsandeep47@gmail.com

ABSTRACT

The present study has been undertaken to describe the present and future prospects of Indian E-Commerce industry. The study examined the current trends, benefits, growth drivers, challenges and future prospects of E-Commerce in India to achieve the objectives and revealed that the E-commerce in India has become a vital part of everyday life and now-a-days it's not a privilege but a necessary for the society as it becomes one of the most preferred means of shopping. The e-commerce landscape is constantly increasing in terms of number of internet users and expected to reach 700 million (Nielsen's India Internet Report) by Dec. 2022, moreover, the retail e-commerce IBEF is projected to reach 27 per cent from 2023-2026. This rapid growth rate promises a great future for the Indian e-commerce Industry signifying a strong market and increased consumer demand. Further the study revealed that in-spite of the opportunities, it provided to the wholesalers, retailers, producers and the people; Indian e-commerce industry faces many challenges. The e-infrastructural issues, tax related issues, preference of cash on delivery poor knowledge and awareness of consumers, etc. are becoming the key challenges for the Indian e-commerce companies. E-commerce in India should take these challenges as an opportunity to overcome the various bottlenecks in the way of e-commerce. In nutshell, it can be said that there is no contradicting fact that e-commerce has re-entered India and is here to stay.



KEY WORDS: E-commerce, Internet Users, E merchandise, E-finance, Online Shopping

ABS-008

GREEN ACCOUNTING : URGENT NEED OF MODERN WORLD

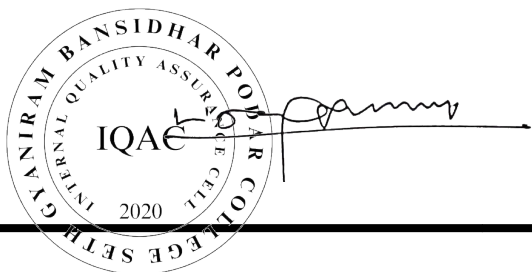
Mr. Shrikant Sharma

Assistant Professor Department of Commerce,
Seth G. B. Podar College, Nawalgarh, Jhunjhunu (Rajasthan)
E-mail ID- shrikantsharma3790@gmail.com

ABSTRACT

Green or environmental accounting is a new concept of traditional accounting system. It refers to modification of the accounting system to incorporate the use or depletion of natural or environmental resources. Green accounting gives data which highlight both the contribution of environmental resources to economic development and the costs imposed by pollution or natural resource degradation. In recent years, environmental degradation and degeneration are reached its high level, because of air, water, land and sound pollution, soil erosion, deforestation, global warming etc. which leads to spoils human health, reduces economic productivity and loss of amenities. In the present scenario, environmental degradation or pollution has become major problem and environment safety issue become main concentration of almost all organizations or companies. To save and salvage the country, it is highly essential to make appropriate laws and policies in green accounting and implement the same without further loss of time. The purpose of the present paper is to study the basic concept of green accounting and analyze the available literature based on the green accounting.

KEYWORDS: Green Accounting, CSR, Environmental Degradation, Green GDP.



ABS-009

लैंगिक विषमता सामाजिक विकास में बाधक**डॉ. विक्रम सिंह जाखड़**

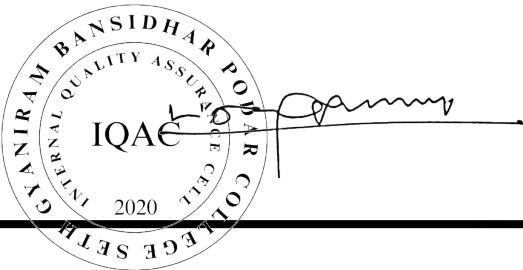
सह - प्राध्यापक

सेठ जी. बी. पोदार कॉलेज, नवलगढ़

ईमेल आईडी- drvsjakhar@gmail.com

लिंग शब्द का तात्पर्य पुरुष या महिला होने से जुड़े आर्थिक, सामाजिक और सांस्कृतिक गुणों और अवसरों से है। अधिकांश समाजों में, पुरुष या महिला होना केवल विभिन्न जैविक और शारीरिक विशेषताओं का मामला नहीं है। पुरुषों और महिलाओं को इस बारे में अलग-अलग अपेक्षाओं का सामना करना पड़ता है कि उन्हें कैसे कपड़े पहनने चाहिए, कैसा व्यवहार करना चाहिए या काम करना चाहिए। पुरुषों और महिलाओं के बीच संबंध, चाहे परिवार में हों, कार्यस्थल पर हों या सार्वजनिक क्षेत्र में हों, महिलाओं और पुरुषों के लिए उपयुक्त प्रतिभाओं, विशेषताओं और व्यवहार की समझ को भी दर्शाते हैं। महिलाएं और लड़कियाँ दुनिया की आधी आबादी का प्रतिनिधित्व करती हैं और इसलिए इसकी क्षमता का भी आधा हिस्सा हैं। लेकिन लैंगिक असमानता हर जगह बनी हुई है और सामाजिक प्रगति को अवरुद्ध कर रही है। लिंग भेदभाव तब होता है जब किसी के साथ उसके लिंग के आधार पर असमान या नुकसानदेह व्यवहार किया जाता है, या उसे दूसरे लिंग के व्यक्ति के समान अवसर नहीं दिए जाते हैं। ऐसा तब भी होता है जब कोई नियम या नीति सभी पर लागू होती है लेकिन किसी व्यक्ति को उसके लिंग के आधार पर नुकसान पहुंचाती है और नीति उचित नहीं होती है। लेकिन जरूरी नहीं कि वह यौन प्रकृति का हो। इसमें लिंग, लिंग पहचान या लिंग अभिव्यक्ति के आधार पर उत्पीड़न/भेदभाव शामिल है। लिंग भेदभाव अक्सर पूर्वकल्पित, गलत सामाजिक और व्यक्तिगत धारणाओं में निहित होता है। लैंगिक असमानता का तात्पर्य लैंगिक आधार पर महिलाओं के साथ भेदभाव से है। परंपरागत रूप से समाज में महिलाओं को कमजोर वर्ग के रूप में देखा जाता रहा है। वे घर और समाज दोनों जगहों पर शोषण, अपमान और भेदभाव से पीड़ित होती हैं। महिलाओं के खिलाफ भेदभाव दुनिया में हर जगह प्रचलित है। वैश्विक लैंगिक अंतराल रिपोर्ट, 2020 के अनुसार भारत 153 देशों में 112वें स्थान पर रहा। इससे साफ तौर पर अंदाजा लगाया जा सकता है कि हमारे देश में लैंगिक भेदभाव की जड़ें कितनी मजबूत और गहरी हैं। लैंगिक असमानता के अनेक कारण हैं, प्रारंभ से ही पुरुष प्रधान समाज का पाया जाना। स्त्रियों पर पुरुषों का वर्चस्व रहा है जनजातीय समुदायों के अलावा सभी समाजों में सामाजिक व्यवस्था पुरुष प्रधान ही रही है सामाजिक व्यवस्था का उन्नयन पुरुषों द्वारा ही होता है। इसी कारण स्त्रियों को पुरुषों के समान दर्जा प्राप्त नहीं हो सका। देश की ग्रामीण सामाजिक प्रणाली भी लैंगिक असमानता का कारण रही है ग्रामीण सामाजिक व्यवस्था में स्त्रियों को घर

के अंदर रहकर घरेलू कार्य करने होते हैं। शिक्षा का अभाव भी लैंगिक असमानता का कारण रहा है ,स्त्रियों के अशिक्षित होने के कारण वे अंधविश्वासों तथा मनगढ़ंत धार्मिक गाथाओं की झूठी बातों में दबी रहती है। इस प्रकार से एक देश के सामाजिक विकास में यह लैंगिक असमानता रुकावट पैदा करती है। लैंगिक असमानता वाले राष्ट्र गरीबी, बेरोजगारी और आर्थिक कठिनाइयों का अनुभव करते हैं। लैंगिक असमानता महिलाओं और पूरी अर्थव्यवस्था के विकास को कम कर देती है।



ASM-001

A BRIEF INTRODUCTION ABOUT LINEAR TRANSFORMATIONS AND ITS APPLICATIONS

SHANKAR LAL¹, SARITA KUMARI², VANDANA KUMARI³

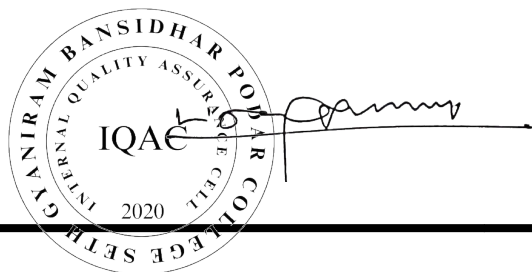
¹Assistant Professor, Department of Mathematics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India.

^{2,3}PG Student, Department of Mathematics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India.

ABSTRACT

In the study of algebra, linear transformations have significant role. This article will address several aspects of linear transformations, covering from their definition to examples including kernels. There are many different forms of linear transformations since these transformations can be specified on either finite or infinite spaces. It goes under several names, including vector space homomorphism, mapping, and linear maps. Functions that satisfy the property under vector additions and scalar multiplications are referred to as linear transformations. Further, we shall also cover the rank and nullity of linear transformations, as well as the Sylvester's theorem, sometimes referred as the rank-nullity theorem and its applications. The purpose of this overview is to provide a comprehensive knowledge of linear transformations and their importance in various scientific disciplines and the field of mathematics.

Key words: - Image, range, vector space, kernel, linear transformation, dimension, rank and nullity.



ASM-002

THE STRUCTURE OF FINITE FIELDS**DEEPAK KUMAR SHARMA**

Department of Mathematics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, Rajasthan,
India

Mail Id-dks.barwasi@gmail.com

ABSTRACT

Finite fields, also known as Galois fields, are algebraic structures with remarkable properties that have found applications in various fields, including coding theory, cryptography, and computer science. This review paper delves into the fundamental concepts of finite fields, exploring their structure, properties, and applications. We begin with a definition of finite fields and discuss their basic properties, such as characteristic, order, and subfields. We then explore the concept of irreducibility and primitive elements, which are crucial for constructing finite fields. Subsequently, we delve into the construction of finite fields using polynomial rings and discuss the existence and uniqueness of fields with a given order. Finally, we touch upon the applications of finite fields, highlighting their significant role in various areas.

Keywords: finite fields, Galois fields, characteristic, order, subfields, irreducibility, primitive elements, polynomial rings, coding theory, cryptography, computer science.

1. Introduction:

Finite fields, first introduced by Evariste Galois in the early 19th century, are finite sets equipped with addition and multiplication operations that satisfy the axioms of a field. These fields, also known as Galois fields, possess unique properties that have made them invaluable tools across diverse disciplines. From their applications in coding theory and cryptography to their role in computer science and **ABSTRACT** algebra, finite fields continue to be a subject of extensive research and practical implementation.

2. Basic Properties:

A finite field F is characterized by its order q , which represents the number of elements in the field. The addition and multiplication operations in F are defined to satisfy the field axioms, including associativity, commutativity, distributivity, and the existence of additive and multiplicative identities. A key property of finite fields is their characteristic, which is the

smallest positive integer p such that p times the identity element equals zero. If no such integer exists, the field is said to have characteristic zero.

3. Subfields and Isomorphism:

Subfields of a finite field F are subsets of F that are themselves fields under the induced operations. The existence of subfields is crucial for understanding the structure of finite fields and their relationships to other fields. Two finite fields are considered isomorphic if there exists a bijection between their elements that preserves the field operations. Isomorphism allows us to classify finite fields based on their structure and properties.

4. Irreducibility and Primitive Elements:

In the construction of finite fields, polynomial rings play a significant role. An irreducible polynomial over a field F is a polynomial that cannot be factored into a product of non-constant polynomials. Irreducible polynomials are crucial for defining the structure of finite fields, as they can be used to construct fields of a specific order. Additionally, primitive elements are essential for the construction of finite fields. A primitive element of a finite field F is an element that generates all the non-zero elements in F under repeated addition.

5. Construction of Finite Fields:

Finite fields can be constructed using different methods. One common approach involves constructing a polynomial ring over a field and then using an irreducible polynomial to define the field operations. The elements of the field are then identified as the residue classes modulo the chosen irreducible polynomial.

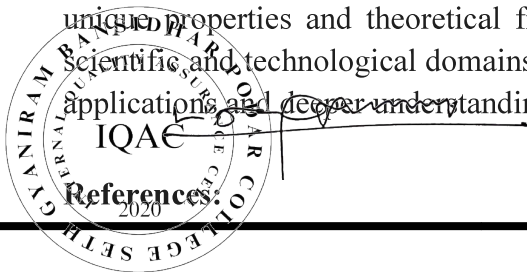
6. Applications:

Finite fields have found widespread applications in various fields. In coding theory, they are used to construct error-correcting codes that ensure data integrity during transmission. In cryptography, finite fields play a crucial role in public-key cryptosystems like RSA, which rely on the difficulty of factoring large numbers. Additionally, finite fields are used in computer science for various applications, including computer algebra systems and error detection and correction.

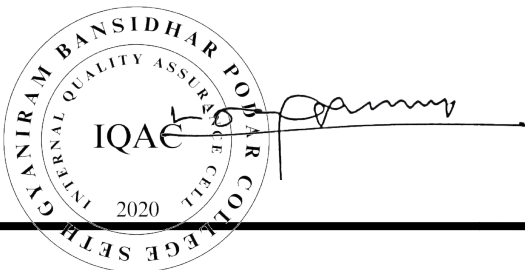
7. Conclusion:

Finite fields are powerful mathematical structures with a wide range of applications. Their unique properties and theoretical framework have made them invaluable tools in various scientific and technological domains. As research continues, we can expect to see even more applications and deeper understanding of these fascinating mathematical objects.

References:



- Lidl, R., & Niederreiter, H. (2004). *Finite fields*. Cambridge University Press.
- Menezes, A. J., Okamoto, T., & Vanstone, S. A. (2007). *Handbook of applied cryptography*. CRC press.
- MacWilliams, F. J., & Sloane, N. J. A. (1978). *The theory of error-correcting codes*. North-Holland Publishing Company.
- Lang, S. (2002). *Algebra*. Springer.
- Herstein, I. N. (2006). *Topics in algebra*. John Wiley & Sons.



ASM-003

A SYSTEMATIC LITERATURE REVIEW ON DYNAMIC ANALYSIS

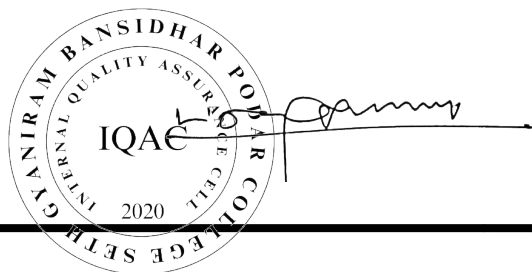
ANITA KULDEEP AND YASHODA

PG Student, Department of Mathematics

Seth Gyaniram Bansidhar Podar Collage, Nawalgrah (jhunjhunu) 333042

ABSTRACT

In this paper, a survey of literature related to dynamic analysis of kinematics, kinetics and rectilinear motion of bodies and their conservation of energy. Classical dynamics comprises the totality of mathematical derivation and conclusions which follow from the fundamental law of Galileo and Newton. Newton law is based on absolute space and time and remains valid inertial reference scheme. In addition to the general method of determining and integrating the equation of motion of physical bodies acted upon by increasing forces, dynamics consider a number of dynamical properties of solid body oscillating of the mechanical system and the theory of motion of stability are the two main areas of contention. Some real life based examples such as when a car with a sizable mass drives down a hill. Its mass, momentum and energy produces a large amount of velocity and dynamic used when a person pushes a block along a flat surface.



ASM-004

THE PARTIAL DIFFERENTIAL EQUATION AND IT'S APPLICATION IN REAL WORLD

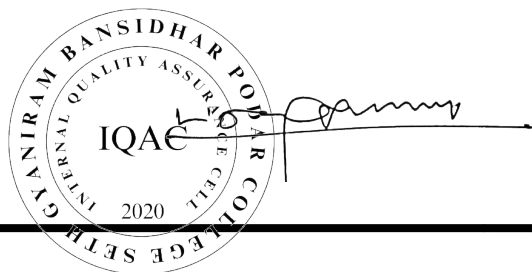
DEEPAK SHARMA¹, PANKAJ KUMAR², SUNIL KUMAR³, PALMENDRA⁴

¹Assistant Professor Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India

^{2,3,4}P.G. Student Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India

ABSTRACT

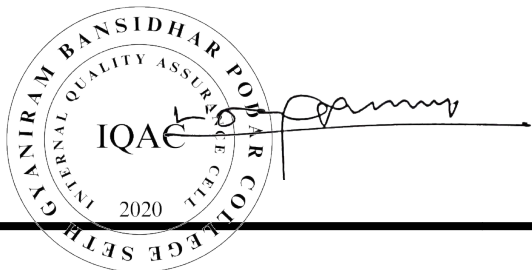
In this article we shall study about introduction of general differential equation and classification of partial differential equation with respect to one order & two order of equation . Also we discussed about homogeneous linear partial differential equation with constant coefficients ,non homogeneous partial differential equation with constant coefficients & discuss about the types of canonical forms(like elliptic, parabolic and hyperbolic). Furthermore we describe the application of partial differential equation in real world like physic(heat equation & wave equation etc.) , engineering (structure mechanics & electromagnetics etc.), finance(diffusion equation etc.), biology (reaction-diffusion equations & electrophysiology etc.), computer(image processing & machine learning etc.).



ASM-005

THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION**CHETANA SINGODIYA, PRIYANKA KUMARI, VIJETA, SONU KHICHAR,
POONAM CHOUDHARY AND B. S. RATHORE**Department of Physics, Seth Gyaniram Bansidhar Podar college, Nawalgarh, 333042, (Raj.),
IndiaCorresponding author E-mail addresses: bsrathorephy@gmail.com**ABSTRACT**

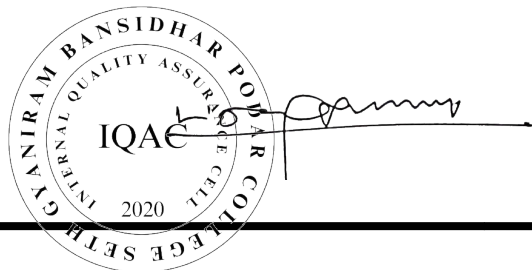
In this study, the Poly (methyl methacrylate) (PMMA) films have been developed for the photodegradation of methylene blue (MB) by incorporating vanadium pentoxide (V_2O_5) catalysts. The obtained films were characterized by XRD, UV-Vis and FTIR spectroscopy. The XRD patterns revealed the amorphous domains of the PMMA polymer, with an increase in these domains with increasing the V_2O_5 content. Moreover, the XRD showed shifts of 2θ from 16.46° to 16.9° , which can be attributed to the structural irregularity of the PMMA backbone chain caused by the nano-filler doping with no impurity peaks. The observed SEM images showed that V_2O_5 has a hierarchical nanobelt interconnected structure with thicknesses of 35–160 nm and 60–350 nm in length. According to UV-Vis spectroscopy measurements, the absorbance shifts towards a longer wavelength (250–350 nm) and exhibits intensity increase as V_2O_5 nanoparticles amount increase. The band gap of PMMA was decreased after the incorporation of V_2O_5 NPs. The optical conductivity exhibits an increase in the photon energy window (3.8 eV-4.2 eV) by values ($2 \times 10^{10} - 7 \times 10^{13}$) as the V_2O_5 nanoparticles ratio content increases. Interestingly, the 3 wt% V_2O_5 /PMMA photocatalyst film exhibited the highest photocatalytic degradation of MB (95%) after 35 minutes of UV illumination.



ASM-006

THE STRUCTURAL, OPTICAL AND PHOTOCATALYTIC PROPERTIES OF PMMA NANOCOMPOSITE FILMS FOR METHYLENE BLUE PHOTODEGRADATION**CHETANA SINGODIYA, PRIYANKA KUMARI, VIJETA, SONU KHICHAR, NIKITA, POONAM CHOUDHARY AND B. S. RATHORE**Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, 333042, (Raj.),
IndiaCorresponding author E-mail addresses: bsrathorephy@gmail.com**ABSTRACT**

In this study, the Poly (methyl methacrylate) (PMMA) films have been developed for the photodegradation of methylene blue (MB) by incorporating vanadium pentoxide (V_2O_5) catalysts. The obtained films were characterized by XRD, UV-Vis and FTIR spectroscopy. The XRD patterns revealed the amorphous domains of the PMMA polymer, with an increase in these domains with increasing the V_2O_5 content. Moreover, the XRD showed shifts of 2θ from 16.46° to 16.9° , which can be attributed to the structural irregularity of the PMMA backbone chain caused by the nano-filler doping with no impurity peaks. The observed SEM images showed that V_2O_5 has a hierarchical nanobelt interconnected structure with thicknesses of 35–160 nm and 60–350 nm in length. According to UV-Vis spectroscopy measurements, the absorbance shifts towards a longer wavelength (250–350 nm) and exhibits intensity increase as V_2O_5 nanoparticles amount increase. The band gap of PMMA was decreased after the incorporation of V_2O_5 NPs. The optical conductivity exhibits an increase in the photon energy window (3.8 eV-4.2 eV) by values ($2 \times 10^{10} - 7 \times 10^{13}$) as the V_2O_5 nanoparticles ratio content increases. Interestingly, the 3 wt% V_2O_5 /PMMA photocatalyst film exhibited the highest photocatalytic degradation of MB (95%) after 35 minutes of UV illumination.



ASM-007

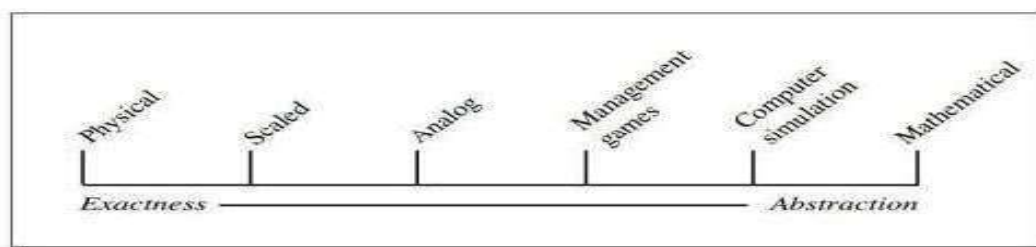
RELATION BETWEEN MODEL AND PROBABILITY**MR. PRADEEP SHARMA**

Vivek College of Education, Bijnor (U.P.).

Corresponding author's Email: pk14196@gmail.com

ABSTRACT

A Model is a set of rules, formulas, or equations that can be used to predict an outcome based on a set of input fields or variables. A Model is a copy of something that is usually smaller and similar to the real thing. A model is an informative representation of an object, person or system. The term originally denoted the plans of a building in late 16th-century English, and derived via French and Italian ultimately from Latin *modulus*, a measure. For example, a financial institution might use a model to predict whether loan applicants are likely to be good or bad risks, based on information that is already known about past applicants. Models can be divided into physical models (e.g. a model plane) and **ABSTRACT** models (e.g. mathematical expressions describing behavioural patterns). **ABSTRACT** or conceptual models are central to philosophy of science, as almost every scientific theory effectively embeds some kind of model of the physical or human sphere. Models are representations of real systems. They can be iconic that is made to look like the real system, **ABSTRACT**, or somewhere in between. Iconic models can be full-scale, scaled-down, or scaled-up in size. A model of the solar system is a scaled-down model, and a teaching model of a wood cell or a water molecule is a scaled-up model. Models can be made of the same material as the system they represent, or they can be made of different materials, such as a plastic model of the solar system. A model may help to explain a system and to study the effects of different components, and to make predictions about behaviour. s



A physical model is a physical object shaped to look like the represented phenomenon, usually built to scale e.g. atoms, molecules, skeletons, organs, animals, insects, sculptures, small-scale vehicles or buildings. They can also include 3-dimensional alternatives for two dimensional representations e.g. a physical model of a picture or photograph. A mathematical model is a representation which comprehends a situation. It is an **ABSTRACT** description of a concrete

ASM-008

**THE PARTIAL DIFFERENTIAL EQUATION AND IT'S APPLICATION IN
REAL WORLD**

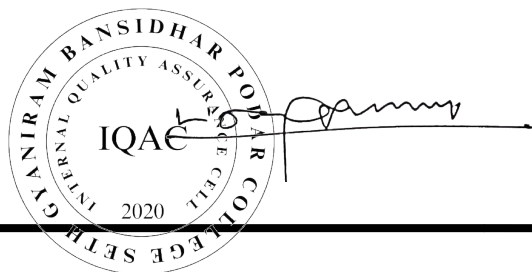
DEEPAK SHARMA¹, PANKAJ KUMAR², SUNIL KUMAR³, PALMENDRA⁴

¹Assistant Professor Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India

^{2,3,4}P.G. Student Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India

ABSTRACT

In this article we shall study about introduction of general differential equation and classification of partial differential equation with respect to one order & two order of equation. Also we discussed about homogeneous linear partial differential equation with constant coefficients , non homogeneous partial differential equation with constant coefficients & discuss about the types of canonical forms(like elliptic, parabolic and hyperbolic). Further more we describe the application of partial differential equation in real world like physic(heat equation & wave equation etc.) , engineering (structure mechanics & electromagnetics etc.), finance(diffusion equation etc.), biology (reaction-diffusion equations & electrophysiology etc.), computer(image processing & machine learning etc.).



ASM-0010

UNLOCKING THE POWER OF SPECIAL FUNCTIONS: A GUIDE FOR BEGINNERS

SUCHITA JANGID , VANSHIKA VERMA, PRACHI SHARMA

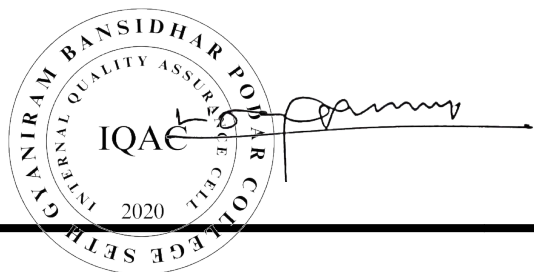
Assistant Professor, Department of Mathematics

Seth Gyaniram Banshidhar Podar College, Nawalgarh -333042

Correspond Mail: suchitajangid6@gmail.com

ABSTRACT

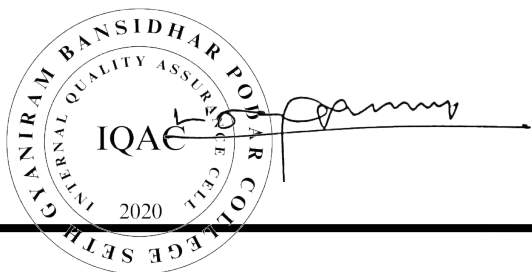
Special functions are a class of mathematical functions that arise in many areas of science and engineering. These functions are not always easy to understand or use as they can be complex. However, mastering special functions can be incredibly rewarding as these functions can unlock the power to solve complex equations and problems. In this Article, we will provide a beginner's guide to special functions. We will cover the basic concepts; the most commonly used special functions, and how to use them in real-world problems. Whether we're a student or a professional, this guide will provide us with the knowledge and tools you need to unlock the power of special functions and take your mathematical skills to the next level.



ASM-0013

DIELECTRIC PROPERTIES & SURFACE MORPHOLOGY OF SWIFT HEAVY ION BEAM IRRADIATED POLYMERIC THIN FILMS**BHUPENDRA SINGH RATHORE^{1,*}, R. N. SHARMA², SANDEEP SHARMA³ AND M. D. SHARMA⁴**¹Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, 333042 (Raj.), INDIA^{2,3,4}Department of Physics, Government Kamla Modi Girls College, Neemkathana, Sikar 332713 (Raj.) INDIA**ABSTRACT**

Swift heavy ion beam irradiation induces modification in the dielectric properties and surface morphologies of polycarbonate (PC) films. The PC films were irradiated by 55 MeV energy of C⁵⁺ beam at various ions fluences ranging from 1×10^{11} to 1×10^{13} ions cm⁻². The dielectric properties (i.e., dielectric constant, dielectric loss, and AC conductivity) and surface morphologies of pristine and SHI beam irradiated PC films were investigated by dielectric measurements, atomic force microscopy (AFM), and optical microscopy. The dielectric measurements show that the dielectric constant, dielectric loss, and AC conductivity increase with ion fluences and temperature, however, the dielectric constant and AC conductivity decrease while dielectric loss increases with frequency. AFM shows the increase in average roughness values with ion fluences. The change of color in PC films has been observed from colorless to yellowish and then dark brown with increases of ion fluence by using optical microscopy.

Keywords:- SHI, Polycarbonate, Dielectric properties, Optical micrographs, AFM.

ASM-0015

OPTICAL AND ELECTRICAL PROPERTIES OF SWIFT HEAVY ION BEAM-IRRADIATED POLYCARBONATE/POLYSTYRENE BILAYER FILMS

**BHARAT KUMAR JANGIR¹, DEEPANSHU VERMA¹, SANDEEP KUMAR¹, LUCKY¹,
VIKASH KUMAR¹ SANTOSH KUMAR SAXENA² AND BHUPENDRA SINGH
RATHORE^{1,*},**

¹Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, 333042 (Raj.), INDIA

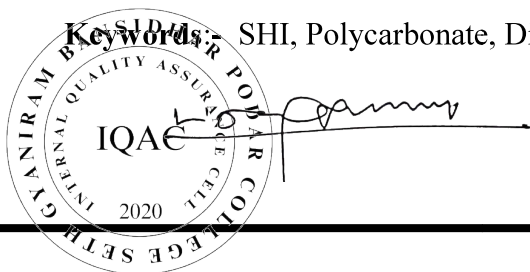
²Department of Physics, S.N.K.P. Government College, Neem Ka Thana, Neem Ka Thana, Sikar 332713 (Raj.)
INDIA

*Corresponding author E-mail addresses: bsrathorephy@gmail.com

ABSTRACT

Swift heavy ion beam irradiation induces modification in the dielectric properties and surface morphologies of polycarbonate (PC) films. The PC films were irradiated by 55 MeV energy of C⁵ beam at various ions fluences ranging from 1×10^{11} to 1×10^{13} ions cm⁻². The dielectric properties (i.e., dielectric constant, dielectric loss, and AC conductivity) and surface morphologies of pristine and SHI beam irradiated PC films were investigated by dielectric measurements, atomic force microscopy (AFM), and optical microscopy. The dielectric measurements show that the dielectric constant, dielectric loss, and AC conductivity increase with ion fluences and temperature, however, the dielectric constant and AC conductivity decrease while dielectric loss increases with frequency. AFM shows the increase in average roughness values with ion fluences. The change of color in PC films has been observed from colorless to yellowish and then dark brown with increases of ion fluence by using optical microscopy.

Keywords: SHI, Polycarbonate, Dielectric properties, Optical micrographs, AFM.



ASM-0016

PRELIMINARIES RECOGNITION OF COMPLEX ANALYSIS AND ITS APPLICATION

OM PARKAS DAVE¹ & VIDYADHAR SHARMA²

¹Head, Department of Mathematics, Government College, Luni, Jodhpur

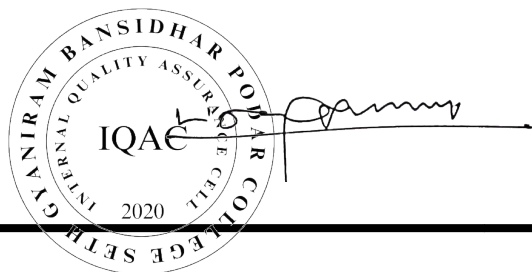
²Head, Department of Mathematics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India.

¹Corresponding author E-mail: dave_omprakash@yahoo.co.in.

ABSTRACT

We explore foundational aspects of complex numbers, basic operations on complex numbers, modulus and conjugate of complex number, complex numbers in polar & exponential forms, roots of a complex number, some essential definitions about sets in the complex plane like as circle, open disk, closed disk, annulus, neighbourhood of a point. In this section, we also define the complex valued function, the concept of limit, continuity, differentiability of complex valued functions and analytic function with its sufficient and necessary conditions. The study aims to provide a comprehensive understanding of these preliminaries in higher level mathematical concepts and various scientific disciplines.

Keyword: Complex number and complex valued functions, complex plane, differentiable and analyticity.



ASM-0017

THE ALLURE OF LINEAR ALGEBRA AND ITS APPLICATION IN CERTAIN REAL-WORLD SCENARIOS

SHANKAR LAL¹ & VIDYADHAR SHARMA²

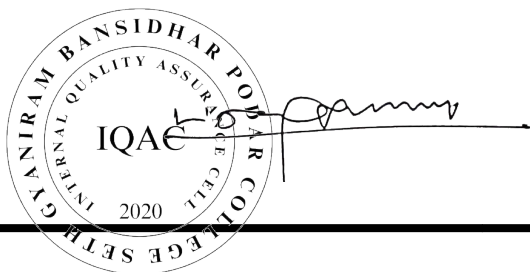
¹Assistant Professor, Department of Mathematics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India.

²Head, Department of Mathematics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan) 333042 India.

¹Corresponding author E-mail:-shankar90kmt@gmail.com

ABSTRACT

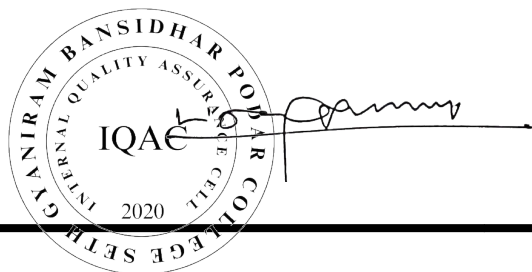
This study of linear algebra dives into basic ideas like matrices, vectors, and eigen values. It shows how these concepts are used in various areas, such as computer graphics, machine learning, quantum mechanics, cryptography, and physics. Linear algebra is a key math concept that helps us understand many mathematical structures and operations. It improves our math skills and plays a big role in **ABSTRACT** algebra and functional analysis. It's not just theoretical – it's used in signal processing, optimization, and data analysis, making it practical too. To make AI algorithms and model dynamic systems in physics, we need a good grasp of linear algebra. This introduction is a handy tool for students dealing with the subject's theory and its applications in math and physics.



ASM-0021

**STUDY OF THERMAL PROPERTIES OF SHIFT HEAVY ION BEAM IRRADIATED
POLYCARBONATE/POLYSTYRENE DOUBLE LAYERED FILM****KRISHAN KUAMR¹, BHAWANA SAINI¹, KRISHAN KUAMR SAINI¹, KALPANA¹,
RASHMI JANGIR¹, KRIPA SHANKER SINGH², BHUPENDRA SINGH RATHORE¹**¹Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, 333042, (Raj.), India²Department of Physics, R. B. S. College, Agra, 282002, (U.P.), IndiaCorresponding author E-mail addresses: bsrathorephy@gmail.com**ABSTRACT**

The double layered films of polycarbonate/polystyrene (PC/PS) have been prepared by solvent casting method and irradiated with C beam at different ion fluences range from 1×10^{11} to 1×10^{13} ion/cm². The effect of swift heavy ion (SHI) beam in interfacial phenomena, phase change, dielectric relaxation, degradation temperature, stability, charge storage and transport mechanism of PC/PS pristine and irradiated double layered films have been studied by thermally stimulated discharge current (TSDC), differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA). TSDC show α , β -relaxation peaks shifted to the lower temperatures side with increase of ions fluences. The activation energy and relaxation time decrease, while the depolarization current and charge released increase with increase in the ions fluences. DSC curve show the glass transition temperature (T_g) and heat capacity decreases with increase in the ions fluences. The TGA characteristics represent the thermal stability, which is found to be decreased with increase in the ions fluences.

Keywords:- SHI, TSDC, TGA, Polycarbonate and Polystyrene.

ASM-0022

OPTICAL PROPERTIES OF SWIFT HEAVY ION BEAM IRRADIATED POLYMER COMPOSITES FILMS

PRIYANKA SAINI, SANIYA, NIKITA, POOJA, SUGANDHA SHARMA, YASHASVI SHARMA, ADITYA MEEL, ANJALI SAINI, RAJU DHADHICH AND BHUPENDRA SINGH RATHORE

Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, 333042, (Raj.),

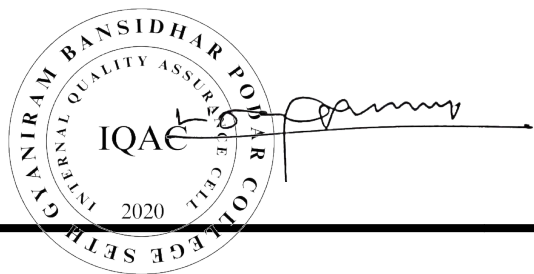
²Department of Physics, R. B. S. College, Agra, 282002, (U.P.), India

Corresponding author E-mail addresses: bsrathorephy@gmail.com

ABSTRACT

Polycarbonate/polystyrene composites films were irradiated by 55 MeV Carbon ion beam with fluence ranging from 1×10^{11} to 1×10^{13} ions/cm². The polymer composites films were prepared by solution mixing method. The effects of ion beam on structural, optical, surface morphology of PC/PS composites films were investigated by X-ray diffraction (XRD), UV Visible spectroscopy (UV-Vis), Fourier Transform Infrared Spectroscopy (FTIR) and Optical Microscopy. The XRD pattern shows the decrease in the crystallinity and average inter-chain separation increases with ion fluences. UV-Vis spectra show that the energy band gap decreases and increases the number carbon atoms with fluences. UV-Vis transmittance spectra show the transmittance was found to be decrease with increase in the ion fluence. The FTIR spectra evidenced very small change in cross linking and chain scissoring at high ion fluences, while the optical microscopy shows a color change with ion fluence.

Keywords:- SHI, TSDC, TGA, Polycarbonate and Polystyrene.



ASM-0028

THE DIFFERENTIAL GEOMETRY AND SOME POTENTIAL TOPICS

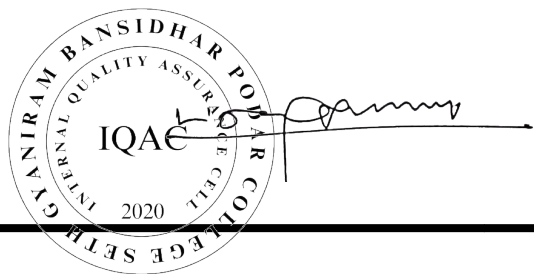
ROSHAN SAINI¹, RAHUL KUMAR²

¹Assistant Professor Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India

²P.G. Student Mathematics Department Seth G.B. Podar College , Nawalgarh ,
Jhunjhunu(Rajasthan) 333042 India

ABSTRACT

In this review article we introduction the basic terminology of differential geometry lives as to 2-d,3-d space/eucledion space, tensor, vector etc. Also we have define metric tensor, riemannian manifolds, curvature, connections, isometries and some examples of riemannian geometry .bAgain we have define symplectic manifolds, symplectic forms, darboux theorem, hamiltonian vector fields of symplectic geometry. Again we describe the elemental problem of topological space and application of geometry.



ASM-0031

OPTICAL AND DIELECTRIC PROPERTIES OF 55 MeV CARBON BEAM-IRRADIATED POLYCARBONATE FILMS
BHUPENDRA SINGH RATHORE^{1,*}, PREM KUMARI¹, KALPANA¹, POOJA KUMARI¹, SHASHI KUMARI¹, KULDEEP KUMAR¹ AND VIBHA SHRIVASTAV²

¹Department of Physics, Seth Gyaniram Bansidhar Podar College, Nawalgarh, 333042 (Raj.),

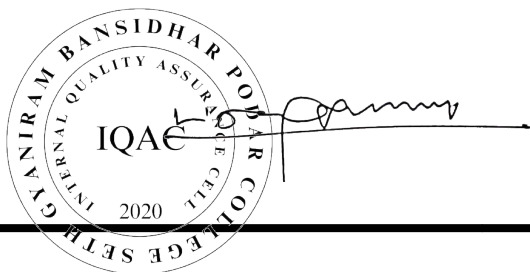
²Department of Physics, Shri Kalyan Rajkiya Kanya Mahavidyalaya, Sikar 332001 (Raj.) INDIA

*Corresponding author E-mail addresses: bsrathorephy@gmail.com

ABSTRACT

Polycarbonate films were irradiated with 55 MeV carbon beam at different fluences from 1×10^{11} to 1×10^{13} ions/cm². The structural, optical and dielectric properties are studied. The X-ray diffraction pattern shows the decrease in crystallinity and increase in average intermolecular spacing with an increase in fluence due to the formation of carbon nanoclusters in the polymer matrix. UV–VIS absorption spectra show that the band gap energy decreases upon irradiation. It depends on the ion fluence and growth of carbon nanoclusters. The Fourier transform infrared spectra evidenced cross-linking and chain scissoring both at high fluences. The dielectric constant decreases while dielectric loss and alternating current conductivity increase with fluence. Keywords: energy band gap; nanoclusters; refractive index; polycarbonate.

Keywords: Energy band gap; Nanoclusters; Refractive index; polycarbonate.



ASM-0032

**A RECOGNISATION JOURNEY OF MEASURE THEORY THROUGH THE
LENGTH OF INTERVALS**

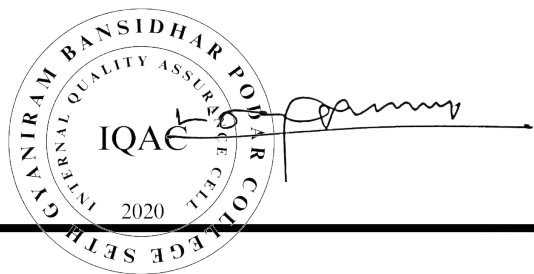
**VIDHYADHAR SHARMA¹, HARSHITA SHARMA², MANSHI SHARMA³ & NISHA
SAINI⁴**

¹Head of department of Mathematics, Seth Gyaniram Bansidhar Podar College, Nawalgarh,
Jhunjhunu(Rajasthan) 333042 India

^{2,3,4}Student at Seth Gyaniram Bansidhar Podar College, Nawalgarh, Jhunjhunu(Rajasthan) 333042 India

ABSTRACT

In this article we are introducing the concepts of Measure Theory and Measurability. Bernhard Riemann made groundbreaking contributions to the field of analysis, particularly with his progress of the Riemann Integral. He gave the first rigorous solution of integration free from geometrical concepts. There are some drawbacks of Riemann Theory which are then sought out by the Henri Lebesgue. In his approach he used some basic terms like bounded sets, countable sets, length of intervals, algebra of sets and set function on the real line which is measurable. The main concept of his theory is based upon length of intervals.



CSM-001

DECODING DIGITAL FOOTPRINTS

MUKESH KUMAR SAINI

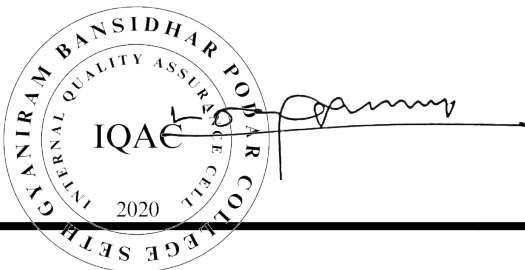
Assistant Professor, Department of Computer Science

Seth G B Podar College, Nawalgarh

mukeshkumarsaini111@gmail.com

ABSTRACT

The concept of Digital Footprints that is frequently applied and stands for a phenomenon of modern digital era. The users who use digital services create, deliberately or unknowingly, a kind of digital imprint which contains sensitive personal information. Personal data can be relatively tracked by digital services providers and subsequently processed for commercial purposes, usually for targeted advertising, or misused for illegal purposes. Therefore, personal data shall be regarded as a potential threat to individual’s privacy. It shall be borne in mind that awareness about digital safety within society is still low - social websites encourage users to share sensitive personal data with undisclosed range of contacts, some settings of internet browsers allows to track cookies or mere visiting websites enables specialized programs to create a comprehensive behavioral profile consisting of one’s private life, customs, social status or consuming preferences. Current trend in digital security legislation seeks for a balances solution between the right to privacy and commercial interests of personal data processors. The European legislation has begun to constitute an integral part of consumer protection law on personal data protection and respective case law. This encompasses the usage of Google the search engine, Google Scholar the academic search engine, and diverse specific domains of certain countries.



CSM-002

**CONVERGENCE OF INDIAN ACCOUNTING STANDARDS WITH IFRS:
PROSPECTS AND CHALLENGES****Ramesh Pareek****Department of Management Studies,
Seth G B Podar College, Nawalgarh
Mail Id: rajpareekmba@gmail.com****ABSTRACT**

Consistent, comparable and understandable financial information is the lifeblood of commerce and making investment. The idea of global harmonization of accounting standards stems from lack of comparability of financial statements across the country. The main fascination with adoption or convergence of IFRS is sound business sense. Increasing cross border investing and proliferation of financial products have posed a challenge to companies as they faced multiple standards. Harmonization and convergence with IFRS can greatly contribute to the efforts to build global financial reporting infrastructure. This resulted in international initiative of convergence of Accounting Standards to a common standard viz. the International Accounting Standards/ International Financial Reporting Standards (IFRS). In India, the ICAI formulates the accounting standards on various issues. But since last few years, the aim has been following the IFRS to the extent possible. Henceforth, while issuing accounting standards, IFRS need to be adopted suitably. However, deviations from IFRS have been noted due to some unavoidable reasons like legal and regulatory requirements, economic environment, level of preparedness, conceptual differences etc. Thus, it can be argued that even if there has been a lot of deliberation on convergence of Indian accounting standards with IFRS, it is difficult to adopt IFRS considering the indigenous problems. In order to resolve this problem, the ICAI has given a roadmap through which, IFRS can be adopted in India in a phased manner. This analytical Paper deals with concept, objective and benefits of convergence with IFRS and explores the way how we converge the Indian GAAP with IFRS. Problems and challenges faced in the process of convergence in Indian perspective have been thoroughly discussed. This paper also focuses on IFRS prospects in Indian scenario. This paper puts forward a view point that convergence will bring forth galore benefits to investors, industry, professionals and the economy as a whole.

Keywords: Accounting standards, IFRS, IAS and Convergence.

~ 114 ~

Proceedings of “ARAVALLI” IGOE Nawalgarh, Rajasthan, India

Chetana International Journal of Education/ December, 2023 Special Vol. 08, No (2) II ISSN-2455-8729

ELS-001

Gene therapy: As a medical condition Mechanisms of Patho- Mechanisms

MS. NEHA CHOUDHARY

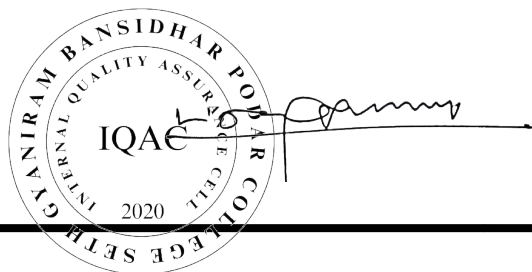
ASSITANT PROFESSOR, DEPARTMENT OF ZOOLOGY

SETH GYANIRAM BANSIDHAR PODAR COLLEGE, NAWALGARH

ABSTRACT

The ability to manipulate specific sections of the human genome has been a desire in medicine ever since the gene became known to be the core component of heredity. This review highlights current advances in biotechnology as well as CRISPR/Cas9 genome modification. In clinical investigations implementing approved procedures, in in vivo studies in somatic cells stated favorable results. Such advances generate huge confidence in the treatment of catastrophic unusual, ancestral, and incurable conditions. Gene therapy is beginning to demonstrate economic viability with the recent introduction of several different gene and cell-based medicines to the market and clinic . Gene therapy is therefore the process of changing a person's genetic state by repairing altered (mutated) genes or creating site-specific modifications intended for use in medical treatments. Innovations in genetics and biotechnology have made it easy to modify vectors that transported extrachromosomal DNA to target cells, which in turn made this form of therapy achievable. The worldwide market is shifting as a consequence of enhanced understanding of disease Patho-mechanisms and the invention of reliable and effective gene targeting as well as distribution methodologies. This process's main objective is on enhancing targeted delivery (vectors), that contain mostly plasmids, infectious agents, or nanostructured elements. Major concerns, still, involve rising immune system reactions and changes in genes, particularly within germ line cells.

Key words- Gene therapy, clinical trials , CRISPER/Cas9 , germ line gene therapy and somatic gene therapy



ELS-004

**ASSESSMENT OF FAUNAL DIVERSITY OF UDAIPURWATI REGION, IN
REFERENCE TO THEIR CONSERVATION PERSPECTIVE**

RAMA DIDWANIA¹ AND PROF. KALPANA SHARMA²

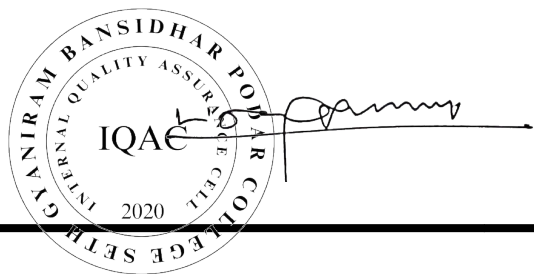
Research scholar , Department of Zoology, Smrat prithviraj Government College , MDSU
University, Ajmer 305001, Rajasthan , India
Email Id: ramadidwania1319@gmail.com

Professor, Department of Zoology, Smrat prithviraj Government College , MDSU University,
Ajmer 305001, Rajasthan , India
Email Id: drkalpanasharma170897@gmail.com

ABSTRACT

Since natural resources are essential to human development, it is imperative that they be preserved and used sustainably. However, as industrialization, urbanization, and globalization progress, all natural resources, including forest and faunal diversity, are being negatively impacted. A tahsil in Rajasthan's Neem ka Thana district is called Udaipurwati. It is located in a semi-arid climate with extremes of heat in the summer and cold in the winter. Summer temperatures can reach as high as 49 degrees Celsius, while winter temperatures can drop below freezing. The variety of creatures that are indigenous or local to that specific area is referred to as faunal diversity. Predators, fish, mammals, avifauna, hymenopterans, coleopteron, and butterflies are among them. The study aimed to catalog and identify the many animal groups, genera, and species present in the region, along with their habitats and distribution patterns. In addition to some larval forms, there are 23 species in the orders Coleoptera (12), Hemiptera (7), Odanta (1), and Dipteral (3). Since many of the fish in Kot Dam depend on insects for nourishment, the number of fish, including Catla, Rohu, Mrigal, and Cat fish, is determined by their existence. Twenty mammal species from 12 groups and 17 genera comprise the mammalian diversity of the Udaipurwati region.

Keywords: Udaipurwati region, faunal variety, conservation



ELS-005

ECONOMIC IMPORTANCE OF BLUE GREEN ALGAE AND ROLE OF ALGAE IN AGRICULTURE

¹LOKESH SAINI, SANDEEP KUMAWAT, ANISHA SAINI, MONIKA, SUMAN SAINI² AND ANKIT KUMAR JANGID³

¹M.Sc. Students, ²Head of Department, ³Assistant professor

Department of Botany,

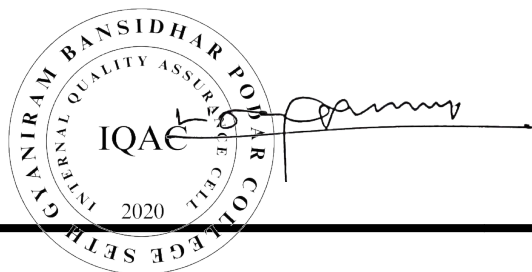
Seth Gyaniram Bansidhar Podar College Nawalgarh (Rajasthan)

Pandit Deendayal Upadhyaya Shekhawati University sikar (Rajasthan)

ABSTRACT

Blue green algae (BGA) possess immense morphological and metabolic diversity and can be used in economic development and environment management like wastewater treatment, land reclamation, production of fine nutrients, atmospheric fixation of nitrogen, production of methane fuel, conversion of solar energy, therapeutic functions and so on. Cyanobacteria (CB), known as blue-green algae (BGA), are a group of gram negative photosynthetic bacteria that have colonized earth surface for nearly 3.5 billion years and are considered as the predecessors of modern day chloroplast. BGA possess a great deal of morphological and metabolic diversity, which makes CB an extraordinary repertoire of a vast array of chemical products with applications in the feed, food, nutritional, cosmetic, pharmaceutical and even fuel industry. BGA utilization is centuries old (*Nostoc* in Asia and *Spirulina* in Africa and Mexico), purposeful cultivation of BGA started only a few decades ago. During 20th century, several cultivation technologies have been developed and are in use to produce CB biomass as a source of valuable products. This review presents applications of BGA in agriculture, food and industry.

Keywords: Agriculture, Blue green algae (BGA), Cyanobacteria, Industry



ELS-006

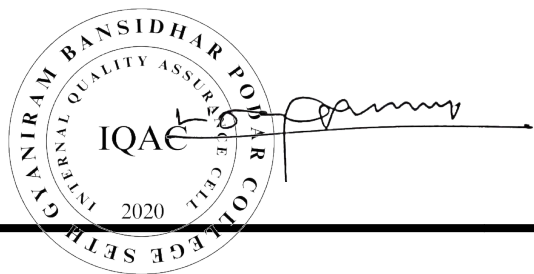
STUDY ON TINOSPORA CORDIFOLIA ETHANOMEDICINAL PLANTS OF SHEKHAWATI REGION AND THEIR BIOCHEMICAL ANALYSIS**SHYAMA DIDWANIA**

Assistant Professor, Department of Botany

Seth Gyaniram Banshidhar Podar College, Nawalgarh

E.mailid:- shyamadidwania1991@gmail.com**ABSTRACT**

Tinospora cordifolia is a well-known medicinal herb that has been used traditionally to treat a wide range of ailments. The Menispermaceae family includes the popular names Amrita and Guduchi. Numerous ailments, such as fever, diarrhea, leprosy, skin disorders, and diabetes, have been treated with it. In the Indian system of medicine (ISM), it is considered an indispensable medicinal plant. Tinospora cordifolia is known to contain a variety of chemical components, including lignans, alkaloids, terpenoids, steroids, and others, which contribute to its phytochemistry and pharmacological activity. The World Health Organization estimates that 80% of people on the planet primarily depend on conventional therapies, some of which involve the use of pharmaceutical chemicals, such as phytochemical compounds. The vastness of India combined with knowledge of rich historical traditional medical systems (Ayurveda, Siddha, Unani, Amchi, and local health customs) provide a solid foundation for the use of a wide range of plants in healthcare and the treatment of common clinical ailments. The shrub Tinospora Cordifolia is also widely used in Ayurvedic medicine. Native to India, the plant is a woody, glabrous climbing shrub. Anti-diabetic, anti-periodic, anti-spasmodic, anti-inflammatory, anti-arthritic, anti-oxidant, anti-allergic, anti-stress, anti-leprotic, anti-malarial, hepatoprotective, immunomodulatory, and anti-neoplastic activities are among the noteworthy medicinal properties that have been reported.

Keywords- Tinospora cordifolia, Phytochemical, Medicine

ELS-007

**COMPARATIVE ANALYSIS OF BIO-CULTURING OF FRESH WATER ALGAE
SPIROGYRA COMMUNIS, *CHLORELLA VULGARIS* AND *SPIRULINA PLATENSIS*****ANKIT KUMAR JANGID¹ PRATIMA SHRIVASTAVA² AND SUMAN SAINI³**

1 Research Scholar 2Principal, Department of Botany, Government College, Kota

University of Kota

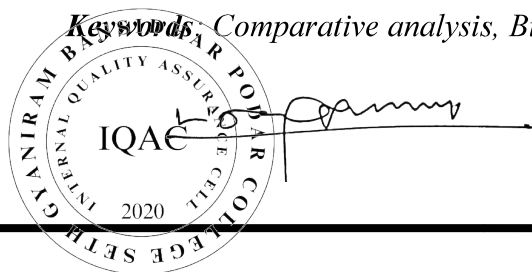
3 Head of Department, Department of Botany, Seth Gyaniram Bansidhar Podar
College Nawalgarh (Rajasthan)

2Pandit Deendayal Upadhyaya Shekhawati University sikar (Rajasthan)

ABSTRACT

For optimization of cultural conditions for algal biomass production of three local filamentous freshwater algae, namely *Spirogyra communis*, *chlorella vulgaris* and *Spirulina platensis* were cultured. Among all these tested in media, *Spirulina platensis* gave maximum biomass (16.3 g/l) in Culture medium whereas, *chlorella vulgaris* gave the biomass of 10.5 g/l in Culture media and *Spirogyra communis* gave the biomass of 8.5 g/l in Culture medium. Then the effect of different carbon sources (lactose, glucose, cellulose and starch) supplement in Culture media was evaluated for biomass production. Among all the sources cellulose at 1 g/l was found to be significant for optimal mass production of (15.81 g/l) and (18.6 g/l) of *Spirogyra* and *Spirulina*, respectively. Both the algal species gave insignificant results in all other carbon sources. The effect of different nitrogen sources (ammonium sulphate, ammonium nitrate, potassium nitrate, ammonium chloride and urea) was tested for biomass production. Urea at 0.1 g/l was found to be best (20.7 g/1000 ml) for optimal growth of *Spirulina platensis* as compared to (16.86 g/1000 ml) of *Spirogyra communis*. However, cellulose as carbon source and urea as nitrogen source were optimized for significant growth of both the algal species. The comparison between the growth rates of both specimens was evaluated. Both the species gave maximum growth up to 15 days of incubation and then the growth started decreasing gradually. It is indicated that the volumetric growth of *Spirulina platensis* is significant in the selected media as compared to *Spirogyra communis*.

Keywords: Comparative analysis, Bio-culturing, Freshwater algae



ELS-008

**EVOLUTION OF WILDLIFE LAWS IN INDIA: PAST, PRESENT, AND FUTURE
PERSPECTIVES****ANANDITA KULHAR****1st Year, B.A.LL.B (Hons. In Adjudication and Justicing)****Maharashtra National Law University, Nagpur****Email- ananditakulhar@gmail.com****ABSTRACT**

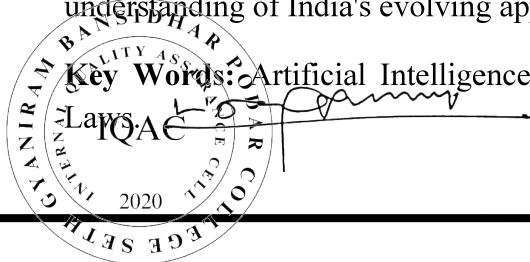
India, with its rich diversity, has witnessed significant developments in wildlife conservation, especially following the reintroduction of cheetahs. The nation boasts a plethora of fauna, comprising over 102,718 species thriving across various regions. However, the colonial past, marked by the proclivities of kings for hunting, has left an enduring impact on the nation's wildlife. Acknowledging the historical exploitation, the Indian Government has enacted crucial acts, laws, and policies to safeguard and preserve its diverse fauna. This paper aims to provide a comprehensive overview of the past, present, and future of wildlife laws in India. The historical context will delve into the colonial era, outlining the detrimental effects of hunting during that period. In the present scenario, the focus will shift to key legislative frameworks such as The Wildlife (Protection) Act, 1972, the Indian Forest Act (1927), the Forest Conservation Act (1980), the Environment (Protection) Act (1986), and the National Forest Policy (1998). An analysis of the evolution of these laws will be presented, highlighting their role in shaping wildlife conservation efforts. Furthermore, the paper will examine the evolution of wildlife laws under different prime ministers, particularly during the early years of independent India, featuring leaders such as Jawaharlal Nehru, Lal Bahadur Shastri, and Indira Gandhi. As we usher in the era of Artificial Intelligence (AI), the paper will explore how national parks and sanctuaries can leverage AI to enhance fauna management, prevent poaching and hunting, and bolster security measures. This discussion will shed light on the potential of AI in revolutionizing wildlife conservation efforts. The paper will also analyze pivotal case laws, including *Tarun Bharat Singh Alwar v. Union of India* (1992) and *Naveen Raheja v. Union of India* (2001), which delve into the Prevention of Cruelty to Animals Act, 1960. These case studies will provide insights into legal precedents and their implications for wildlife protection. In conclusion, this paper seeks to offer a legal perspective on the challenges faced in wildlife conservation and propose potential legal solutions. By examining the historical context, current legislative frameworks, and the integration of AI, the aim is to contribute to a comprehensive understanding of India's evolving approach to wildlife protection.

Key Words: Artificial Intelligence (AI), Case Laws, Conservation, Legislation, and Wildlife Laws

~ 200 ~

Proceedings of “ARAVALLI” IGOE Nawalgarh, Rajasthan, India

Chetana International Journal of Education/ December, 2023 Special Vol. 08, No (2) II ISSN-2455-8729



ELS-009

NATURAL BIOCIDES TO PREVENT MICROBIAL GROWTH ON CULTURAL HERITAGE

Ravindra Goswami¹ and Seema Bhadauria²

¹Department of Botany, R.B.S. College, Agra

²Principal, BVRI, Bichpuri, Agra

Corresponding Email: ravindragoswami2301@gmail.com

ABSTRACT

Background:

Many historic, cultural and artistic objects and buildings are made of stone. Like all materials, stone is subject to inexorable deterioration. Along with chemical and physical weathering factors, microbial growth plays an important role in this process. Stone types and local climatic differences have a great impact on the bio-deterioration process and on their outcomes. Microbial metabolism products, as organic and inorganic acid, chelating agents, enzymes and extracellular polymeric substances (EPS), are responsible of bio-corrosion and of bio-mineralization; furthermore phototropic and heterotrophic microorganisms (e.g., Actinobacteria, Firmicutes and fungi) are able to penetrate into stone surface. In addition to structural injure, these microorganisms cause also aesthetic damage. Lithic artworks as churches, historical buildings and every usage object are our precious cultural heritage, memory of our past history step needed to build present and future. These artistic heritages with morphological, chemical and physical properties totally dissimilar make they a "unicum", characterized by a specific vulnerability. Their decay is unavoidable, but it is a challenge for the humankind to protect and preserve them. Thus far, solutions for the safeguard of cultural heritage are usually based on chemical procedures to remove biodeteriogen agents, but these substances can be hazardous to the environment, to public health and to stone materials itself because it is not known about the consequences of repeated applications. Microbial metabolism produces deteriorating agents such as organic and inorganic acid, chelating agents, enzymes and extracellular polymeric substances (EPS) causing e.g. bio-corrosion and bio-mineralization; furthermore phototropic and heterotrophic microorganisms (e.g. Actinobacteria, Firmicutes and fungi) are able to penetrate into stone surfaces. In addition to structural damage, these microorganisms cause, also, aesthetic damage. Despite their toxicity, traditional biocides are still largely employed to contrast biodeterioration . However, biocidal treatments have a brief duration and must often be repeated frequently, creating a repeated threat to the heritage material and the environment . In addition, repeated biocidal treatments can cause resistance in target biological agents, and they can modify biofilm structures favoring the growth of more harmful biodeteriogens. Biocide application has indeed caused damage to non-target organisms.

Methodology:

Methodology consist of Sampling, isolation, Testing of resistant, Evolution of Biocides for control

~ 201 ~

Proceedings of “ARAVALLI” IGOE Nawalgarh, Rajasthan, India

Chetana International Journal of Education/ December, 2023 Special Vol. 08, No (2) II ISSN-2455-8729

ELS-0015

**PHYSICO-CHEMICAL PARAMETER OF DOMESTIC WASTE WATER WITH
SPECIAL REFERENCE TO BLUE GREEN ALGAE- A REVIEW IN NAWALGARH
REGION DISTRICT JHUNJHUNU, RAJASTHAN (INDIA)**

SUMAN SAINI¹ MANOJ KUMAR YADAV² AND ANKIT KUMAR JANGID³

1 Research Scholar, 2 Professor,
Department of Botany, S.P.C. Govt. College, Ajmer
M.D.S. University, Ajmer

³Assistant professor, Department of Botany, Seth Gyaniram Bansidhar Podar College
Nawalgarh (Rajasthan)

Pandit Deendayal Upadhyaya Shekhawati University sikar (Rajasthan)

¹E-mail: sumansikar22@gmail.com

³E-mail: ankitjangid7742@gmail.com

ABSTRACT

Present time Sewage discharge is one of the main problems in the country. Different species of algae can be grown to be everywhere. Algae used from a food source to a source of biodiesel and also used in the bioremediation of waste water. Blue-green algae are present in all types of water bodies including waste water. The research work reveals the important physico-chemical parameters of waste water collected from Domestic sewage area of Nawalgarh (Raj.), India. An analytical investigation was followed by March to June (2023) for checking waste water quality and study of blue green algae in waste water. In this paper monthly changes in physical and chemical parameters of water such as Temperature, pH, Dissolved Oxygen (DO), Total Dissolved Solids (TDS), Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), Total Hardness, Alkalinity, Nitrate Chlorides and Phosphate were recorded and algal abundance to their relationships with water quality were estimated. The study reveals that dumping of waste water in different drainage systems pollute aquatic and surroundings of terrestrial environment therefore affecting the growth of vegetation and algal growth. The outcome of the present investigation points out that it requires executing common objectives, compatible policies and programs for improvement in the waste water treatment methods. Waste should be appropriately disposed or recycled through sewage treatment. Relevant agencies should make regular efforts through education, regulate and controlling people for environmental changes and suggest them to change their policies of waste water management.

Keywords: - waste water, physico-chemical parameters, pH, Temperature, TDS, COD

and BOD

IQAC

2020

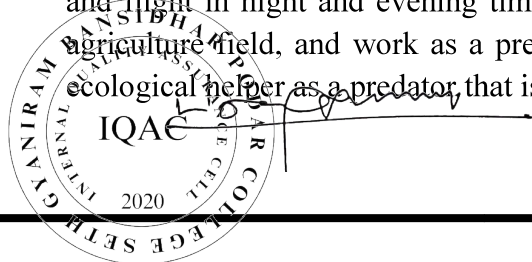
ELS-0018

BIODIVERSITY OF BATS IN JHUNJHUNU**SARITA AND DAU LAL BOHRA**

Department of Zoology, Seth G B Podar College, Nawalgarh

ABSTRACT

Rajasthan state is the third largest by area in India. And other name of Rajasthan “The Land of King”. Shekhawati area is a largest arid region of Rajasthan, this area is present in north-eastern of Rajasthan. And Shekhawati region is covering 8% area of the state. Jhunjhunun is a district of shekhawati region, this area a particular part of Rajasthan, and this region are very greatful for environmental basis. Its climatic condition is both are extremely very hot summer and cool winter. Mainly bats are residing ghost palace, ghost town, mansion, and tree of banyan etc. this type palaces are mostly present in Shekhawati of Rajasthan and Aravali hill is famous for study of mammals and plants in Rajasthan, which are divided in two parts that one is land type and second is climatic type, so easily available two type palaces. The analysis and analysis of echo sounds and echolocation calls are basic method used to revision bat distribution, ecological behavior. Echolocation is an aerial process; the use of ultrasonic sonar in atmosphere is acutely controlled through the decrease of sky-scraping frequency resonance and unwanted echoes from the background. Echolocation are not correct any time that means the object of goal are unlike bird song bat calls show large distinction with the aim of makes identification challenging. The desire of this study is to investigate and analysis the use of visualization by echo locating bats. Echolocation capacity is decided to frequency of sound. And object distances identify to echo sound. Different in the echolocation calls of bats in different environmental population of the similar species, so also called all bats echolocation capacity are something different which one another bat. Bats are belonging to mammals’ class that is second largest group of mammals, that means represented aggregate 20% of all classified mammals worldwide. More than 1125 species of bats are found in world, and of which 119 species present in India, of which 26 species and seven families are reported in Rajasthan. Most of which are insectivorous Chiropterans and Rhinopoma Hardiwichi (R. Hardiwichi). Bats eyes are small, compare to other mammals, especially aerial insectivorous with the exclusion of part of the family Emballonuridae. And bats eyes are adopted to low illumination, that have rod base retinas bulky cornea and lens and normally bulky receptor field. Bats are clearly vision or detect of object in darkness or clear night and flight in night and evening time or food found in this time. Bats are role play of helper in agriculture field, and work as a predator for consume small insectivorous and worms. Bats are ecological helper as a predator, that is saves of plants by small dangerous worm.



ELS-0019

CLIMATE CHANGE'S INFLUENCE ON BIODIVERSITY

MS. NEHA CHOUDHARY

ASSISTANT PROFESSOR, DEPARTMENT OF ZOOLOGY

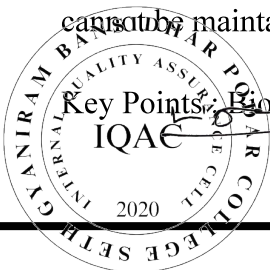
SETH GYANIRAM BANSIDHAR PODAR COLLEGE, NAWALGARH

ABSTRACT

Biodiversity refers to the range and diversity of living things at all scales of biological organization, such as genes, species, and ecosystems. To maintain the world's biodiversity and ecosystem services, India is one of the megadiverse countries. The primary cause of the decline in biodiversity is still human land usage, particularly for food production. Almost seventy percent of all ice-free terrain has already undergone changes due to human activity. Species of plants and animals may become extinct due to habitat loss caused by land conversion for agriculture. A stable climate, food, water, medicine, and economic growth are just a few of the many things we rely on from the web of life that is biodiversity. Nature provides more than half of the world's GDP. Forests are essential to the livelihoods of over 1 billion people. Over half of all carbon emissions are absorbed by land and the ocean. That being said, the loss of biodiversity is becoming more and more linked to climate change. Worldwide, freshwater, terrestrial, and marine ecosystems have changed as a result of climate change. The earliest extinctions driven by climate change have occurred as a result of the loss of native species, a rise in illnesses, and mass plant and animal mortality.

To curtail the release of excess carbon dioxide into the atmosphere and mitigate the consequences of climate change, a swift phase-out of fossil fuel consumption is required worldwide. In the fight against climate change, biodiversity must be recognized as an essential component. Climate change is a direct result of threats to biodiversity, and ecological stability cannot be maintained without biodiversity protection.

Key Points: Biodiversity, Carbon emission, Climate change.



ELS-0025

**INTRODUCE OF BLACK BUCK (ANTELOPE CERVICAPRA) AT JHUNJHUNU
BEED, JHUNJHUNU (RAJASTHAN)**

MUSKAN AND DAU LAL BOHRA*

M.Sc. (Previous) Department of Zoology, Seth Gyaniram banshidhar Podar College, Nawalgarh,
Jhunjhunu (Rajasthan)

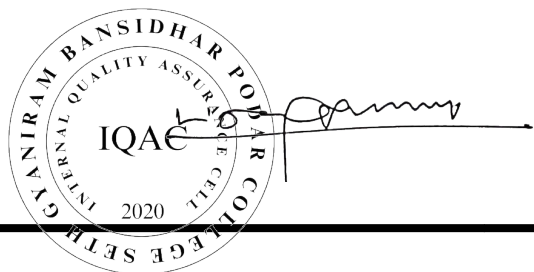
*Head, Department of Zoology, Seth Gyaniram banshidhar Podar College, Nawalgarh,
Jhunjhunu (Rajasthan)

Correspondence mail: jhajhariamuskan17@gmail.com

ABSTRACT

The Jhunjhunu Beed Conservation Reserve about 40 Black Bucks were introduced recently. The blackbuck is a typical Indian animal in respect of its distribution. It is quite abundant in Rajasthan and Gujarat. The Thar Desert is the best potential habitat for Indian Blackbuck (Antelope cervicapra). In the 1920's Blackbucks were so abundant in the western Rajasthan. The present study deals with the distribution pattern, population size and density of Blackbuck (Antelope cervicapra) at Jhunjhunu Beed Conservation Reserve, jhunjhunu, Rajasthan. There's a gradual decline in black buck population is observed. The decrease in populations of blackbuck may be due to the destruction of natural habitats, increases in human populations and poaching. If appropriate steps for conservation are not immediately taken, then the blackbuck is likely to soon become extinct from this region.

KEY WORDS: Blackbuck, Distribution pattern, Poaching.



ELS-0028

OVERVIEW OF ASSISTED REPRODUCTIVE TECHNOLOGIES

BABITA MEEL AND MS.NEHA CHOUDHARY

M.Sc (previous) Department of Zoology ,Seth Gyaniram Bansidhar Podar College,
Nawalgarh,Jhunjhunu(Rajasthan)

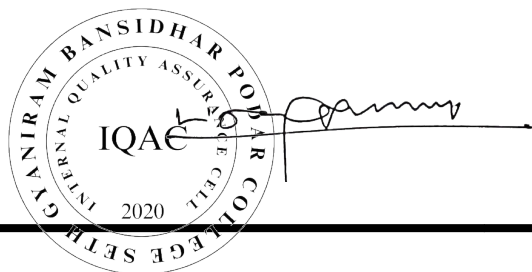
Department of Zoology,Seth Gyaniram Bansidhar Podar College,
Nawalgarh,Jhunjhunu(Rajasthan)

Correspondence Mail-babitameel7jan@gmail.com

ABSTRACT

We all know motherhood is a social need. Fertility is very important otherwise mostly a woman who is childless is stigmatized for not being able to conceive. For such couples who face obstacles in conceiving, ARTs(Assisted Reproductive Technologies) prove as a boon . This includes techniques that attempt to obtain a pregnancy by manipulating the gamete or embryo into the reproductive tract of a woman .These techniques deal with couples facing infertility obstacles to conceive by providing them scientific method to have or experience pregnancy. This is relative safe procedure with single embryo implantation. There are mainly four assisted reproductive technologies-GIFT,ZIFT,ICSI,TET. All techniques include proper advised medication .However, informed consent including both risks and benefits as well as ongoing longitudinal studies are required to fully understand ARTs outcomes. Also, dealing with social ethics is a major challenge.

Keyword-Stigmatized means negative social labels



ELS-0029

OVERVIEW OF INDIAN IVF AND EMBRYO TECHNOLOGY

NEHA KUMARI DOOT AND DAU LAL BOHRA*

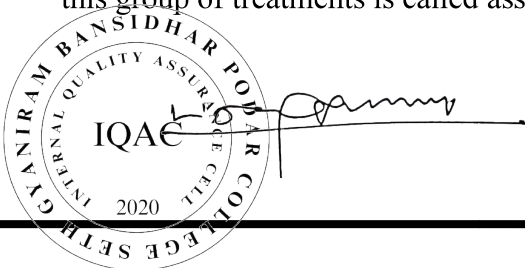
M.Sc. (Previous) Department of Zoology, Seth Gyaniram banshidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan)

*Head, Department of Zoology, Seth Gyaniram banshidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan)

Correspondence mail: nehadoot597@gmail.com

ABSTRACT

In vitro fertilization, also called IVF, is a complex series of procedures that can lead to a pregnancy. It's a treatment for infertility, a condition in which you can't get pregnant after at least a year of trying for most couples. IVF also can be used to prevent passing on genetic problems to a child. During in vitro fertilization, mature eggs are collected from ovaries and fertilized by sperm in a lab. Then a procedure is done to place one or more of the fertilized eggs, called embryos, in a uterus, which is where babies develop. The politics of conception in India can be traced back to the birth of the world's first test-tube baby in 1978. This article focuses on an incident where scientists and clinicians were involved in a heated contest over ascription of intellectual credit for the birth of the first test-tube baby in India. Production of scientific credibility is multi-sited. The credibility generated by media accounts can obfuscate peer-reviewed scientific endorsements. As argued elsewhere, in the closing decade of the 20th century journalistic discourses on science in India became fixated with a 'marvels of science' style (Bharadwaj, 2000). One full cycle of IVF takes about 2 to 3 weeks. Sometimes these steps are split into different parts and the process can take longer. In vitro fertilization is the most effective type of fertility treatment that involves the handling of eggs or embryos and sperm. Together, this group of treatments is called assisted reproductive technology.



ELS-0030

ROLE OF GENOMIC SEQUENCING IN COVID

LOVELIN SAINI AND MS. NEHA CHOUDHARY*

M.Sc. (Previous) Department of Zoology, Seth Gyaniram banshidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan)

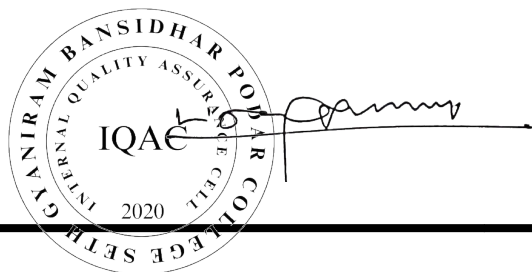
*Head, Department of Zoology, Seth Gyaniram banshidhar Podar College, Nawalgarh, Jhunjhunu (Rajasthan)

Correspondence mail: lovelinne009@gmail.com

ABSTRACT

COVID-19 is caused by the RNA virus SARS-CoV-2, a betacoronavirus with a nearly 30 kb positive-sense, single-strand RNA genome that encodes 29 proteins. Genomic sequencing plays a major role in the continuous monitoring of the evolution of SARS-CoV-2 genome. The WHO recommended the nations speed up genome sequencing and share the genomic data and findings in a coordinated way through a publicly accessible database. To coordinate sequencing operations, several initiatives and consortia have been formed in various countries. For example, in April 2020, the COVID-19 Genomics UK Consortium (COG-UK) was formed in the United Kingdom to collect, sequence, and analyze SARS-CoV-2 genomes to understand viral transmission and evolution. The extent to which genomic surveillance can help to control outbreaks is only limited by the availability of data and will be crucial to controlling the pandemic in the future.

KEY WORDS: SARS-CoV2, COG-UK, Genome



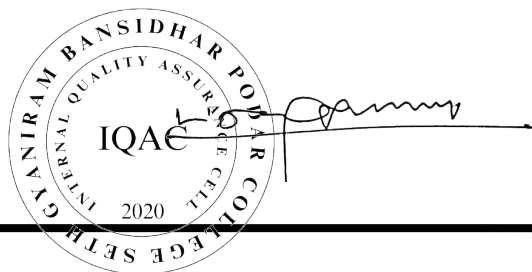
ELS-0033

**PHYTOREMEDIATION BY SOME ALGAL SPECIES IN WASTE WATER – A
REVIEW IN NAWALGARH REGION****VINOD KUMAWAT¹, SUMAN SAINI² & ANKIT KUMAR JANGID³**¹Assistant professor, ²Head of DepartmentDepartment of Botany, Seth Gyaniram Bansidhar Podar College Nawalgarh
(Rajasthan)

Pandit Deendayal Upadhyaya Shekhawati University sikar (Rajasthan)

ABSTRACT

Phytoremediation, the use of algal species to clean up polluted soil and water resources has received much attention in the last few years. Phytoremediation of metal contaminated sites is an innovative and cost effective option to address recalcitrant environmental contaminants. Although not a new concept, phytoremediation is currently being re-examined as an environmentally friendly, cost-effective means of reducing metal contaminated soil. Genetic engineering approaches are currently being used to optimize the metabolic and physiological process that enable plants to phytoremediate, sites contaminated with heavy metals. Genetic manipulation of environmentally important plants can produce elite plant lines with enhanced remediation abilities. Recent research results include over expression of genes whose protein products are involved in metal up take, transport and sequestration, have opened up new possibilities in phytoremediation. This review article provides a critical review of the recent progress towards the development of transgenic plants with improved phytoremediation capabilities and their potential use in environmental clean-up. Present study done in waste water site of Nawalgarh region.

Key words: Phytoremediation, Heavy metals, Hyper accumulators.

ELS-0034

BEYOND THE TASTE : UNDERSTAND CHEMISTRY OF HAZARDOUS COMBINATION OF FOOD

VISHAKHA PUNKHIA

Assistant Professor, Department of Chemistry
Seth Gyaniram Bansidhar Podar College, Nawalgarh-333042 (Raj.)
Correspond: sharmavish023@gmail.com

ABSTRACT

Nutrition is the most reliant need of the body for everyday mechanisms. Though there is a variety in food, still the correct combination of food components is very important in current environmental conditions. Understanding the interactions between food components is crucial for maintaining optimal health and preventing negative consequences. Sometimes the food substances with reverse nature to each other affect adversely to our body by causing metabolic disorders. This article examines the potential hazards associated with consuming specific food combinations and their impact on digestion, nutrient absorption, and overall well-being.

INTRODUCTION:

Our Bodies are naturally designed to consume processed food as the end product of photosynthesis from the Plants. In the modern era we commonly eat food which is good in taste, no matter what will eventually happen after eating it. If we eat supplements, we don't think about the nature of supplements and their reaction & effect on the body, because we are constantly bombarded with messages about the importance of taking supplements, a diet with vitamins, minerals and other nutrients in order to be healthy. We forget the fact supplements are not magic pills that will always give tremendous results, they gradually lower the metabolic mechanisms. Many supplements can actually be hazardous.

When we consume food which has an opposite nature then they can interact with each other and can cause dangerous side effects. By reacting they can form toxins in the body which show harmful effects on the body and can cause food poisoning, headache, stomachache, skin problem and so many other foodborne diseases.

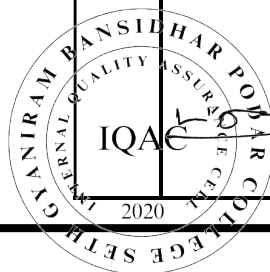
In this Article we will try to understand the chemical properties of food supplements and their toxins which are created after eating them.

The following table shows some hazardous combinations of food that people use commonly in their diet or for taste.

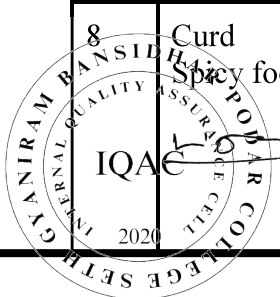
Hazardous Food Combinations:

S. No.	Opposing Nature Food Combination	Effect on Body After Eating	Toxin and Chemical Interaction
1			

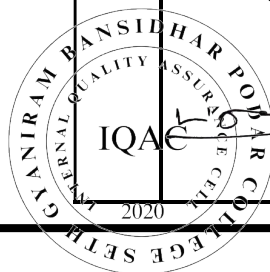
1	Mango + Bitter Gourd	This contrast can cause digestive discomfort like bloating, gas, and indigestion in some individuals.	Mangoes are warm in nature (according to Ayurveda), while bitter gourd is cool. The papain enzyme in mangoes can potentially interfere with the digestive enzymes of bitter gourd, hindering proper digestion and nutrient absorption.
2	Onion + Milk	Lactose intolerance, stimulates higher stomach acid production, might exacerbate symptoms like bloating, gas, and diarrhea. The sulfur compounds in onions can interact with proteins in milk, potentially leading to curdling and digestive discomfort.	Milk contains Casein, a protein that coagulates in acidic environments. Citric acid, being acidic, can cause the casein to clump together, forming curd and giving the milk a lumpy texture. This isn't inherently dangerous, but it can be unpleasant to drink and affect digestion.
3	Milk + Citric Acid	Digestive Discomfort: The curdled milk can be harder for your stomach to break down, potentially leading to bloating, gas, and indigestion. This is especially true for individuals with sensitive stomach or lactose intolerance.	Milk contains casein, a protein that coagulates in acidic environments. Citric acid, being acidic, can cause the casein to clump together, forming curds and giving the milk a lumpy texture. This isn't inherently dangerous, but it can be unpleasant to drink and affect digestion. Reduced Nutrient Absorption: The curdling process can also affect the bioavailability of certain nutrients in milk, like calcium and vitamin D. This means your body might not absorb them as efficiently when consumed with citric acid.
4	Grapes & Onion	Leads to gas, bloating, and indigestion. Enzyme interactions: The enzymes in grapes, like invertase, can potentially interfere with the digestive enzymes in onions, hindering proper breakdown and nutrient absorption.	Contrasting properties: According to Ayurveda, grapes are cooling in nature and sweet, while onions are pungent and heating in nature. This contrast in properties can create digestive imbalances. Sugar overload: The natural sugars in grapes combined with the fructose in onions can be overwhelming for the digestive system, potentially causing



			nausea or diarrhea.
5	Honey & Ghee	Honey's Cooling properties and ghee's igneous properties can disrupt digestive balance, leading to discomfort like bloating and indigestion.	HMF formation: Warmth in Honey can lead to the formation of hydroxymethylfurfural (HMF), a compound with potential health risks in high doses. While ghee is clarified butter, some residual heat might potentially contribute to HMF formation.
6	Milk + NaCl (Salt)	Temporary breakouts or blemishes.	Salt can cause milk proteins to clump together, leading to curdling and hindering smooth digestion. This can potentially lead to gas, bloating, and indigestion, which can reflect on your skin in the form of temporary breakouts or blemishes.
7	Chocolate + Fried Food	Digestive discomfort: Fat overload: Both chocolate and fried foods are high in fat. Combining them can overwhelm your digestive system, leading to potential symptoms like bloating, nausea, chest burn, and indigestion.	Sugar rush and crash: Chocolate contains high amounts of sugar, which can lead to a rapid energy spike followed by a crash. Combining it with the already high fat content of fried foods can amplify the blood sugar rollercoaster, leaving you feeling sluggish and drained. Conflicting properties: According to Ayurveda, chocolate is considered "Kapha-pacifying" (cooling and heavy), while fried foods are "Pitta-aggravating" (heating and stimulating). Combining these opposing energies is believed to disrupt digestive balance, further contributing to discomfort.
8	Curd + Spicy food	Spicy food can stimulate stomach acid production, which can be exacerbated by the lactic acid in curd. This can lead to chest burn and discomfort, especially for	Enzyme interference: The capsaicin in spicy food might interact with the beneficial bacteria in curd, potentially reducing their effectiveness in aiding digestion.



		individuals prone to acidity.	
9	Spinach & Tomato	Kidney issues; sensitive to nitrates and oxalates	<p>Spinach: Contains nitrates, which can convert to nitrites in the body. High nitrite intake has been linked to certain health concerns. However, the amount of nitrates in spinach is minimal, and cooking further reduces it.</p> <p>Contains oxalic acid, which can interfere with calcium absorption and contribute to kidney stones in susceptible individuals. However, most people can safely consume moderate amounts of spinach without issue.</p> <p>Tomato: Contains solanine, a glycoalkaloid that can be toxic in high doses. However, the levels in edible tomatoes are very low, and cooking further reduces them.</p>
10	Milk and Fish	This combination can curdle the milk in your stomach, leading to bloating, gas, and indigestion.	The interaction between milk proteins and fish proteins can create a compound called trimethylamine oxide (TMAO), which has been linked to an increased risk of heart disease.
11	Citrus fruits and Starchy foods	The acidity of citrus fruits can slow down the digestion of starchy foods like bread, rice, or potatoes, leading to heartburn and bloating.	No specific toxin is produced, but the combination can create an uncomfortable digestive experience.
12	Bananas and Yogurt	Both bananas and yogurt contain high amounts of natural sugars and fiber. Eating them together can overwhelm your digestive system, leading to gas, diarrhea, and even stomach	Both bananas and yogurt contain high amounts of natural sugars and fiber. Eating them together can overwhelm your digestive system, leading to gas, diarrhea, and even stomach cramps.



		cramps.	
13	Meat and Melons	Melons are high in water content and can dilute the digestive enzymes needed to break down protein in meat. This can lead to indigestion and incomplete protein digestion.	No specific toxin is produced, but undigested protein can putrefy in the gut, creating unpleasant symptoms like gas and bloating.

After knowing about these combinations, a thought generally comes to mind that eating certain food combinations can affect next generations.

There is no such process by which you can identify the food you are eating can directly affect your genetic makeup.

But there are some indirect ways in which your diet can be affected.

For e.g., *if you are not getting enough nutrients, minerals, vitamins such as folic acid during pregnancy, your baby may be at an increased risk of neural disorder.*

i.e. During Pregnancy Papaya & Pineapple are not eaten because,

Papaya contains:

- Latex and Papain, which can trigger uterine contractions and potentially harm the pregnancy. Experts generally advise against eating unripe papaya during pregnancy.

Pineapple:

- Contains bromelain, an enzyme that breaks down proteins. Some believe it could soften the cervix and induce premature labor.
- However, the amount of bromelain in edible pineapple flesh is minimal and unlikely to cause harm to a healthy pregnancy.

During pregnancy Fig and Date are strictly excluded from diet because these are warm in nature and lowers the blood Glucose level.

And a second thought comes to our mind that *what will happen if we eat Anti-nature food once, will we die?*

And you can also think

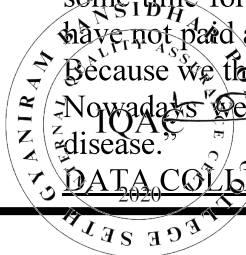
"For e.g., I have been eating Bitter Gourd with Mango juice since childhood but nothing has happened to me."

It is necessary to remember that “Every Action Necessarily has Some Reaction, it could take some time for the reaction to happen or it could be that the reaction is still happening and you have not paid attention to it”.

Because we think minor stomach ache, itching on skin, headache and acidity are common.

Nowadays we usually say “A Person is no longer a human being; it has become the home of disease.”

DATA COLLECTED:



According to WHO, 1 in 10 people around the world get affected by food borne diseases every year while an estimated 16,00,000 people get sick each day due to unsafe food. UN data indicated that food borne disease leads to the death of almost 4,20,000 people each year with children contributing almost 40% of those at 1,25,000 deaths.

The World Bank's 2019 report shows that food borne diseases cause about \$95.2 billion in lost productivity each year in low- and middle-income countries. The report also shows that the cost of treating food borne diseases is \$15 billion a year.

Research shows that from 2009 to 2022, the total number of food poisonings due to consumption of toxic food across India is 9646.

According to a report from The Times of India ([Link](#))

In Rajasthan during the wedding feast 6 out of every 10 people have to face the problems of diarrhea/ gas acidity/vomiting/food poisoning due to eating food prepared at weddings.

According to Daily news “3 out of every 6 people face food-borne illness in a day.”

CONCLUSION:

Food combinations play a crucial role in maintaining optimal health. Understanding the science behind food interactions and avoiding hazardous combinations can significantly improve digestive health, nutrient absorption, and overall well-being. While occasional consumption of anti-nature food combinations may not have immediate direct consequences, long-term exposure can contribute to various health issues. Therefore, individuals should make informed dietary choices to promote long-term health and well-being.

PRECAUTIONS:

The most common problem which people don't give concern to is the attention in their food plates while eating either in a buffet or any feasts. The variety in food items left us in mind as to how to eat all the items but more important is what to eat. We don't check which item we will eat with which of the other food item, this creates wrong chemical combinations in our digestive tract leading to different gastric imperfections. Therefore, it becomes so important that we must consider the correct choices of food items whenever we eat at any occasion. Make sure that what we eat will lead us to healthier well-being.

How to protect us from food-borne illness?

1. We need to remember that humans eat food for survival, and don't survive to eat.
2. Our mouth is not a dustbin, and our stomach is not a dump yard. Whatever we eat will show their positive or negative effects on the body. If we eat healthy food combinations then we can secure ourselves from diseases like food poison, stomach ache, fatty liver, acidity, and many more.
3. We should maintain a time period in between consuming opposing nature food.
4. We should do regular Yoga and Exercise to boost our metabolism.
5. If any adverse effect is shown by the body then must consult with a Physician and take proper medicine.

LINKS:

<https://timesofindia.indiatimes.com/city/jaipur/rising-cases-of-food-poisoning-in-wedding-feasts/articleshow/91527868.cms>

<http://pvhs.org/documents/Pharmacy Services/Food and Drug Interaction> .

REFERENCES

1. Brown PJ, Wright WB. An Investigation of the interactions between milk proteins and tea polyphenols. *J Chromatogr.*
2. Hidaka M, Okumura M, Fujita K, Ogikubo T, Yamasaki K, Iwakiri T, et al. Effects of pomegranate juice on human cytochrome.
3. Wu SC, Yen GC. Effects of cooking oil fumes on the genotoxicity and oxidative stress in human lung carcinoma.
4. Wąsowicz E, Gramza A, Hes M, Jelen HH, Korczak J, Malecka M, et al. Oxidation of lipids in food.
5. Vladykovskaya E, Sithu SD, Haberzettl P, Wickramasinghe NS, Merchant ML, Hill BG, et al. Lipid peroxidation product 4-hydroxy-trans-2-nonenal causes endothelial activation by inducing endoplasmic reticulum stress.
6. Esterbauer H, Schaur RJ, Zollner H. Chemistry and biochemistry of 4-hydroxynonenal, malonaldehyde and related aldehydes.
7. Bhatnagar A. Electrophysiological effects of 4-hydroxynonenal, an aldehydic product of lipid peroxidation.
8. Blasig IF, Grune T, Schonheit K, Rohde E, Jakstadt M, Hselof RF, et al. 4-Hydroxynonenal, a novel indicator of lipid peroxidation for reperfusion injury of the myocardium.
9. Luo X, Everovsky Y, Cole D, Trines J, Benson LN, Lehotay DC. Doxorubicin-induced acute changes in cytotoxic aldehydes, antioxidant status and cardiac function.
10. Adam O, Beringer C, Kless T, Lemmen C, Adam A, Wiseman M, et al. Anti-inflammatory effects of a low arachidonic acid diet and fish oil in patients with rheumatoid arthritis.
11. El-Seweidy MM, Hashem RM, Abo-El-matty DM. Frequent inadequate supply of micronutrients in fast food induces oxidative stress and inflammation in testicular tissues.
12. Kaneda M, Okano M, Hata K, Sado T, Tsujimoto AN, Li E, et al. Essential role for de novo DNA methyltransferase Dnmt3a in paternal and maternal imprinting.
13. Food Research International by Elsevier
14. Journal of Food Science by the Institute of Food Technologists
15. Lebensmittel-Wissenschaft und -Technologie by Springer
16. Journal of Agricultural and Food Chemistry by the American Chemical Society
17. Food Chemistry by Purdue University
18. Food Chemistry by MIT OpenCourseWare
19. Food Chemistry by Khan Academy
20. Food Chemistry by Y.H. Hui
21. Food Chemistry by Dennis D. Miller and B. Caballero
22. Food Chemistry by Owen R. Fennema

ELS-0035

A STUDY ON AVIAN BIODIVERSITY IN FOLKLORE AND FOLKSONGS OF SHEKHAWATI REGION OF RAJASTHAN, INDIA.

K. C. SONI*, SHIKHA SONI AND SUBHASH SHARMA*****

* Department of Zoology, Govt. Lohia P. G. College, Churu (Rajasthan)

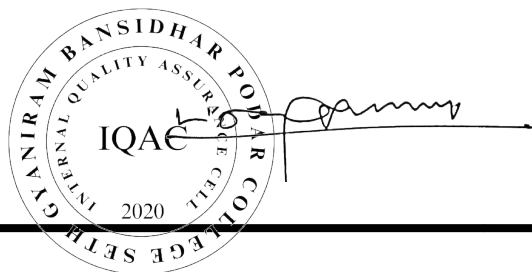
** Research Scholar, M.D.S. University, Ajmer (Rajasthan)

*** Professor of Zoology, M.D. S. University, Ajmer(Rajasthan)

Email – kcsibis@yahoo.com

ABSTRACT

Shkhawati is the newly declared division of Rajasthan, which includes Churu, Jhunjhunu and Sikar districts. The shekhawati area is very rich in cultural tradition of folk songs, folklore and frescos paintings of havelis. The present work is carried out in three districts of shekhawati division and personal interviews were taken in rural as well as urban areas. We have collected about 100 folk songs based on birds and about 200 folk-lores related to avian biodiversity. These folk lore's and folk songs explain the hidden treasure on indigenous knowledge of ethno-ornithology. The present study focuses on the description and presence of avian biodiversity and symbolism in Rajasthani folk songs and the impact of industrial growth and Diaspora resulting in decline of bird's population as well as in cultural tradition. The present study creates a concrete account of these ethno-ornithological aspects of birds and human relationships.



ELS-0036

Availability of Floride in Mandawa Ground Water**POONAM SHARMA AND DR. DAU LAL BOHRA**

Seth Gyaniram Bansidhar Podar College Nawalgarh (Raj.)

ABSTRACT

The availability of fluoride in groundwater is a critical aspect of environmental and public health, particularly in regions where groundwater is a primary source of drinking water. This study focuses on Madawa, a region grappling with water-related challenges, to evaluate the concentration of fluoride in its groundwater and its potential impact on the local population. The research employs a comprehensive approach, combining field surveys, hydrogeological analysis, and water quality assessments. Groundwater samples were collected from various wells across Madawa, representing different depths and geological formations. These samples were analyzed using state-of-the-art laboratory techniques to determine fluoride concentrations. Concurrently, hydrogeological investigations were conducted to understand the geological factors influencing fluoride levels in the groundwater. The findings reveal significant variations in fluoride concentrations across different areas of Madawa. Some regions exhibit elevated fluoride levels, surpassing the permissible limits set by international standards for safe drinking water. The hydrogeological analysis suggests a correlation between geological formations and fluoride concentration, emphasizing the influence of local geology on water quality. High fluoride levels were associated with specific geological formations, indicating localized sources of contamination. The study also explores the potential health implications of elevated fluoride levels in Madawa's groundwater. Chronic exposure to high fluoride concentrations has been linked to dental and skeletal fluorosis, posing significant health risks to the community. Understanding the distribution and sources of fluoride in groundwater is crucial for implementing effective mitigation strategies and ensuring the provision of safe drinking water. The implications of this research extend beyond Madawa, serving as a valuable case study for regions facing similar challenges worldwide. The findings underscore the importance of regular monitoring, community awareness, and sustainable water management practices to mitigate the adverse effects of excessive fluoride in groundwater. Moreover, the study highlights the need for collaboration between researchers, policymakers, and local communities to develop context-specific solutions that address the complex interplay of geological, hydrological, and health factors influencing groundwater quality. In conclusion, this research contributes valuable insights into the availability of fluoride in Madawa's groundwater, shedding light on the potential risks to public health and emphasizing the importance of proactive measures to ensure access to safe drinking water for the local population.

EGS-003

CLIMATE CRISIS: A SHARED RESPONSIBILITY FOR ALL DEEPAK KUMAR

Assistant Professor (Geography)
Seth Gyaniram Bansidhar Podar College, Nawalgarh

ABSTRACT

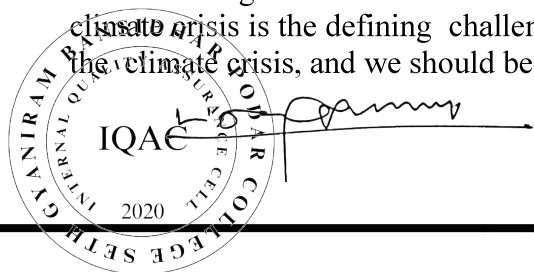
As our world is progressing and becoming more modernized thanks to technological advancements, the more toll it takes from the environment. In today's time climate crisis is one of the most concerning issues (if not the most) which humanity faces, as COP 28 proceeds in United Arab Emirates which is an opportunity to identify global solutions for limiting Global temperature rise to 1.5 degrees which is a major concern for nations, which are situated in coastal areas. The Climate Crisis impacts every country of the world but especially the Global South countries and the small Island Nations as these countries do not have enough capital and technical ability required to tackle those problems. We have very often seen that the Developed (Global North) Countries blame the Developing or Underdeveloped (Global South) Countries for the climate crisis and they try to escape their liability on this issue. There is no sense of justice here. This paper will look upon

- (a) What is a climate crisis and its effect upon the world?
- (b) The different types of problems which the Global South countries face by focusing on Seychelles, a small island state.
- (c) The blame game of the Developed World and how their approaches against climate changes are somewhat deceiving in nature.
- (d) Lastly, we would focus on the ways through which the world could solve this climate crisis in a 'just way' so that this does not remain as an onus only for some countries.

Keywords: Greenhouse gases, Carbon Emission, Seychelles, Climate Justice, and Climate Finance.

INTRODUCTION:

Climate change and global warming is a reality and human activities, mainly greenhouse gases and carbon emission are responsible for this. Given their devastating acts it would not be wrong to call climate change and global warming an emergency, thus it is often called a climate crisis. The climate crisis is not waiting for us to act, it is here and getting worse each year. The world continues to get warmer at an alarming rate putting every living species in grave danger. The climate crisis is the defining challenge of our generation. Scientists are clear about the reality of the climate crisis, and we should be too.



Climate Crisis

Climate crisis is a precise term, given the ineffective actions regarding climate change this term projects the severity of the issue and need for immediate action. According to climate scientists this problem is as much a social problem as a scientific problem, thus, to ensure a mass participation in this, scientists decided to call climate change as 'climate Crisis' as the term crisis adds urgency or emergency to the situation and given the human psychology we often do not act until the sword is hanging over our head. We can say that this trick has worked as now more and more people are realizing that climate crisis is a huge problem for humanity and our planet and this can be seen in the poll conducted by UN named as “People’s Climate Vote” (1) (United Nation, 2021) 50 countries(with over half the world’s population) the sample size was of 1.2 million people among this almost two-third of the people believed that climate crisis is a global emergency and they urged greater action from world leaders to address this crisis quickly and to create favorable policies for the same. Climate scientists have shown that it is human activities which are responsible for virtually all global warming over the past two centuries. Human activities like burning of fossil fuels (coal, oil etc.) are releasing greenhouse gasses like CO₂, CH₄ (methane) into the atmosphere and also helping in carbon emission, which are warming the world faster than at any given time in the last two thousand years. The average surface temperature of earth is now 1.1°C warmer (2) (IPCC, 2021) than it was in the late 1800s (before the industrial revolution) and warmer than at any time in the last 100,000 years. The last decade (2011-2020) was the warmest one ever recorded (3) (IPCC, 2021) and each of the last four decades has been warmer than any previous decade since 1850.

Effects of Climate Crisis

The effects of the climate crisis are interrelated where one thing leads to another because the Earth is a system where everything is connected, changes in one area can influence changes in all others. If we look at some of its effects, then we see that due to global warming and they are as follows: -

Hotter temperatures:

With rising greenhouse gas concentrations, the global surface temperature also increases. Since the 1980s, every next decade has been warmer than the previous one. Countries around the globe are now experienced hot days and heat waves and hotter temperatures.

Climate Change:

Most visible and prominent effects of global warming and increasing carbon emission can be seen through the erratic change in the climate of different regions around the world. Countries are now experiencing extreme types of weather events where some countries are facing severe heat waves which leads to more frequent droughts, (which ultimately leads to desertification of arable land), water scarcity and also to wildfires, whereas some countries on the other hand witness excessive rainfall, flooding, uneven wind patterns and heavy snowfall and then there are countries also which experience

these conditions all together. These climate changes lead towards loss of human lives and huge economic loss too.

Increasing Severe Storm:

With the increase in the surface temperature of water bodies we observe that more disastrous storms are frequently formed in many regions. Cyclones, hurricanes, and typhoons need and thrive on the warm ocean surface because it creates the low-pressure zone in the oceans which helps in the propagation of these storms. Storms very often cause deaths and result in huge economic and capital losses.

Rising sea level:

The rate at which the oceans are getting warmer has increased in the last two decades. As the ocean warms its volume increases because water expands as it gets warmer, which further leads towards rising water levels across the globe. Melting ice sheets and polar ice caps also cause sea levels to rise, this serves as a challenge to the existence of small island nations and also poses a grave danger to the coastal lines of the countries. The oceans also absorb carbon dioxide from the atmosphere, the more water in the ocean the more carbon dioxide it absorbs which makes the ocean more acidic (ocean acidification), which endangers marine life and coral reefs.

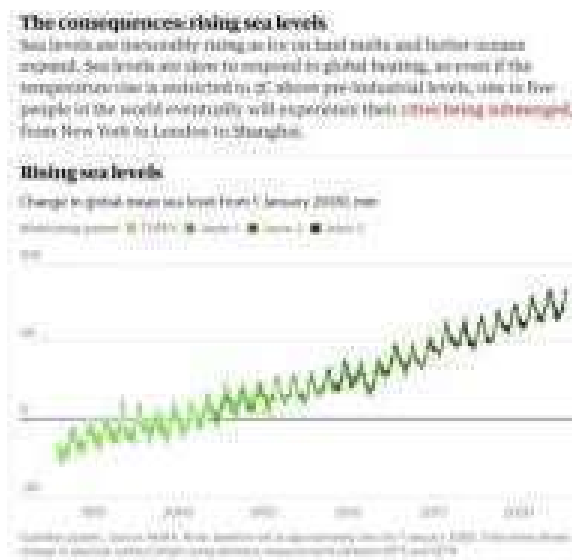


Image Credit: The Guardian



Food Crisis:

Extreme weather events also lead towards food crisis, hunger and poor nutrition. Fisheries, crops and their yields, livestock may be destroyed or become less productive. With the

increasing acidification of the ocean, marine resources which are food to billions of people are at risk. Droughts and heatwaves which lead towards water scarcity and desertification of fertile land along with extreme rainfall followed by flooding pose a serious challenge to agriculture because it's not an easy job to grow crops in these extreme conditions thus we witness less yield of crops which could give birth to a hunger crisis. These extreme conditions also result in scarcity of drinking water which is limited in quantity posing a much greater risk to humanity. More health risks Climate change also poses a great risk to human lives. The increase in the frequency and severity of heat waves, wildfires, droughts, floods, landslides, storms, have taken many human lives. But apart from these

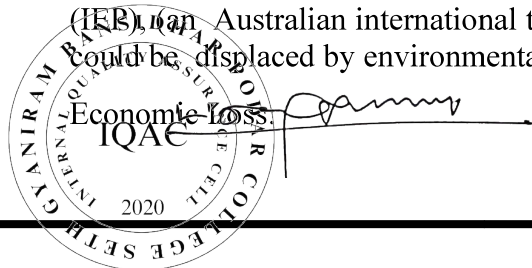
climate change also poses the risks of diseases, infection, virus breakout etc. With increasing air pollution and smog causes diseases such as asthma, heart related issues and lung cancer etc. The changing climate means that mosquitoes, birds and mammals will come out of their previous habitats in search for more suitable places, which increases the chances of spread of infectious diseases with them. Mosquito-borne diseases such as dengue, chikungunya, Zika, West Nile virus and malaria could spread more due to climate change. WHO says that Climate crisis a ‘substantial risk’ to fight against malaria. (4) (Sarah Johnson, 2023) Storms and floods often create stagnant water which is not only perfect breeding grounds for mosquitoes, but it also increases the risk of water-borne diseases such as cholera, typhoid and diarrhea. Scientists also fear that due to climate change new types of pathogens, bacteria, viruses could form, which could result in the formation of a totally new type of pandemic. Not only humans but all the living creatures and species of the planet are severely affected by this climate crisis and some even face the threat of being extinct in the next few decades.

Poverty and Migration:

Climate change increases the odds of pushing more people below the poverty line. Floods may sweep away urban slums which results in destroying homes and livelihoods, excessive heat makes it difficult to work in outdoor jobs. Water scarcity may affect food production which could also lead towards poverty and hunger. Climate crisis also contributes to migration. Climate migration occurs when people leave their habitual place of residence, either temporarily or permanently and move within the country or across an international border due to the sudden and unpredictable change in their local environment due to the climate change. Climate migration generally happens due to excessive heat, water scarcity, droughts, shoreline erosion, urban and coastal flooding and agricultural disruption. Most migrants are from places that are most vulnerable and least ready to adapt to the impacts of climate change. Generally, it is seen that people move within their country rather than going to a foreign state as far as climate migration is concerned.

To give a number to this migration here is a report named ‘The Ecosystem Threat Register’ (ETR) released in September 2018 by the ‘Institute for Economics and Peace’ (IEP), an Australian international think tank) which shows that at least 1.2 billion people could be displaced by environmental threats by 2050. (5) (Peace, 2021)

Economic Loss



Climate crisis also results in huge economic losses, as the report published by published by the Swiss Re Institute in April 2021 named as ‘The economics of climate change: no action not an option’ (6) (Institute, 2021) predicts that the global GDP is set to lose around 11 percent by 2050 if the Paris Agreement and carbon emission target are not met. The Global South countries would bear the majority of this loss, as depicted in the figure below.

	Postgraduate level economic loss estimates, by world economy			
	World before 2°C increase Paris target	2.0°C increase The study range of global temperature gains	2.5°C increase	3.2°C increase Business case
Estimating the economic loss impacts from rising temperatures in % GDP, relative to a world without climate change (GDP)				
World	-4.2%	-11.0%	-13.9%	-16.1%
OECD	-3.1%	-7.6%	-8.7%	-10.8%
North America	-3.1%	-6.0%	-6.6%	-8.5%
South America	-4.7%	-10.8%	-13.0%	-17.0%
Europe	-2.8%	-7.7%	-8.0%	-10.5%
Middle East & Africa	-4.7%	-14.0%	-21.5%	-27.0%
Asia	-5.1%	-14.3%	-20.4%	-26.5%
Advanced Asia	-3.0%	-8.5%	-11.7%	-15.4%
ASEAN	-6.2%	-17.0%	-28.0%	-37.4%
Oceania	-4.0%	-11.2%	-12.2%	-16.5%

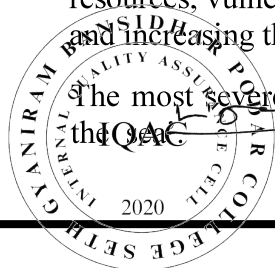
Image credit: Swiss Re Institute

The report published by University of Delaware named as ‘Loss and Damage Today: How climate change is impacting output and capital’. This report shows that low and middle-income countries have experienced capital losses worth \$2.1 trillion due to climate change in the course of time which would rise further if nothing were done. (7) (Anand, 2023) This further proves that the global south (developing or underdeveloped) countries suffer the most from the climate crisis, but then also the global north countries blame them for this climate crisis as if they are the only one emitting carbons and greenhouse gases.

Case Study of Seychelles:

Seychelles is an island country and an archipelagic state comprising 115 islands located in the western side of the Indian ocean. It is part of the African continent. Seychelles is also part of ‘Small Island Developing States’ (SIDS). It is a group of small island countries which are developing countries too, they share similar ‘sustainable challenges’ which include limited resources, vulnerability to natural disasters and others. Most members of this group face severe and increasing threats due to the climate crisis.

The most severe threat which Seychelles faces due to climate change is ‘Rising the levels of the QAC’



As we know Seychelles consists of 115 islands with an average elevation of 2m above sea level, according to an IPCC report the global sea level could rise from 66cm to 110 cm higher than the today's level till year 2100. (8) (R. WARRICK, 1991) As per Seychelles' ambassador for climate change Ronald Jumeau, 80% of the population live and 80% of economic activity occurs in coastal regions (9) (Page, 2017). If these estimates prove right then Seychelles would lose much of its coastal regions to the ocean as they will either sink or might be on the verge of sinking, then this would trigger a mass migration people would move towards inland creating ruckus and scarcity of the resources. Further the tourism driven economy of Seychelles would also take a huge hit.

Rising sea level could also result in the erosion and salinization of the coastal arable land which could severely impact agriculture and could even lead towards a food crisis.

Due to the Global Warming, we are now observing increase in the 'average mean surface air temperature' and change in the precipitation events of the Seychelles. (10) (Climate Change Overview, 2021) This indicates that Seychelles climate is now a much warm and wet one, there would be longer dry spells (drought like situation) followed by an event of intense precipitation. This type of climate creates enormous pressure on the resources of the country and is also prone to disasters such as storms, excessive rainfall and droughts which results in economic loss. Seychelles from the past two decades have witnessed higher temperatures, heat waves, droughts followed by excessive rainfalls, floodings, landslides and storms on a regular basis. Climate change is also severely impacting coral reefs and mangrove forests of the Seychelles. Coral reefs are like a boon for countries like Seychelles given their properties they serve as a breeding ground and natural habitat for fishes and other marine creatures, and they are the main component of the underwater ecosystem. They also save the coastal regions from erosion as they reduce the impact of the wave energy by 97% and also help in saving human and capital loss. Coral reefs are also very important from a tourism point of view as they attract a lot of tourists. But due to the rising surface temperature of the ocean, increasing ocean acidification and sedimentation there is an increase in the bleaching (corals turn white in color) of the coral reef of Seychelles, this bleaching makes the coral very weak and if prolonged it results in their death. Bleaching Events have been noticed in 1998, 2016 due to El Nino which resulted in bleaching of 90% of the coral reef of Seychelles and after the 2016 events the coral coverage of the reefs reduced from 50% to 5%. (11) (Page, 2017) In 2019 the last time the bleaching occurred was due to the rise in the sea surface temperature and ocean acidification. Scientists believe that if climate change is not controlled then the annual bleaching of coral would start by 2050 which could possibly pose a threat to the existence of Coral reef of the Seychelles.

All these effects of the climate change would severely impact the tourism and fishing sector of the Seychelles economy, and majority of the Seychelles people have either a direct or indirect job related to these two sectors, thus those people would become jobless if those two sectors are adversely affected and on whole the economy of Seychelles would take a pretty bad hit if the climate change is not curbed. Ultimately problems like migration, increased health risks and others would follow.

The Blame Game of The Global North:

As we know, climate change is one of the most severe challenges which the world is facing and presently it is not less than any crisis. The biggest reasons for this crisis are the Carbon emission and greenhouse gases emission. By taking into account the current level of carbon and greenhouse gases emission by the global south (developing or underdeveloped) nations, the global north (developed) nations blame them for their increasing share in the emissions from the past two decades and they call for the stringent cuts in the emissions of the global south and by doing this they attempt to shift the responsibility of climate change onto the developing countries, and they try to escape their liability on this issue. The climate crisis is the result of the cumulative buildup of the emission of greenhouse gases and carbon (fossil fuels consumption) in the atmosphere which started with the onset of the industrial revolution (was started by today’s global north countries) and not only due to the emissions of the recent times. If we look at the data since 1850 then we would find that the largest emitters of the greenhouse gases (in total and in per capita terms) are the global north countries like the US, UK, Germany etc. These nations became developed, industrialized and grew their respective economies by burning fossil fuels (coal, oil) and emitting an unrestricted amount of carbons and greenhouse gases like CO₂, CH₄ (methane) through their factories, vehicles and homes. The image below depicts fossil fuel consumption by countries.

The countries with the largest cumulative emissions 1850-2021

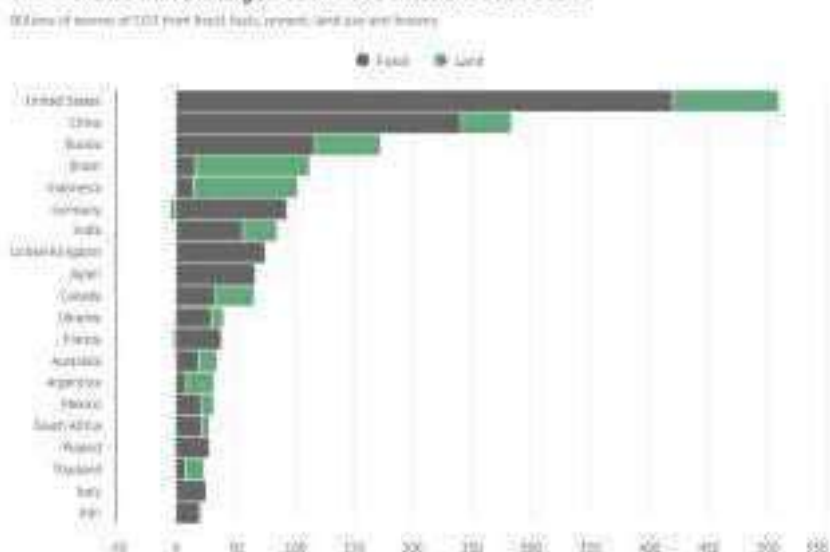
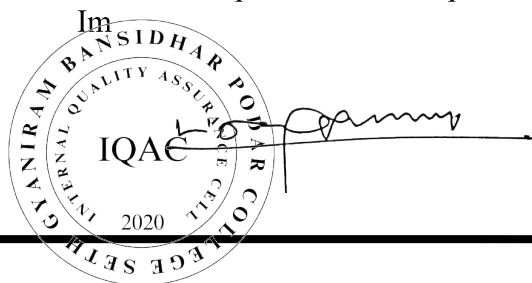


Image Credit: Carbonbrief.org

In today’s time also these big developed countries are emitting these gases in disproportionately way, given their size, although countries like China and India have seen rapid greenhouse gases emission increases in the first two decades of the century but given their huge population they emit very less per capita when compared with the developed nations. The picture below depicts carbon emission per capita by countries.



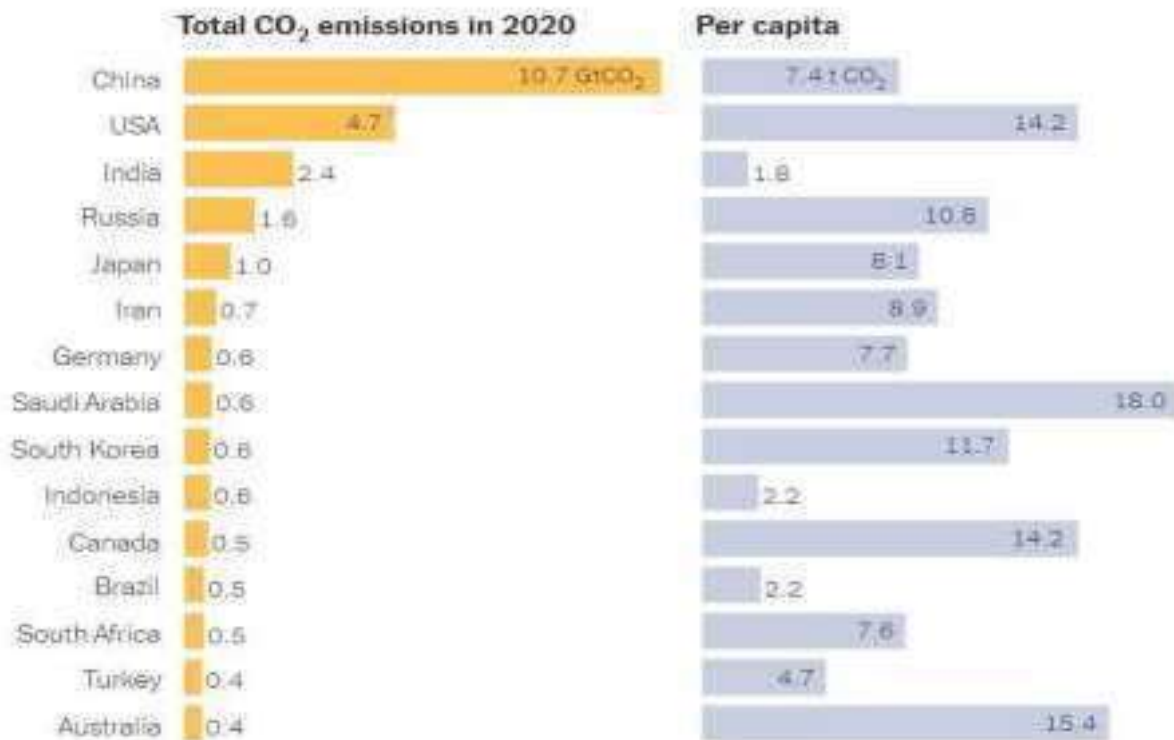


Image Credit: The New York Times

Yes, the emission of the Global south countries is increasing now and that of the Global north is now decreasing. The main reason behind this is that we are now witnessing rapid growth in the developing countries

as they want to be developed and become more modernized and be at par with the Global North nations. The developed nations made most of the industrial revolution and the developing nations want to replicate that feat but in doing so the developing countries must be cautious towards the emission of carbon and greenhouse gases and must reduce them wherever they can.

The main reason for the decrease in the emissions of the Global North is that the developed nations have managed to outsource more than half of their emissions to the developing nations, and they have also exported their pollution emitting companies and factories there in order to meet its

production needs. (12) (Shan Jie, 2021) There is also a difference between the motivation of the emissions of the global north and global south countries. The Global South is emitting more carbon and greenhouse gases in order to provide basic facilities and fulfill basic needs of their people whereas the emission from Global North is mainly to provide luxury and associated lifestyles to their people, but in per capita terms the rich developed nations are still emitting more than the developing nations. Thus, it would be unjust to think that the developing nations must cut down their emissions at the same level as the developed nations, as the developing nations do not have adequate financing and technology required for smooth implementation of this process.

Deceiving Approach of The Global North:

The Global North countries have indeed made some progress in cutting down their carbon and greenhouse gases emissions which is appreciable but overall, according to me their approach regarding climate change is deceiving in nature. In the following points I will describe this. Firstly, the developed countries, at the 15th Conference of Parties (COP 15) of the UNFCCC in Copenhagen in 2009 agreed to provide \$100bn a year by 2020 to the developing countries for managing climate actions, this plan was formalized next year in COP16 Cancun, but not once the targets have been achieved and thus the plan was delayed till 2025 this shows their lack of seriousness regarding the matter. Furthermore, the major chunk of the money which is provided under this agreement is given as loans and not as grants, which is increasing debt to the developing countries. (13) (Kozul-Wright, 2023). According to many developing countries this sum is very less, and this is not enough and it is only a fraction of what is needed for them to meet their climate goals in accordance with the Paris Agreement. Based on the recent analysis of financing needs United Nations Framework Convention on Climate Change's it was estimated that the developing countries require at least \$6 trillion (about \$18,000 per person in the US) by 2030 to meet less than half of their existing Nationally Determined Contributions. (14) (Kozul-Wright, 2023)) The developed countries have also resisted the calls for the creation of a new “loss and damage” fund, this mechanism calls on the rich developed countries to compensate developing poor ones for the "loss and damage" caused by climate change, it is important because the developing countries who have low level of emission suffer the most from the climate change and they do not have enough and required resources to mitigate the climate change. The developed countries also do not share the latest devices and technologies with the developing world which would help them in reducing emissions and meeting their climate, but they rather sell it to them and make their profits and increasing burden on the purse of developing nations. Secondly, if we look at the reports of Climate Action Tracker it shows that the goals set up by the developed nations are ‘insufficient’ in meeting the target set up by the Paris Agreement. (15) (Countries, 2022) Given their technological advancements and funding it should be better than this. Thirdly, the USA, the second largest emitter of Carbon in the world, getting out of the Paris Agreement shows their accountability towards other countries. The developed countries such as Germany, Australia, Canada, UK, US etc. emit more carbon at per capita level when compared with the global standards and they blame global south countries for higher emission, which still emits less than these countries in per capita terms. Fourth, the global north countries in order to keep their emission rates down and keep their country clean, not only they outsource and export more than half of their CO2 emission to the developing countries in form of pollution emitting factories and they also export their plastic and e wastes to these for recycling purposes which if not handled properly turns out to be very dangerous and they are the source of large amount of carbon emission and they also release harmful gases like Carbon Monoxide, Methane etc. After doing all these things the Global north have the audacity to blame the global south countries and they try to shed their responsibilities towards climate change even though they have majorly contributed to the accumulation of the harmful gases in the atmosphere which paved the way for Global Warming and climate change.

How we can tackle Climate Crisis in Just Manner:

Climate Crisis is here, and it is a reality which is not waiting for us to act, this is the most defining challenge of our time which poses threats on multiple fronts and our inactions against

this would have devastating impacts. Climate crisis is not only a scientific problem it is also a social problem too, as its effects range from hotter temperature, extreme weather rising sea levels to food crisis, mass migration to health risks and from loss of lives to economic and capital loss. If we do not act now, it will be very late. Nature knows no international boundaries, air and water travel with ease from one country to another and the same is the case for pollutants. No country is immune to the climate crisis. It impacts each and every nation. The severity could be different, but everyone faces it. So, the fight against the climate crisis is a collective and shared responsibility for all of us and not just for a handful of countries, every nation would have to contribute to this. But we must also make sure that the mitigation efforts involved against the climate crisis are ‘just’ in nature as every country involved in this is not on an equal footing with the others. Here are some measures through which we can tackle climate in a just way.

(1) Common But Differentiated Responsibility Common but Differentiated Responsibilities (CBDR) is a principle of international environmental law within the United Nations Framework Convention on Climate Change (UNFCCC) establishing that although all states are responsible for addressing global environmental problems, yet they all are not equally responsible for those problems. This principle also acknowledges different capabilities and differing responsibilities of individual countries in addressing climate change. The principle of CBDR was formalized in Earth Summit 1992, held in Rio de Janeiro, Brazil. CBDR contains two elements- one is the common responsibility of all the states towards the concerns of environmental protection, climate change and sustainable development and the other is the differentiated responsibility where the states on the basis of their capabilities, capacity would work on climate change and environment protection. CBDR focuses not on equality but on equity, focusing on the middle path, which is beneficial for all, it is a sort of compromise for both the developed and developing countries. It is a more just and fair approach as it balances, on one side, the need for all states to take responsibility for global environmental problems, with the other side, the need to recognize the wide differences in levels of economic development between states. During the Rio negotiations the common but differentiated responsibilities principle was rejected by the USA and thus it could not reach a consensus and as a result it often gets sidelined in environmental debates.

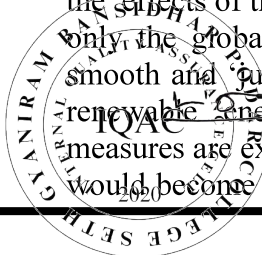
(2) Proactive role of Rich Developed Nations As we know, the climate crisis is happening due to the cumulative build up of greenhouse gases and carbon emissions which started from 1850 (with the onset of the Industrial Revolution by the developed countries) and not due to the recent increase in the emission rates of the developing countries. If we look upon the data then we will find that it is the developed nations which have higher emission rates when compared with the developing nations, even though they have smaller populations as compared to the developing world. But it is the poor developing nations which suffer and are most vulnerable to climate change as they do not have required resources to mitigate climate change and adapt according to it. Here the developed nations should come to the aid of the poor nations and must help them with every and any means necessary, playing a proactive role. They must take the initiative as they have the greatest responsibility towards climate change and global warming, but they should also help the other countries to mitigate or adapt to climate change. The developed nations given their technological advancements and strong purse should now move towards carbon neutrality more quickly and

must invest more in clean and green energy and must work on techniques to how these can be produced at more affordable rates so the developing countries could also reap its benefits. The quicker mitigation from the side of the developed nations would give more time to the developing nations to achieve their climate goals. I would also like to add that developing nations should be aware of their recent rise and also do more to curb their emissions. After all, it is the collective responsibility of all to fight the climate crisis and not just of global north or global south countries.

(3) Climate Justice ‘Climate Justice’ takes into account that the effects of the climate crisis are highly unequal and how it can have different social, economic, public health, and other adverse impacts on those populations which are least responsible for climate change and calls for fair distribution of the burdens of climate change. Climate justice acknowledges climate change as an ethical and political issue, not as purely environmental or physical in nature, it also addresses concerns regarding human rights and social inequality with respect to the climate crisis. Climate justice also calls for sustainable development by keeping in mind the developmental needs of the global south.

(4) Climate Finance Climate Financing refers to large scale investments which are required for climate actions aiming to mitigate or adapt to the consequences of climate change. The funds/investments are drawn from public or private, national, international, multinational and alternative sources. Climate financing is very crucial for the poor developing countries as they are the most vulnerable to climate change and they suffer most from it too, they rely on the funds from the developed countries or multinational institutions. But the problem with funds which they get is that the funds provided are very low. According to experts the funds are up to six times less than what it needs to be. Secondly, the funds which they get the majority share are in the form of loans which have been non-concessional, very few are given as grants, this is increasing debt distress upon these countries and they end up paying more on debt structuring and not on climate adaptation every year. The true justice with the global south countries would be to increase the amount of the climate finances, this should be in line with the ‘nationally determined contributions’ of the countries and secondly the sum allocated for this purpose must be in the form of grants and not debts. These funds should be made easily available, there should be a regulating body to govern the proper utilization of the funds by the receiving country for the purpose of climate change. Increasing the ceiling of Climate Financing is the need of the hour. The creation of ‘Loss and Damage Funds’ at the recently held COP 28 in Dubai, is the first step towards this and a good initiative, although more funds should be pledged for this than allocated but nonetheless this would help the countries who suffer most from the effects of the climate crisis.

(5) Transfer of Technology as Technology plays an important role in our fight against the climate crisis and according to the UNFCCC development and transfer of technology is essential to support a nation’s climate action plan. Technology helps to mitigate and to adapt to the effects of the climate change at fast and more efficient rate Through the help of technology only the global south countries could cut down their emission level, this also helps us in smooth and ‘just’ transition from fossil fuel-based energy consumption to a clean, green, and renewable energy consumption like solar, wind and nuclear energy etc. Some of these measures are expensive for a developing country but with the advancements in technology they would become cheap, more effective and more climate friendly. The transfer of technology to



global south countries is important because these countries do not have the necessary technology required to mitigate climate change as proper use of technology saves a lot of money and makes lives easy for the people and would help in creating a more resilient and a cleaner world.

CONCLUSION:

The Climate Crisis is upon us. Its effects are more visible than ever, and it is the most defining challenge for our generation, which requires immediate action. If we do not act now, it will be catastrophic for us. Climate crisis is a global problem which requires participation from everyone but the responsibility of the global north (developed countries) is more because it is due to their unprecedented rate of greenhouse gases and carbon emission from the industrial revolution that we are witnessing this climate crisis, not only they must lead the fight against climate crisis (as they required resources like funds and technology) but they must also help the global south (developing nation) as well in order to mitigate and adapt to the effects of the climate change by providing them with adequate funds and technology as it is these nations which suffer the most from the climate crisis. The global south would also have to bear its responsibility in this too by reducing their emission levels wherever they can and switching to more green and clean energy and reducing their dependence on fossil fuels. Although there is some cooperation, often we witness blame games between the global north and south. We all would have to rise above all this and if we all can act as one and be together in this and with ‘fair and just’ distribution of responsibility we can win this race against the climate crisis, but we need immediate action. Tackling the climate crisis is not an onus only on either global north or global south countries, it requires a global response and shared responsibility from all.

References:

1. United Nation. (2021, January 27). Retrieved from UN news: <https://news.un.org/en/story/2021/01/1083062>
2. IPCC . (2021, August 9). Retrieved from IPCC : <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>
3. IPCC . (2021, August 9). Retrieved from IPCC : <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>
4. Sarah Johnson, V. S. (2023, Nov 30). Climate crisis a ‘substantial risk’ to fight against malaria, says WHO. Retrieved from The Guardian: <https://www.theguardian.com/global-development/2023/nov/30/who-climate-crisis-presents-a-mounting-threat-to-fight-against-malaria>
5. Peace, I. f. (2021). The Ecological Threat Register. New York: Institute for Economics and Peace.
6. Institute, S. R. (2021). The economics of Climate Change: no action not an option. Zurich: Swiss Re Institute.
7. Anand, A. (2023, Dec 02). COP28: How much does loss and damage from climate change cost? Retrieved from mint:

<https://www.bing.com/search?q=livemint&form=ANNTTH1&refid=04f057eda6c145379bbaddf79111d923&sp=1&ghc=1&lq=0&q=LS&pq=livemi&sc=10-6&cvid=04f057eda6c145379bbaddf79111d923>

8. R. WARRICK, J. O. (1991). Sea Level Rise. In G. a. J.T.Houghton, CLIMATE CHANGE (pp. 257-281). Cambridge: Press Syndicate of the University of Cambridge.

9. Page, O. Y. (2017, July). Climate change and Uneasy future in Seychelles. Retrieved from CNN:

<https://edition.cnn.com/2017/07/10/africa/seychelles-climate-change-coral/index.html>

10. Climate Change Overview. (2021). Retrieved from Climate Change Knowledge Portal:

<https://climateknowledgeportal.worldbank.org/country/seychelles>

11. Page, O. Y. (2017, July). Climate change and Uneasy future in Seychelles. Retrieved from CNN:

<https://edition.cnn.com/2017/07/10/africa/seychelles-climate-change-coral/index.html>

12. Shan Jie, H. L. (2021, November 21). GT investigates: How developed nations shift blame on climate change. Retrieved from Global Times:

<https://www.globaltimes.cn/page/202111/1237976.shtml>

13. Kozul-Wright, R. (2023). A climate finance goal that works for developing countries. Retrieved from UNCTAD:

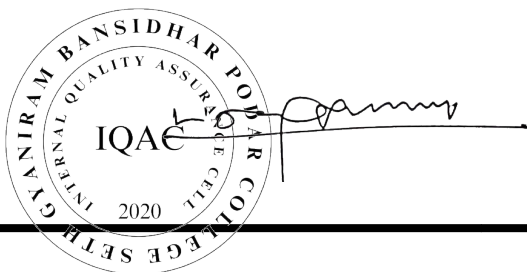
<https://unctad.org/news/climate-finance-goal-works-developing-countries>

14. Kozul-Wright, R. (2023). A climate finance goal that works for developing countries. Retrieved from UNCTAD:

<https://unctad.org/news/climate-finance-goal-works-developing-countries>

15. Countries. (2022). Retrieved from Climate Action Tracker:

<https://climateactiontracker.org/countries/>



EGS-004

TRADE ROUTE AND MIGRATION HISTORY OF ASIA SHANTILAL JOSHI & SUNIL KUMAR SAINI

Assistant Professor (Geography)

1 Head of Department Seth Gyaniram Bansidhar Podar College, Nawalgarh

2 Assistant Professor (Geography) Seth Gyaniram Bansidhar Podar College, Nawalgarh

ABSTRACT

The Silk Road is an ancient trade and migration route that traverses the Central Asian geography. This article examines the interaction between geopolitics, climate, natural resources and trade along the Silk Road. It explores the migration history of the region, examines today's problems and offers various solutions. The aim is to use the unique characteristics of the region to promote the Silk Road in order to promote economic growth, sustainable trade and cultural exchange in the region.

Keywords: Silk Road, Trade Route, Migration History, Central Asian Geography, Geopolitics

Historical Geography of Migration:

The historical geography of migration along the Silk Road is a tapestry woven with threads of different cultures, civilizations and economic exchanges. This migration route lasting several centuries left an indelible mark on the landscape of Central Asia. Once the epicenter of a flourishing trade, the Silk Road connected East and West and fostered a dynamic exchange of not only goods but also people.

Cultural Crossroads:

The Silk Road served as a melting pot of cultures, where different ethnicities mingled, trading ideas, languages and traditions. Cities along the route, such as Samarkand and Bukhara, became vibrant centers of cultural exchange, attracting traders, scholars and migrants from far and wide.

Trade and migration dynamics:

The historical movement of people along the Silk Road was intricately connected with trade routes and economic activities. Merchants, traders, and artisans traveled vast distances and contributed to the spread of cultural practices and technological innovations.

Nomadic tribes and settled communities:

Nomadic tribes such as the Scythians and Mongols were an integral part of historical migration patterns, moving seasonally across the steppes. Settled communities along the Silk Road adapted to the ebb and flow of migrating populations, affecting local demography and social structures.

Religious Propagation:

The Silk Road facilitated the spread of the world's major religions, including Buddhism, Islam, and Christianity. Monasteries, mosques and churches became centers of religious influence, attracting pilgrims and promoting religious diversity.

Imperial conquests and migrations:

Imperial conquests such as those of the Mongols and the Timurids led to significant population movements and demographic shifts. The movement of conquered peoples and the establishment of new administrative centers shaped the geopolitical landscape.

Caravanserais and urbanization:

Caravanserais, strategically located along the Silk Road, played a key role in accommodating travelers and promoting urbanization. These stops not only facilitated trade but also served as centers of cultural exchange and intellectual discourse.

Legacy of Silk Road Cities:

Historic cities that flourished along the Silk Road, including Kashgar, Khiva, and Xi'an, testify to the lasting impact of migration on urban development. Architectural wonders, marketplaces, and cultural institutions reflect the amalgamation of influences brought by migrating populations.

Decline and Revival:

The decline of the Silk Road due to geopolitical shifts and the rise of maritime trade routes marked the end of an era. Current efforts to revive the Silk Road, such as China's Belt and Road Initiative, aim to rekindle economic and cultural ties along historic migration routes.

Contemporary Migration Challenges along the Silk Road:

Today, the Silk Road, once celebrated for its role in fostering cultural exchange and trade, faces myriad challenges that have changed its narrative. The following aspects delve into the current migration challenges on the Silk Road and shed light on the complex issues facing migrants and the region as a whole:

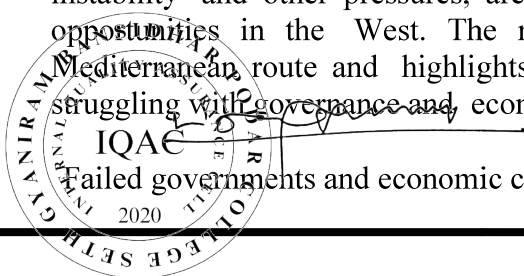
Illicit Trafficking Nexus:

The Silk Road has turned into a conduit for illicit activities, primarily narcotics and human trafficking. Organized crime networks exploit porous borders and extensive road networks and use them to facilitate the illegal movement of contraband and individuals.

Patterns of migration from Southeast Asia:

Migrants fleeing Southeast Asian countries, driven by socioeconomic hardship, political instability and other pressures, are navigating the Silk Road in search of refuge and better opportunities in the West. The route through Central Asia offers an alternative to the Mediterranean route and highlights the challenges faced by those passing through countries struggling with governance and economic crises.

Failed governments and economic collapse:



Many Southeast Asian countries have faced governance failures and economic collapses, prompting their citizens to seek alternative migration routes. Central Asian nations along the Silk Road are grappling with the consequences of hosting and facilitating the passage of migrants through territories marked by poor governance and economic problems.

Climate crisis and environmental impacts:

Climate crises, including extreme weather events and environmental degradation, contribute to the challenges faced by migrants on the Silk Road. Changing climate patterns in Central Asia are affecting resource availability and exacerbating existing socio-economic vulnerabilities, further complicating the migration environment.

The overlooked refugee crisis:

The historical appeal of the Silk Road often overshadows the current refugee crisis unfolding in the region. The plight of migrants fleeing conflict, persecution and socioeconomic hardship often goes unnoticed, raising questions about the region's commitment to addressing the humanitarian aspects of migration.

Reinventing the Iron Curtain:

The concept of the Iron Curtain, once associated with the ideological divide in Europe, reappears metaphorically along the Silk Road. Strict border controls, security concerns and reluctance to address the complexities of migration contribute to a figurative Iron Curtain, impeding the free movement of individuals and hindering regional cooperation.

Narco-terrorism and militancy:

Historically known for trade in valuable commodities, the Silk Road is now plagued by an infestation of narco-terrorism and militancy. The deliberate oversight of these security challenges raises questions about the region's ability to confront threats that go beyond traditional notions of trade and migration.

Unreported migration routes:

The migration routes of those who pass through the Silk Road often go unreported and are overshadowed by more widely covered migration routes. The lack of attention to the experiences and challenges faced by these migrants calls for a close examination of the human stories that intertwine in the current fabric of the Silk Road.

Addressing Migration Issues:

To alleviate migration problems, Central Asian countries together with international organizations must adopt a comprehensive approach. Strengthening governance, supporting economic development and addressing the root causes of migration are essential. Cooperation between nations is essential to create a coordinated response that ensures the safety and well-being of migrants while respecting human rights.

Reviving the Geographical Importance:

Several strategic approaches can be considered in the effort to revive the Silk Road as a center of legal and prosperous trade. These initiatives aim to capitalize on the geographic significance of the Silk Road, capitalize on historical symbolism, and promote regional cooperation for sustainable economic growth:

Infrastructure development:

Modernization of transport networks: Investments in the modernization of road and rail networks along the Silk Road are key. This upgrade improves connectivity, reduces transportation costs and facilitates smoother business flows.

Logistics and Trade Facilitation: The development of efficient logistics hubs and trade facilitation centers at key points along the Silk Road streamlines the movement of goods, reduces delays and increases overall trade efficiency.

Connectivity Improvements:

Technology integration: The incorporation of modern technologies such as GPS tracking, real-time monitoring and digital documentation can increase the efficiency and transparency of trade on the Silk Road.

Multimodal transport: The integration of different modes of transport, including road, rail and potentially air and sea routes, creates a comprehensive and resilient Silk Road network.

Regional cooperation:

Establishment of Free Trade Zones: The creation of free trade zones along the Silk Road promotes regional cooperation by reducing trade barriers, tariffs and bureaucratic obstacles. This promotes a more favorable environment for cross-border trade.

Harmonization of regulations: Alignment of trade regulations, customs procedures and standards between Silk Road countries promotes the smooth flow of goods and services and removes barriers.

Historical symbolism for investment:

Cultural and Heritage Tourism: Promoting cultural and heritage tourism along the Silk Road can attract investment. The preservation and display of historic monuments and artefacts creates a unique selling proposition for the region.

Public-Private Partnerships (PPP): Cooperation with private enterprises to restore and maintain historical monuments promotes responsible tourism and contributes to the economic development of the region.

Sustainable development initiatives:

Environmental protection: Integrating sustainable practices into trade and infrastructure development ensures the long-term health of Silk Road ecosystems. This includes measures to minimize the impact of increased business activities on the environment.



Community involvement: Involving local communities in the planning and implementation of development projects promotes a sense of ownership and ensures that the benefits of economic growth are shared equitably.

Investment support:

Incentives for Investors: Offering incentives such as tax breaks, reduced regulatory burdens and financial support can attract foreign and domestic investors to participate in Silk Road development projects.

Promotion and Marketing Campaigns: Strategic marketing of a revitalized Silk Road through global campaigns can attract international attention and attract investment and partnerships for economic activities.

Trade Corridor Management:

Efficient customs and border procedures: Implementation of streamlined customs and border procedures reduces delays and uncertainties and contributes to a more favorable business environment on the Silk Road.

Security Cooperation: Joint efforts among Silk Road countries to address security challenges, including those related to human trafficking and illicit activities, creates a safer and more stable trade corridor.

Education and skills development:

Workforce Readiness Programs: Investments in education and skills development programs will ensure that the local workforce is equipped with the skills needed to actively participate in the evolving business environment along the Silk Road.

Knowledge Exchange Platforms: Establishing platforms for the exchange of knowledge and expertise among Silk Road nations promotes a culture of learning and continuous improvement.

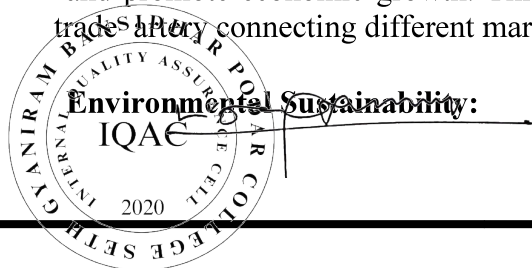
By implementing these comprehensive strategies, the Silk Road can be transformed into a thriving hub of legal and prosperous trade that promotes economic growth, cultural exchange and sustainable development throughout the region.

Economic Prosperity through Trade:

The revival of the Silk Road as a key trade corridor holds enormous economic potential. Strategic investments in transport infrastructure can reduce barriers to trade and increase the efficiency of cross-border movement. Special economic zones along the route can attract businesses, create jobs

and promote economic growth. This approach can help reshape the Silk Road as a thriving trade artery connecting different markets.

Environmental Sustainability:



Once a conduit for the exchange of goods, ideas, and cultures, the Silk Road now stands at the crossroads of a new era—an era in which its revival must be guided by the principles of environmental sustainability. As nations consider rejuvenating this historic trade route, it is imperative to consider strategies that will not only promote economic growth but also prioritize environmental protection.

1. Development of green infrastructure:

The revival of the Silk Road offers a unique opportunity to implement green infrastructure projects. By incorporating sustainable practices into road and rail networks, as well as port facilities, states can reduce their environmental footprint. This includes the use of green building materials, energy efficient transport systems and the incorporation of green spaces along the route.

2. Ecological transport:

The movement of goods along the Silk Road can be optimized with respect to environmental sustainability. Switching to green modes of transport, such as electric or hybrid vehicles, can significantly reduce carbon emissions. Additionally, investments in efficient logistics and supply chain management can minimize waste and depletion of resources, making trade along the Silk Road more environmentally friendly.

3. Protection of biological diversity:

The Silk Road passes through regions of rich biodiversity, with diverse ecosystems along its route. Environmental sustainability efforts should include measures to protect and preserve these natural habitats. Creating protected areas, promoting reforestation initiatives and implementing wildlife conservation programs can help preserve biodiversity hotspots along the route.

4. Integration of renewable energy:

Silk Road countries can use the power of renewable energy sources to support economic activities. Solar and wind energy projects can be strategically located along the route, providing clean and sustainable energy supplies for infrastructure development and day-to-day operations. This shift towards renewable energy not only reduces dependence on fossil fuels, but also mitigates the impact of climate change.

5. Waste management and circular economy:

With the increase in business activities on the Silk Road, the potential for waste generation also increases. Implementing robust waste management systems and promoting a circular economy – where resources are reused and recycled – can minimize the impact on the environment. Waste

reduction initiatives along with public awareness campaigns can promote responsible consumption and disposal practices.

6. Environmental impact assessment:

Prioritizing environmental impact assessment (EIA) before the start of major development projects is essential. These assessments should evaluate the potential environmental consequences of infrastructure projects and identify ways to mitigate negative impacts. EIA

findings can inform decision-making processes and ensure that development along the Silk Road is in line with sustainable practices.

7. Climate resilient infrastructure:

Given the increasing frequency of climate-related events, it is essential to design infrastructure that can withstand environmental challenges. Climate-resilient elements such as flood-resistant structures and sustainable water management systems should be incorporated into development plans. This approach ensures the longevity of Silk Road infrastructure in the face of changing climate patterns.

8. Public education and environmental education:

It is crucial to provide local communities and travelers with knowledge about environmental protection. Implementing environmental education programs and promoting sustainable practices among residents, businesses and tourists can create a shared responsibility for the protection of the natural heritage of the Silk Road.

9. International cooperation for environmental protection:

Environmental sustainability along the Silk Road requires cross-border cooperation. Nations should engage in joint initiatives, share best practices and jointly address transboundary environmental challenges. International organizations and environmental agreements can play a vital role in facilitating cooperation in protecting the Silk Road environment.

10. Monitoring and adaptive control:

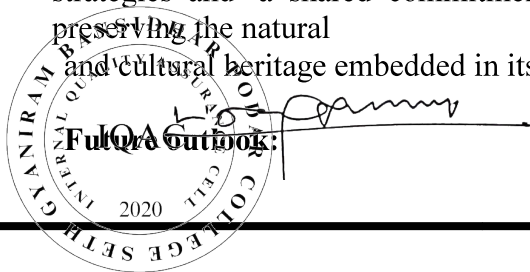
The establishment of monitoring systems for monitoring environmental indicators is essential for adaptive management. Regular assessments of air and water quality, biodiversity health and overall ecological conditions can inform adaptive strategies to ensure that the Silk Road remains a sustainable and resilient corridor for future generations.

Conclusion:

The restoration of the Silk Road is an immense promise of economic prosperity and cultural exchange between nations. However, this revival must be guided by a commitment to sustainability and ensuring that the historic trade route becomes a model for responsible development. As we navigate the complexity of modern challenges, it is crucial to recognize that the importance of the Silk Road goes beyond trade – it is a conduit for environmental, social and cultural connectivity.

The multifaceted issues addressed in this discourse, from narco-terrorism and human trafficking to environmental sustainability, underscore the complex tapestry of challenges and opportunities that define the Silk Road. Addressing these challenges requires collaboration, innovative strategies and a shared commitment to create a corridor that enriches people's lives while preserving the natural and cultural heritage embedded in its landscape.

FulQA Outlook:



The future of the Silk Road depends on the collective will of nations to forge a path that balances progress and protection. Here are the key considerations for shaping the future of the Silk Road:

1. The Sustainable Development Goals (SDGs): Aligning the revival of the Silk Roads with the United Nations' Sustainable Development Goals offers a comprehensive framework for addressing social, economic and environmental challenges. The adoption of the Sustainable Development Goals ensures a holistic and inclusive approach to development.

2. Technological integration: Leveraging advances in technology such as digital infrastructure and smart logistics can increase the efficiency of trade on the Silk Road. Incorporating technology not only facilitates smoother transactions, but also provides tools to monitor and manage environmental impacts.

3. Cross-border cooperation: The Silk Road passes through diverse geopolitical areas, which requires strong cross-border cooperation. Diplomatic efforts, joint initiatives and shared governance structures can promote stability and harmony among nations and promote sustainable development.

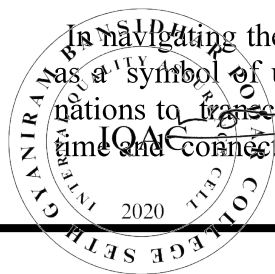
4. Cultural preservation: The preservation of the rich cultural heritage along the Silk Road is an integral part of its identity. Initiatives to protect historic sites, promote cultural exchange and celebrate diversity contribute to the creation of a corridor that transcends economic interests and fosters mutual respect between nations.

5. Inclusive Economic Development: The benefits of the revival of the Silk Road should be extended to all segments of society. Inclusive economic policies, job creation and community engagement are key to ensuring that local residents actively participate in and benefit from the opportunities that increased trade brings.

6. Climate Resilient Practices: Given the challenges posed by climate change, the integration of climate resilient practices into infrastructure development is absolutely essential. Future projects must prioritize sustainability, incorporate green technologies and adaptive measures to withstand environmental uncertainty.

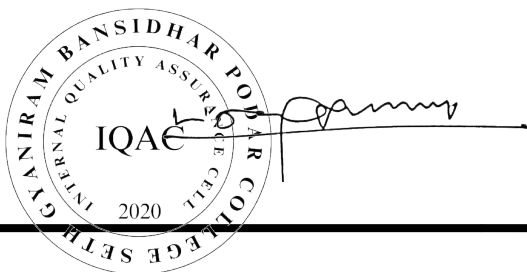
7. Education and awareness: An educated and aware population is essential for the success of sustainable development initiatives. Promoting environmental education, cultural awareness and ethical business practices fosters a sense of responsibility among stakeholders and creates a foundation for long-term success.

In navigating the future of the Silk Road, it is crucial to view it not just as a trade corridor, but as a symbol of unity and shared progress. The success of this enterprise lies in the ability of nations to transcend individual interests and work together to build a Silk Road that transcends time and connects past, present and future in a sustainable continuum.



References

1. Boulnois, Luce. (2004). Silk Road: Monks, Warriors & Merchants. Odyssey Publications.
2. Hansen, Valerie. (2012). The Silk Road: A New History. Oxford University Press.
3. Liu, Xinru. (2010). The Silk Road in World History. Oxford University Press.
4. Beckwith, Christopher I. (2009). Empires of the Silk Road: A History of Central Eurasia from the Bronze Age to the Present. Princeton University Press.
5. Hill, John E. (2009). Through the Jade Gate to Rome: A Study of the Silk Routes during the Later Han Dynasty 1st to 2nd centuries CE. BookSurge Publishing.
6. Sheng, L., & Symons, V. (Eds.). (2018). Heritage and Identity in Contemporary China: The Politics of History in the Silk Road. Springer.
7. UNESCO. (1988). Silk Roads: The Routes Network of Chang'an-Tianshan Corridor. Retrieved from <https://whc.unesco.org/en/list/1442/>
8. Bansal, Suresh Chandra: Urban Geography, Meenakshi Publication, Meruth, U.P. (2015-16)
9. Ojha, S.K.: Ecology and Environment, Boudhik Prakashan, Prayagraj, U.P. (2017)
10. World Bank. (2019). Belt and Road Economics: Opportunities and Risks of Transport Corridors. Retrieved from <https://www.worldbank.org/en/topic/regional-integration/publication/belt-and-road-economics>



PGC-002

CATALYSIS IN GREEN CHEMISTRY: ADVANCEMENTS AND APPLICATIONS

SUDARSHAN SHARMA

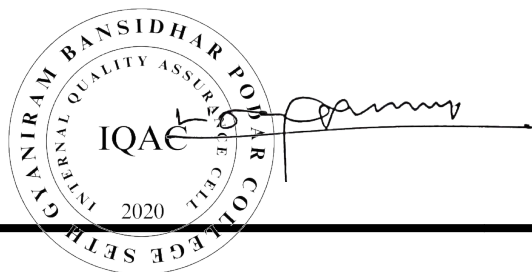
Department of Chemistry Seth Gyaniram Bansidhar Podar College, Nawalgarh, Rajasthan, India

Email: sharma19sudarshan@gmail.com

ABSTRACT

The utilization of catalysts in chemical transformations has undergone a paradigm shift towards greener and more sustainable practices. Traditional methods often involve harsh conditions, excessive energy consumption, and the generation of undesirable by-products. In contrast, catalysis provides a strategic pathway to enhance reaction rates, selectivity, and overall process efficiency while minimizing waste. The advent of novel catalytic systems has paved the way for greener chemical transformations, with a focus on atom economy and the use of renewable feedstocks. One of the noteworthy advancements in catalysis is the exploration of bio-based catalysts derived from renewable sources. Enzymes, for instance, have gained prominence for their selectivity and mild reaction conditions. By harnessing the power of biocatalysis, researchers have achieved intricate transformations with reduced environmental footprint. The integration of biocatalysts into green chemistry practices opens avenues for sustainable synthesis, aligning with the principles of eco-efficiency and resource conservation. Green solvents play a crucial role in catalysis, influencing reaction outcomes and environmental compatibility.

Keywords: *Catalysis, Green Chemistry, Sustainable Synthesis, Environmental Impact, Green Solvents*



PGC-004

GREEN MATERIALS FOR ENERGY STORAGE AND CONVERSION**AMBESH KUMAR**

Assistant Professor, Department of Chemistry, Seth Gyaniram Bansidhar Podar College, Nawalgarh, Rajasthan, India

Mail Id-ambeshbhandari007@gmail.com

ABSTRACT

The world's dependence on fossil fuels is unsustainable, driving the urgent need for clean and renewable energy solutions. Green materials, derived from renewable resources and processed with minimal environmental impact, offer a promising avenue for developing efficient and sustainable energy storage and conversion technologies. This review explores the latest advancements in various green material classes, including their functionalities, advantages, and limitations, for applications in batteries, solar cells, fuel cells, and other energy conversion systems. We also discuss the ongoing challenges and future research directions for green materials in this critical field.

Keywords: *Green energy materials; Renewable energy; Organic batteries; Carbon nanomaterials for energy; Green synthesis of electrocatalysts*

INTRODUCTION: The increasing global energy demand and the alarming consequences of climate change necessitate a paradigm shift towards clean and sustainable energy solutions. While renewable energy sources like solar and wind are becoming more prevalent, their intermittent nature necessitates efficient energy storage and conversion technologies. Green materials, synthesised from renewable resources and characterised by low environmental impact, are emerging as key players in this transition.

Green Materials for Energy Storage:**1. Batteries:**

- Organic polymers: Bio-based polymers like lignin and cellulose are being explored for electrodes and electrolytes due to their abundance, sustainability, and relatively high capacity.
- Carbon nanomaterials: Graphene, carbon nanotubes, and biomass-derived carbon composites offer enhanced conductivity, cycle life, and energy density for both lithium-ion and sodium-ion batteries.
- Metal oxides and phosphates: Abundant and environmentally benign elements like iron, manganese, and sodium are being utilised in high-performance cathodes to achieve lower cost and environmental burden compared to traditional cobalt-based materials.

~ 271 ~

Proceedings of “ARAVALLI” IGOE Nawalgarh, Rajasthan, India

Chetana International Journal of Education/ December, 2023 Special Vol. 08, No (2) II ISSN-2455-8729



2. Supercapacitors:

- Metal-organic frameworks (MOFs): These highly porous and tunable materials derived from organic ligands and metal ions deliver exceptional energy density and power density compared to conventional carbon electrodes.
- Hydrogel electrolytes: Biocompatible and biodegradable hydrogels based on cellulose, alginates, and other natural polymers offer flexibility, safety, and improved ionic conductivity.
- Electrodeposited metal oxides: Green synthesis of metal oxides like RuO₂ and MnO₂ directly on substrates allows for high surface area, low-cost, and binder-free electrodes with excellent capacitance.

Green Materials for Energy Conversion:

1. Solar Cells:

- Organic photovoltaics (OPVs): Conjugated polymers derived from biomass offer lightweight, flexible, and low-cost solar cells, although their efficiency still needs improvement.
- Perovskite solar cells: Lead-free perovskite materials synthesised using green solvents and fabrication processes show promising efficiency and scalability potential.
- Quantum dots and nanorods: Green-synthesised semiconductor nanomaterials like CdSe and ZnS exhibit efficient light absorption and offer flexibility for device design.

2. Fuel Cells:

- Biocatalysts: Enzymes and microbial fuel cells offer sustainable and efficient conversion of biomass-derived fuels like hydrogen and methanol into electricity.
- Electrocatalysts: Green synthesis of platinum-free catalysts based on iron, nickel, and cobalt is crucial for reducing the cost and environmental impact of fuel cells.
- Membranes: Nafion alternatives derived from renewable polymers like sulfonated poly(ether ether ketone) (SPEEK) offer high proton conductivity and improved durability for fuel cell operation.

Challenges and Future Directions:

Despite the remarkable progress, green materials for energy storage and conversion face various challenges:

- Performance limitations: While some green materials show promise, their overall efficiency and stability often lag behind conventional materials.
- Scalability and cost-effectiveness: Scaling up green synthesis processes and reducing the cost of these materials are crucial for widespread adoption.
- Standardisation and life cycle assessment: Robust standards and life cycle analyses are needed to ensure the true environmental sustainability of green materials.



Future research should focus on:

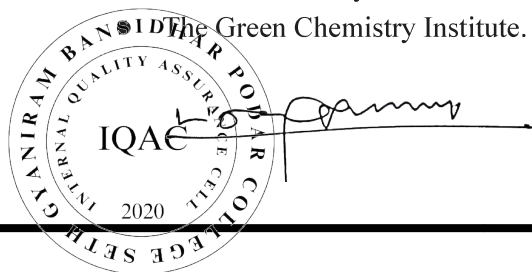
- Developing novel green materials with superior performance and stability.
- Optimising synthesis processes for scalability and cost reduction.
- Exploring multi-functional materials that combine multiple functionalities for improved device performance.
- Developing integrated systems and addressing the techno-economic feasibility of green energy technologies.

Conclusion:

Green materials hold immense potential for revolutionising energy storage and conversion towards a sustainable future. By addressing the existing challenges and fostering collaborative research and development efforts, we can unlock the true power of these innovative materials and create a cleaner and more secure energy landscape.

References

- Wang et al. (2023). Carbon nanomaterials derived from biomass for rechargeable batteries: A review. *ChemSusChem*, 16(2), 339-362.
- Liu et al. (2022). Sustainable synthesis of metal oxides and phosphates for high-performance sodium-ion batteries. *Green Energy & Environment*, 7(4), 469-497.
- Hu et al. (2022). Metal-organic frameworks for supercapacitors: Recent progress and future perspectives. *Chemical Society Reviews*, 51(24), 9823-9866.
- Zhang et al. (2021). Electrodeposited metal oxides for supercapacitors: A review. *Advanced Materials*, 33(33), 2100333.
- Li et al. (2023). Recent advancements in organic photovoltaics based on biorenewable materials. *ChemSusChem*, 16(9), 1764-1783.
- Chen et al. (2022). Lead-free perovskite solar cells: A review. *Joule*, 6(6), 1223-1246.
- Li et al. (2021). Green synthesis of quantum dots and nanorods for efficient solar cells: A review. *Journal of Materials Chemistry A*, 9(16), 5621-5643.
- Patil et al. (2023). Biocatalysts for sustainable fuel cells: Recent advances and challenges. *Sustainable Energy & Fuels*, 7(1), 27-46.
- Zhu et al. (2022). Green synthesis of platinum-free electrocatalysts for fuel cells: A review. *ChemSusChem*, 15(15), 3537-3566.
- International Energy Agency. (2023). *Global Energy Review 2023*.
- Intergovernmental Panel on Climate Change. (2022). *Climate Change 2022: Impacts, Adaptation, and Vulnerability*.
- The Green Chemistry Institute. (n.d.). *Green chemistry principles*.



ILS-002

INDIAN ENGLISH POETRY: SPIRITUAL QUEST AND SUFFERINGS OF MAN

MR. PRAMOD KUMAR SAINI

Assistant Professor (English)

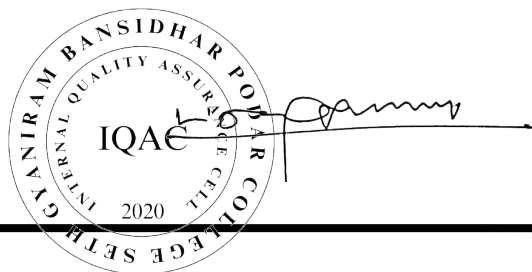
Head of Department

Seth Gyaniram Bansidhar Podar College, Nawalgarh

ABSTRACT

Indian poetry in English began in Bengal, the province in which the British first gained a stronghold. In addition, poetry was largely an urban phenomenon centered in Calcutta. Infact, for the first fifty years, it was confined entirely to a few Bengali families who were residents of the city. Then, gradually it moved to other urban centers such as Madras and Bombay; even today, Indian poetry in English remains largely urban. Moreover, because English was an elite language in India, Indian poets in English came from the upper classes and castes. Indian English poetry had its dark and bright areas of growth since the beginning of nineteenth century, a period of uncertain social and political conditions it was as observed earlier. If one recapitulates social, economic and political scenario and the measured but definite emergence of English domination, it would reveal new aspects of development of poetry. Poetry in initial years appears restrained and speaks of unequalled grace and chasteness in idiom. Spiritualism is often considered to be the core of Indian culture and as such it has found a very prominent place in Indian English poetry, particularly in the Pre- Independence era. The basic ideas of the chief scriptures and the fundamental principles of Indian spiritual tradition found representation in the poems of this period. Poetry is the expression of human life from times eternal. India in fact has a long tradition of arts and poetry from ages. Colonialism gave a new language, English for the expression of Indians.

Keywords: Language, Political scenario, English domination, Indian culture, Indian spiritual tradition.



ILS-003

USE OF HUMOR IN R.K. NARAYAN’S NOVEL

SUDHIR JANGIR

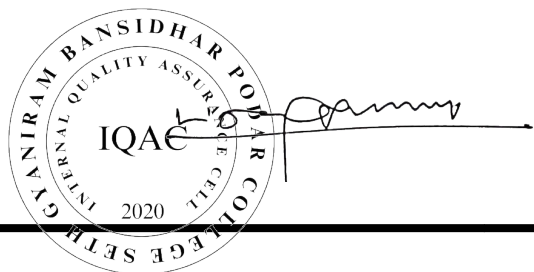
Assistant Professor (English)

Seth Gyaniram Bansidhar Podar College, Nawalgarh

ABSTRACT

Humour is a state of mind that has the ability to make people laugh. Humor and wit identify the comic species. Wit is the mental faculty of intelligence. In his novels, Narayan employs wit to produce humour. It is possible to understand the sociological interpretations of humour in R. K. Narayan's works for his ideas are based on in-depth research and offer several viewpoints on literary interpretations. He uses critical analysis to build social order, acceptance, and transformation through making fun of human conditions, interactions, and cultures. Humor is a sort of art, and people's acceptance of humour depends on a variety of sociological circumstances. Humor improves a person's physical and psychological health. It is an amusing intellectual experience that makes people laugh. Narayan's writings, which are fictionalized, portray the peculiarities and foibles of modern Indian life. They have a genuinely sarcastic quality. Comedy is a sort of art that helps people understand the evil that exists in their society. R. K. Narayan uses the genre of comedy to combat corruption in society. To demonstrate to his viewers the contradiction present in Indian culture, he uses regular people from the community as his protagonists. Indian philosophy is heavily infused in his writings. A discussion of the sociological interpretations of humour that may be found in many contexts, descriptions, narratives, and dialogues that enhance and advance human life is attempted.

Keywords: Humour • Perception • Sociological evolution • Cognitive experience • Irony



ILS-012

Use of Humor in R.K. Narayan’s Novel

Mr. Sudhir Jangir

Assistant Professor (English)

Seth Gyaniram Bansidhar Podar College, Nawalgarh

ABSTRACT

Humour is a state of mind that has the ability to make people laugh. Humor and wit identify the comic species. Wit is the mental faculty of intelligence. In his novels, Narayan employs wit to produce humour. It is possible to understand the sociological interpretations of humour in R. K. Narayan's works for his ideas are based on in-depth research and offer several viewpoints on literary interpretations. He uses critical analysis to build social order, acceptance, and transformation through making fun of human conditions, interactions, and cultures. Humor is a sort of art, and people's acceptance of humour depends on a variety of sociological circumstances. Humor improves a person's physical and psychological health. It is an amusing intellectual experience that makes people laugh. Narayan's writings, which are fictionalized, portray the peculiarities and foibles of modern Indian life. They have a genuinely sarcastic quality. Comedy is a sort of art that helps people understand the evil that exists in their society. R. K. Narayan uses the genre of comedy to combat corruption in society. To demonstrate to his viewers the contradiction present in Indian culture, he uses regular people from the community as his protagonists. Indian philosophy is heavily infused in his writings. A discussion of the sociological interpretations of humour that may be found in many contexts, descriptions, narratives, and dialogues that enhance and advance human life is attempted.

Keywords: Humour • Perception • Sociological evolution • Cognitive experience • Irony

Introduction

R.K. Narayan is one of the most well-known and popular Indian novelists. His tales emphasised the humour and vitality of everyday life and were based on a caring humanism. Using the English literary idiom, Narayan conjures diction of exceptional freshness and rare creativity. He was a vivid and dynamic author who uses humour and simplicity to explain human behavior [1]. RK Narayan stood shortened to R. K. Narayan, on Graham Greene’s advice. Narayan published works up until the age of eighty-seven, wrote for more than fifty years, and lived to be ninety-five. He wrote fifteen novels, five collections of short stories, a number of travelogues and non-fiction collections, English translations of Indian epics, and the memoirs “My Days ”. However, it is not Narayan's prolific output, nor the currency of his content or the lack of either-that places him among the finest storytellers of modern English [2].



Literature Review

~ 286 ~

Proceedings of “ARAVALLI” IGOE Nawalgarh, Rajasthan, India

Chetana International Journal of Education/ December, 2023 Special Vol. 08, No (2) II ISSN-2455-8729

R. K. Narayan was born on 10 Oct, 1906 in Madras, South India. He got his education at Maharaja's college in Mysore where his father was a teacher. He did not become a successful writer right away, like many successful people. His father was a teacher at Maharaja's college, now known as collegiate high school, in Mysore, where RK Narayayn received his schooling education. He did not become a successful writer right away, like many successful people. With the little money he received from writing tales and essays for several newspapers, he struggled to make a life. But all changed when renowned British author Graham Greene read the first draught of his Malgudi-set novel *Swami and friends* [3]. With the imaginary help of Graham Greene, it was published, and the author never looked back, enthralling millions of readers all over the world. Together, he produced 29 novels based on Malgudi and a large number of short stories. His novel 'The Guide' won him the prestigious Sahitya Academi Award first time given to a book in English. R. K. Narayan created an imaginary world that doesn't exist yet resonates with folks who read English because it is so perfectly genuine. His books have endured in popularity for many years because of their subdued, comforting appeal. Additionally, numerous American universities include his writing in their literature curricula [4]. The list of Narayan's achievements is never ending. He won many awards during the course of his literary career. His first major award was the Sahitya Academi Award (1958) for 'The Guide'. He won the Film fare award for best story when the book was adapted into a movie. He was awarded the Padma Bhushan in 1964 as part of the republic day honors. He received the AC Benson Medal in 1980 from the (British) royal society of literature, where he had an honorary membership. He received the honorary membership in the American academy of arts and letters in 1982. Despite numerous nominations, he never won the Nobel prize for literature. Honorary doctorates were also awarded by Delhi university, the university of Mysore, and the university of Leeds in 1967, 1976, and 1977, respectively (1973). In recognition of his contributions to English literature, Narayan received a nomination at the end of his career to serve in the upper chamber of the Indian parliament for a six-years term beginning in 1989. He received the Padma Vibhushan, India's second-highest civilian honour, in 2000, a year before his passing. Through his writing, Narayan was most successful in opening up India to the outside world. Along with Raja Rao and Mulk Raj Anand, he is regarded as one of the three top writers of Indian literature in the English language. One of the greatest novels India has ever produced; he gave his readers something to look forward to with Malgudi and its inhabitants. He did a convincing and experimental job of bringing small town India to his viewers. Malgudi was not simply a made-up Indian village; it was also alive with people, every one of whom had their own quirks and personalities, making the situation feel as familiar to the reader as if it were their own neighborhood regarding him [5].

Discussion

A sociological perspective on the humorist R.K. Narayan: "It was Monday morning, and Swaminathan was reluctant to open his eyes. In the calendar, he thought Monday was particularly terrible" (1944, p.1) the reluctance of a school boy to attend school brings out the humor in Narayan's writings. His creative mind uses life's truths to reveal humour. Characters are quite humorous with the intention of painting a fun picture with their language. All of the

characters have witty, humorous personalities that give readers a lot of enjoyment. Narayan's comedy is honourable, knowledgeable, and mature because of his in-depth research, broad knowledge, and minute perceptions of ephemeral life [6].

Narayan writes in his 1935 first book *Swami and Friends*, "and yet you are roving about the home like an unbound donkey". Swami's exams were about to start from next day. He makes a list of things to buy for the examination and gives it to his father. His father gets very angry and scolds him for wandering like a donkey in the house and not being serious about studies.

The word "donkey" used by Narayan as a metaphor makes the reader laugh as we all know the qualities of a donkey. Swami is being compared to a lazy donkey that has no work to perform. Narayan's humor provides an important ingredient in his otherwise strong indictment and criticism of the contemporary society and its many facets, oddities in characters. His mild satire provokes people, to think and change towards the betterment of life. His stories like 'Swami and friends' have humorous details which provoke emotion and enlighten experience.

Father of Swami reads an article about a brave young man who confronts a tiger. He tells Swami to learn something from the article which leads to an argument between them. Father challenges Swami to demonstrate his bravery by spending the night alone in his workplace [7].

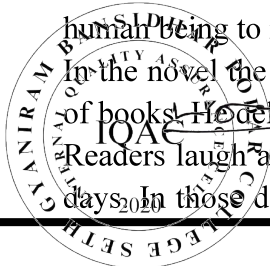
When Swami was sleeping at his father's office, he felt lonely. His imagination of ghosts and devils grew, and his heart beat faster. He had a night. The psychological effect of an imagination of tiger and trauma faced by Swami tickles the funny bone of the reader. Narayan has the innate quality of going in-depth of the childhood experience and puts in with a touch of humor.

Swami ducks beneath the bench after spotting a shadow in the space. He bites into the flesh of the thief and thus becomes a hero overnight; he is praised by the police and teachers. "You saw how beastly our headmaster was. You would have punched him in the face if you had been in my position. When Rajan attended Board High School, he came to see Swami. Swami receives a spanking from the headmistress for smashing the ventilator window in his office. Everyone who was wearing a headgear made of foreign

fabric took it off and burned it. Swami pursues them on their hartal and throws stones through the school's windows. The following day, the Headmaster summoned Swami and reprimanded him. He quickly leaves the structure, muttering that it is filthy. Swami states that if he had been in Rajan's shoes during this encounter, Rajan would have struck him in the face [8].

The situation reflects the strong nationalism among the people of Malgudi, and they are united to protest against the British Rule in India by boycotting wearing caps made up of foreign cloth. Swami wants to gain sympathy from his friend Rajan. Amusement arises from false claims upon our sympathy which ends in laughter. Because of his harsh ways, Swami refers to his Headmaster as a beast. Swami's character is full of the innocence of a child. It is natural for any human being to revolt on being punished, but Swami being a student had to suppress his anger.

In the novel the painter of signs Narayan tells us about a painter. Raman was a voracious reader of books. He derives into Menaster's reading philosophy, calling him a beast for his rigid conduct. Readers laugh at the various bookworm characters. "It's not like folks are terrified of kids these days. In those days, the house was full "added Aunt. At that time, according to Aunt, the house



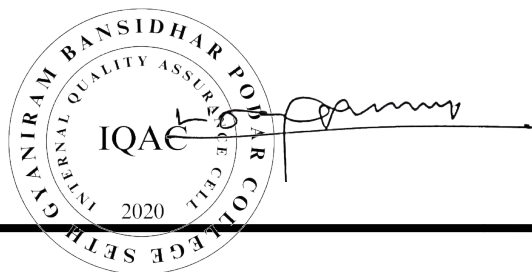
was packed. The reference to the past by Raman's aunt refers to a time when the house was crowded with kids who were respectful to their elders. Nowadays, a young child would intimidate their parents and demand money from them. The reader giggles at the role-reversal between children and their parents. The reader laughs along with the population control message. Raman believes that bachelors should receive a bonus since by staying single; they help to reduce population growth. The irony with which Narayan presents the issue of population expansion makes the reader chuckle. Where long lines of people may be seen battling for food, clothing, and shelter. Narayan, Narayan uses animal characters to create humour in his books, such as "a tiger for malgudi." In this book, the tiger speaks for itself. "The Head Masters' room was the scene. I was convinced and saw a very respectable man leaping upon his table and climbing into an attic". In order to rest, the tiger goes into the head master's room. The tiger saw a man climbing up a table to get to the attic, where he felt safe. According to Narayan, head master is a respectable man in a position of authorities who does absurd things like leap on the table and hides in the attic to save his life. The comic character of a chatty man is used by Narayan to amuse the reader in the 1986 book "The Talkative Man." The wife of Dr. Rann was looking for her husband. When she arrives in Malgudi, she encounters a chatty fellow and tells him everything. The chatty man worries that Mrs. Rann would strip him of his title. In this novel 'The World of Nagaraj' Narayan says that misunderstanding between Gopu and his son Tim. The technique of using absurdity in the character of Nagaraj, when he is talking to himself loudly produces amusement.

Conclusion

Narayan details his grandma's life in the 1992 book "the grandmothers tale." Bala and Viswa were wed while they were young. When Viswa visited his wife, his neighbor would make fun of him. Readers are amused by Viswa's desire to see his wife. R.K. Narayan collected his hilarious articles into the 1956 book next Sunday. Article 'radio license': Narayan was passing through the last grace period allowed for renewing his radio license. To renew his radio license, he had to complete a form. The author says that it always happens when one has to write slowly in block letters. He ruined the form as a result, and he was too afraid to ask the officer for another one. In his 1974 book "The Reluctant Guru," Narayan wrote a few amusing essays. The fundamental human instinct of fear is constantly present in "The Reluctant Guru." This essay makes me giggle because of Narayan's dread as an emotion. The subject of a reporter's interview with Narayan was afterlife, which also happened to be the subject of his book "The English teacher." He asked Narayan if he believed in an afterlife and if he could converse with spirits, see ghosts, or practice spirituality. Narayan responded by stating that he writes fiction. The book "a writer's dream" contains some humorous sections. Narayan chose unusual topics for his articles and attempts to make them humorous in the essay "pick pockets." He respects burglars because they are good, peaceful, and harmless. The struggle between quietist renunciation and social action that Narayan's novel seems to address has precedents in traditional Hindu storytelling. After revisiting Narayan's works several years later, Naipaul explains how he initially mistook them for holy texts and only afterwards realized that they were more than just social comedy.

References

1. Walsh, William. RK Narayan: A Critical Appreciation. New Delhi: Allied Publishers, (1983).
2. Bhatnagar, Manmohan Krishna. New Insights into the Novels of RK Narayan. Delhi: Atlantic Publishers, (2002).
3. Kumar, A. Phaniraja. "RK Narayan's 'The Guide' is a Story of Poly-guide." Res Scholars 2 (2014): 337-340.
4. Nazareth, Peter. "RK Narayan: Novelist." English Studies in Africa 8 (1965): 121-134.
5. Siddiqui, Shakeba J. "Symbolism and its implication in the novels of RK Narayan." J Arts 2 (2019): 25-27.
6. Singh, Kamlesh. "Comedy of sadness in the mysterious life of raju in the guide." Int J Engl Lang Lit Hum 4 (2016): 357-363.
7. Chinnam, VS, and Sankara Rao. "The Technique of Double Narration of RK Narayan's the Guide." J Foreign Lang 2 (2013): 513-523.
8. Iyengar, KRS. Indian Writing in English. Calcutta: Asia Publishing House, (1973).





SOUVENIR



INTERNATIONAL CONFERENCE

(ICIRP-2024)

Innovative Research and Practices In Commerce, Management and IT for Sustainable Development

4 - 5 March, 2024

Organized By

Department of Accountancy & Business Statistics
University of Rajasthan, Jaipur- 302004

In Association With

Tirupati College of Technical Education
Pratap Nagar, Jaipur - 302029

Venue

Auditorium - R.A. Podar Institute of Management
University of Rajasthan, J.L.N Marg, Jaipur – 302004



world instances. The study also looks at issues including data quality, privacy, and organizational preparedness and provides solutions for efficient adoption and management. By synthesizing current research and industry best practices, this study aims to provide actionable insights for businesses seeking to harness the transformative potential of big data analytics in advancing sustainable business practices. This study intends to give practical insights for firms looking to leverage the revolutionary potential of big data analytics in promoting sustainable business practices. It does this by integrating current research and industry best practices.

Keywords: Big Data Analytics, Sustainability, Social Equality, Economic Viability, Data-Driven.

Rural Industrialization: Problems and Solutions

DR. SANJAY KUMAR SAINI

Assistant Professor, Business Administration
Seth G.B.Podar College, Nawalgarh

The programme of rural industrialization has endeavored to take industrial and manufacturing activity to the rural areas through a process of dispersal as also developing on sound footing the existing traditional units thereby creating an industrial climate in the countryside. For affecting this, creation of growth centers and provision of infrastructural facilities in the rural areas should be planned carefully. Setting up of nucleus plants in districts or potential block level will promote as many, ancillary, and small and cottage units, as possible. The interlink ages will strive for integrated industrial development in rural areas. Development of focal points in specific regions by providing different kinds of complementary facilities on the lines of Punjab is considered worth emulating. This will facilitate better planning, greater optimal use of resources, better control and higher productivity and profitability. And, setting up of agro-industrial services complexes and non-traditional industries in planned manner will lead to gradual urbanization of the rural areas. This will in turn stop

migration from the villages and may enable return flow of skilled manpower to rural areas. Rural industrialization is, therefore, integral part of rural development. A 'duster of villages' approach would also be beneficial if adopted sagaciously and without undue interference of exogenous elements.

Exploring the Nexus: Corporate Social Responsibility and Employee Engagement-A Comprehensive Study on the Influence of CSR on Employee Engagement

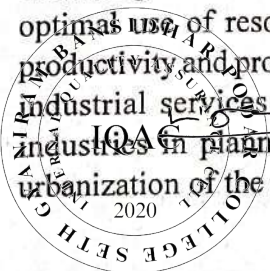
1. Jyotsana Soni

Research Scholar, School of Commerce & Management, Central University of Rajasthan

2. Payal Sharma

Research Scholar, School of Commerce & Management, Central University of Rajasthan

The accomplishments of an organization are now heavily contingent on its ability to engage its workforce, which promotes creativity, productivity, and worker well-being. At equivalent times when businesses aim to solve social and environmental challenges and fit societal ideals, corporate social responsibility has become more popular. This study deeply explores the relationship between Corporate Social Responsibility (CSR) and employee engagement. Even though a plethora of research studies on employee engagement and CSR have been conducted and are continuously expanding, our knowledge of the causes and mechanisms underlying the impact of CSR on employees remains incomplete. This paper has incorporated various models that clarify that CSR is a key component in employee engagement. This research intends to explain the complex interaction between CSR initiatives throughout firms and employee engagement models. By analysing these models it is observed that CSR practices fulfil the higher-level psychological needs of employees which helps in building a positive image of the corporation in the minds of the employees.



groups of people. Unfortunately, many tax systems struggle with both efficiency and equity. Loopholes and complex regulations in direct taxes, like income tax and corporate tax, allow some individuals and businesses to unfairly minimize their tax burden. This not only creates an unfair advantage but also leads to lost revenue for important public services. Additionally, the current structure of direct taxes can sometimes favor higher income earners, raising concerns about fairness. Indirect taxes, like sales tax and VAT, also face challenges. The cascading effect, where taxes are applied at multiple stages of production, can inflate the final price of goods and services. This disproportionately impacts lower-income individuals who spend a larger portion of their income on essential items. Additionally, the informal sector, which often operates outside the formal economy, is often difficult to tax, leading to revenue loss and undermining the overall fairness of the system.

E-commerce Platforms: Empowering Fair Trade in the Digital Age

Mukesh Kumar Saini

Assistant Professor, Commerce (EAFM)
Seth G.B.Podar College, Nawalgarh

The phenomenon of E-commerce has completely changed the way people buy, source and deliver things. Enter the global market this article explores the potential of Ecommerce platforms to promote fair trade, which includes ethical values, fair payment, and environmental sustainability. We focus on the current state of ecommerce platforms and how they can help fair trade companies. We also address key challenges and future directions at this critical juncture and offer suggestions for improvement. The explosive rise of e-commerce has fundamentally reshaped how consumers purchase goods, transforming the landscape of sourcing, delivery, and global market access. Within this evolving ecosystem, this paper explores the potential of e-commerce platforms to empower fair trade practices. Fair trade prioritizes ethical sourcing, fair wages for producers, and environmental

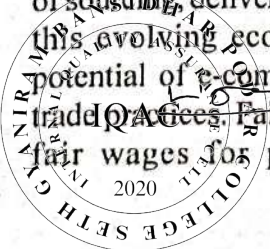
sustainability throughout the supply chain. By leveraging the digital reach and accessibility of e-commerce platforms, fair trade businesses can connect directly with a wider audience of conscious consumers, potentially fostering a more equitable and sustainable global trade landscape. This research delves into the current state of e-commerce platforms in relation to fair trade. We examine how existing platforms, like Etsy and Shopify, can potentially be utilized by fair trade businesses. Additionally, we explore the emergence of dedicated fair trade platforms that exclusively showcase products certified by fair trade organizations. These platforms often provide additional information about the producers, their stories, and the impact of purchasing fair trade goods, fostering greater transparency and consumer engagement.

The Power of AI in Financial Management: From Efficiency to Strategic Insights

Kavita Jangid

Assistant Professor, Commerce (EAFM)
Seth gyaniram bansidhar podar College, Nawalgarh

The intricate world of financial management, encompassing budgeting, forecasting, risk assessment, and investment analysis, has traditionally demanded meticulous attention to detail, human expertise, and a healthy dose of intuition. However, the ever-growing volume and complexity of financial data have rendered manual processes and solely human-driven decision-making increasingly inadequate. This is where Artificial Intelligence (AI) steps in, offering a transformative power that extends far beyond mere automation. AI's impact on financial management is multifaceted, encompassing a spectrum from streamlining routine tasks to unlocking deeper financial understanding. At its core, AI automates repetitive and error-prone tasks such as data entry, reconciliation, and report generation, freeing up valuable time and resources for human professionals. However, the true strength of AI lies in its ability to delve beyond automation and delve into the realm of enhanced accuracy and risk management. By leveraging its exceptional pattern recognition and data analysis capabilities, AI can identify subtle trends and



anomalies in financial data that might elude human observation. This empowers proactive risk management strategies, as AI algorithms can analyze historical data and market trends to predict potential risks and suggest mitigation plans. The transformative power of AI extends beyond efficiency and accuracy, offering a gateway to unlocking strategic insights from the vast treasure trove of financial data. AI can analyze mountains of financial information, encompassing market data, competitor analysis, and economic trends, generate predictive models and forecast future performance.

India Micro, Small and Medium Sized Enterprises (MSME): Important Marketing Strategies, Challenges & Opportunities

Reshmi Swami

Research Scholar, Department of Business Finance and Economics

Jai Narain Vyas University, Jodhpur

MSMEs, also known as micro, small, and medium firms, play a key role in productivity as well as economic and socioeconomic growth, and they also contribute to the unity of social goals for the country. With the advent of globalisation and liberalisation, Indian micro, small, and medium-sized enterprises (MSMEs) have realised the growing necessity of cross-border collaboration and coordination in order to maintain a presence not only in domestic markets but also in international markets. The micro, small, and medium-sized enterprises (MSMEs) make efforts in large investments for the solid research and innovation basis in the areas of money, skills, and technology in order to obtain better results in the form of higher quality products and services.

Unveiling the Mystery: A Look at Consumer Behavior in the Modern Era

Sandeep Kumar Jangir
Assistant Professor, Commerce- Business Administration
Seth Gyaniram Bansidhar Poddar College, Nawalgarh

The success of any business hinges on its ability to understand its customers. In today's fast-paced and ever-changing marketplace, deciphering consumer behavior how and why people make buying decisions

is more critical than ever. This research paper delves into the intricate world of consumer behavior, exploring the diverse factors that influence purchasing decisions, the evolving landscape of consumer preferences, and the increasing influence of technology in shaping how we shop. Moving beyond surface-level understanding, we delve deeper into the complex tapestry of factors that shape consumer behavior. We dissect the individual, psychological, social, and situational influences that play a crucial role in influencing choices, from personal characteristics and internal motivations to social pressures and the specific circumstances surrounding a purchase. Furthermore, we explore the dynamic landscape of consumer preferences. We examine how today's consumers are increasingly driven by values beyond just product functionality, seeking brands that align with their personal beliefs on issues like sustainability and social responsibility. Finally, we explore the undeniable role of technology in shaping consumer behavior. The rise of e-commerce has revolutionized shopping, offering convenience, wider product choices, and personalized experiences. This research paper serves as a comprehensive exploration of the ever-evolving world of consumer behavior. By understanding the multifaceted nature of purchasing decisions, businesses can develop effective strategies to engage with their target audience and navigate the complexities of the modern consumer landscape.

A STEP TOWARDS ECO-FRIENDLY FUTURE: UNLOCKING THE PATH TO GREEN FINANCE WITH SUSTAINABLE INVESTMENT STRATEGIES

Shwetambari Ganesh Bothe

Assistant Professor, Commerce

MGM College of Commerce, Kharghar

Green finance emerged as a new source of finance in this magnetic business world. It can consider as a new technique of investment with the help of nature, which aim to address latest environmental issues regarding global warming, climate change, loss of biodiversity and diminution of resources. Green finance a name itself suggest its wide area of functioning, by encouraging fundamental operations of business like production, selling manufacturing,

ADVANCES IN TISSUE CULTURE AND PLANT BIOTECHNOLOGY

DR. MEHTAB YASMEEN
MUKUL MACHHINDRA BARWANT
DR. RAVINDRA GOSWAMI
DR. VIRENDRA KISHOR SANGODE



ADVANCES IN TISSUE CULTURE AND PLANT BIOTECHNOLOGY

Dr. Mehtab Yasmeen

Assistant Professor (PT), Department of Botany
Telangana Mahila Viswavidyalayam, Koti Hyderabad, Telangana

Mr. Mukul Machhindra Barwant

Assistant Professor, Department of Botany
Sanjivini Arts Commerce and Science College
Kopargoan Ahmednagar, Maharashtra

Dr. Ravindra Goswami

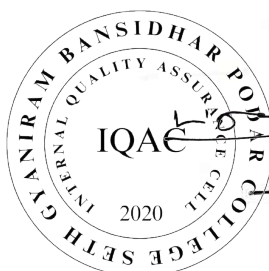
Department of Botany
Seth G.B. Podar College, Nawalgarh, Rajasthan

Dr. V.K. Sangode

Assistant Professor, Department of Zoology
MB Patel Arts Commerce and Science College, Sadak Arjuni



Alphine Publications
PVT. LTD.



[Signature]
Alphine Publications Pvt. Ltd., Agra



Alphine Publications

Published By

Alphine Publications Pvt. Ltd., Agra

Maruti City Extension Shamshabad Road, Agra – 282001 (Uttar Pradesh)

Contact : 0562 3597816, 9557613322, 9058586680

Email : alphinepublication@gmail.com

Website : alphinepublication.com

ADVANCES IN TISSUE CULTURE AND PLANT BIOTECHNOLOGY

**Authors : Dr. Mehtab Yasmeen, Mr. Mukul Machhindra Barwant,
Dr. Ravindra Goswami, Dr. V.K. Sangode**

© Publisher

1st Edition 2024

ISBN: 978-81-973055-9-7

PRICE: 180.00

All rights including copyrights and rights are reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted or utilized in forms or by any means including electronic, mechanical, photocopying, recording or otherwise or stored, without the prior permission of the copyright owner. Publishers and the editors shall not be responsible for any liability arising on account of any civil or criminal proceeding (s) in any court/ Judicial body under any law for the time being in force. Please do not participate in or do not encourage piracy of copyrighted materials in violation of the author rights. All disputes are subject to Agra jurisdiction only.

The responsibility for facts stated, opinion expressed or conclusions reached and plagiarism, if any in this book is entirely that of the editors. Neither the publisher nor the editor will be responsible for them whatsoever.

Printed in India

Published by Alphine Publishers Pvt. Ltd., Agra.

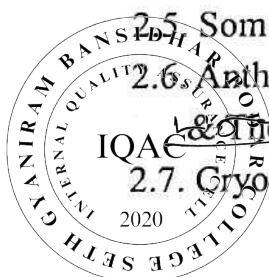
Laser Type setting at Singh Computer Classes, Meerut.

Printed by D.K. Fine Art Press Pvt. Ltd. New Delhi-110052.

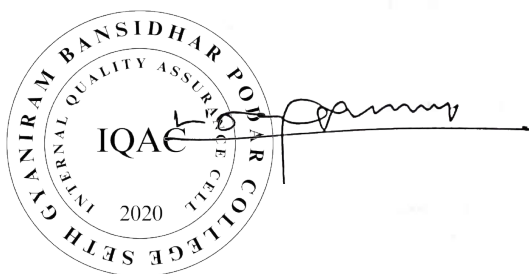


Contents

Unit - 1: Fundamentals of Plant Tissue Culture	1
1.1. Introduction to Plant Tissue Culture, Totipotency of Plant Cells (Dedifferentiation, Redifferentiation and Regeneration)	1
1.2. Nutritional Requirements for Plant Tissue Culture: Nutrient Media - Macronutrients and Micronutrients, Media Additives (Carbon Source, Vitamins, Amino Acids); Types of Media	4
1.3. Plant Growth Regulators - Auxins, Cytokinins and Gibberellins	9
1.4. Preparation of Media, Sterilization, Selection & Surface Sterilization of Explant, Inoculation, Incubation and Culture of Plant Tissue <i>in vitro</i>	11
1.5. Induction of Callus Cultures and Cell Suspension Cultures	23
1.6. Organogenesis and Somatic Embryogenesis	31
Unit - 2: Applications of Plant Tissue Culture	38
2.1. Meristem Culture, Micropropagation and their Applications	38
2.2. Encapsulation and Production of Synthetics Seeds and Their Applications	44
2.3. Cell Suspension Cultures (Batch and Continuous Cultures) and Applications	52
2.4. Protoplast Isolation, Culture and Fusion - Development of Somatic Hybrids & Cybrids and Their Applications	56
2.5. Somaclonal Variation and Its Applications	80
2.6. Anther and Pollen Culture for Production of Haploids & Their Applications	90
2.7. Cryopreservation - Conservation of Plant Germplasm	95



Unit - 3: Production of Transgenic Plants	
3.1. Direct Gene Transfer Techniques - Physical Methods: Microinjection, Particle Bombardment (Gene Gun) and Electroporation & Chemical Method	99
3.2. Molecular Mechanism of <i>Agrobacterium</i> infection and Features of Ti Plasmid	99
3.3. <i>Agrobacterium</i> Mediated Gene Transfer using Binary and Co-integrate Vectors	106
3.4. Viral Vectors for Gene Transfer into Plants	112
3.5. Selection of Transgenic Plants using Reporter and Selection Marker Genes	117
3.6. Genome Editing - CRISPR CAS 9 Technology	121
	123
Unit - 4: Applications of Transgenic Plants	131
4.1. Herbicide Resistance in Transgenic Plants - Glyphosate Tolerance	132
4.2. Insect Resistant Transgenic Plants: Bt Cotton, Proteinase Inhibitors, Lectins	134
4.3. Virus, Bacterial and Fungal Resistant Transgenic Plants	137
4.4. Abiotic Stress Tolerance: Drought, Heat and Salinity Stress Tolerant Plants	142
4.5. Transgenic Crops with High Nutritional Values	146
4.6. Transgenic as Bioreactors	149





Dr. Mehtab Yasmeen did her Ph.D from Osmania University, Hyderabad in the year 2005. She is working as Faculty in the Department of Botany at Telangana Mahila Viswavidhyalyam, Koti, Hyderabad. She is active in research and participated in many workshops, seminars, technical sessions and presented papers in many national and international conferences, published many papers in peer reviewed journals and books. Her work is mostly related with plant science and environment protection.



Mr. Mukul Machhindra Barwant working as the Dean of Research and Innovation and Assistant Professor of Department of Botany Sanjivani Arts Commerce and Science College Kopargoan Ahmednagar Maharashtra India. In addition to holding 20 patents, he has authored 44 research articles, 20 book chapters, and 30 edited books. received recognition at the state and national levels. Best Researcher Award, Best Research Scholar Award, Young Researcher Award, Young Professional Award, RSRI Best Researcher Award, and Researcher Award 2024 He has made a remarkable contribution to research. In addition, he edits over 25 journals and serves on the reviewer board for 44 journals.



Dr. Ravindra Goswami, completed his Ph.D. in Botany from Dr. Bhimrao Ambedkar University, Agra and at present working as assistant professor in Rajasthan. He published more than 30 research papers in peer-reviewed journals. He awarded for his social work and teaching by different Academic and Non-Government organizations. He attended more than 70 international and national seminars/ conferences. And gave more than 25 invited lectures/talks in different colleges and universities. He organized/coordinated more than 20 workshops/FDP/Seminars. He is able to read and write in 2 international and 5 regional languages. His research criteria included Environment conservation, Bioremediation, Nanotechnology, Microbiology, Heritage Conservation, Rural heritage conservation, Cognitive & Biolinguistics.



Dr. V. K. Sangode did his UG from Bhawbhuti Mahavidyalaya and Post graduate studies from Department of Zoology with subject specialization Entomology and to his credit he has been awarded Maulana Azad National fellowship by University Grant Commission New Delhi India for pursuing PhD Research work on topic Effect of Bt Cotton on the lifecycle of Spodoptera litura Fabricius under the able guidance of Dr.M.K.Rathod Scientist /Professor, Centre for Sericulture and Biological Resource Management RTM Nagpur University Nagpur, He has more than 5 years of teaching and 10 years of Research experience.



Alphine Publications Pvt Ltd.
Maruti City Extension Shamshabad Road,
Agra (U.P.) India 282001

Contact : 0562 3597816, 9557613322, 9058586680
Email : alphinepublication@gmail.com
Website : alphinepublication.com

ISBN: 978-81-973055-9-7



₹ 180/-