

# Biodiversity and Development: Challenges of 21<sup>st</sup> Century



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Muzaffarnagar



Organizing Secretary  
National Seminar on  
Biodiversity & Development  
Challenges of 21<sup>st</sup> Century

Dr. Sadguru Prakash has started his teaching career in department of Zoology, M.L.K.P.G. College, Balrampur since 2002 after completing his Ph.D degree in 2000 from Dr. R.M.L. Avadh University, Ayodhya under the supervision of Dr. K.K. Ansari. Dr. Prakash is well known researcher and published more than 65 research papers in reputed national and international journals and attended more than 30 national and international conferences/ seminar/ symposium and delivered lectures as resource person on various topics. He has been awarded fellowship from Blue Planet Society, Prayagraj; Asian Biological Research Foundation, Prayagraj and Glocal Environment & Social Association, New Delhi. He has been awarded Dr. A.P. J. Abdul Kalam Green Environment Promotion Award by GESA, New Delhi, Innovative Educationist Award by GESA, New Delhi and Innovative Zoologist Award by ABRF, Prayagraj. He has supervised one Ph.D. Scholar, one M.Phil Student and five dissertation projects of M.Sc. Students. Instead of other academic pursuit viz. Examination Incharge of the College, member of proctorial board, Assistant coordinator IGNOU study center, Assistant coordinator IQAC of the college etc and member of Board of studies of Siddharth University Kapilvastu Siddharth Nagar U.P.



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## Pollution and affecting Human Health

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Effects of pollution on Human Health are extremely alarming. There are many diseases that can bring about a host of potentially fatal illnesses. From chronic bronchitis to lung cancer, air pollution has the potential to raise the risk of illness.

Air pollution and its link to the respiratory system is quite obvious. However, air pollution is also known to affect the circulatory system and the nervous system. When particular matter enters the nasal cavity, the lining gets irritated and the body may mistake it for an infection. This causes an inflammatory response, which can result in the exacerbation of any pre-existing conditions.

### **What are the Consequences of Pollution on Human Health?**

- Human health is also severely affected by particulates in the atmosphere. The particulates can cause nasal irritation and swelling. It can also cause a runny nose.
- Air pollution is additionally linked to lung damage and limited lung function
- Air pollution can also have an inflammatory effect on the heart – it can elevate blood pressure and aggravate pre-existing conditions of the heart.

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- The risk of death significantly increases with long term exposure to polluted air. For instance, people susceptible to heart diseases are at higher risk.
- Most Causes of pollution are often mainly attributed to anthropogenic causes. This means humans are liable for causing pollution. Water pollution is often defined because of the introduction of pollutants into a body of water. These can cause detrimental effects on the organisms that live in the water body or interact with the water. However, the causes of pollution can occur from natural processes or phenomena too.

## **Causes and Effects of Air Pollution**

### **The Burning of Fossil Fuel**

When we burn fossil fuels, such as coal or oil, carbon monoxide gets released into the air and pollutes the air we breathe. When we inhale the toxic air, it deteriorates our heart's ability to pump the oxygen and leads to various respiratory illnesses

### **Industrial Emission**

When the industry doesn't follow the government regulations to curb air pollution, several pollutants get released into the air. From nitrogen oxide to carbon monoxide, these gases are harmful to human health. It can lead to irritation in the eyes, throat, breathing and more.

### **Wildfire**

Today, climate change should be taken on priority as it is not just deteriorating the environment, but also causing population problems. Wildfires occur because of climate change, which causes smog, burns forest and causes damage. This also leads to difficulty in breathing, throat, and more.

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### **Open Burning of Garbage Waste**

Even today, open burning of garbage is a practice that is used in major cities. If we take the example of India's capital, Delhi, it generates about 9500 tons of waste every day and this gets burned, which leads to various health issues, such as liver issues, problems with reproductive functions, problems with the immune system, and more.

### **Use of Chemicals and Transportation**

Use of chemical infused products and vehicle pollution can cause the release of harmful pollutants into the air. When vehicle pollution becomes excessive, it can create a hole in the ozone layer, which leads to smog and other various health issues.

### **Causes of Water Pollution**

Water is able to dissolve many substances, hence it is called the universal solvent. This is an equivalent reason why pollution occurs easily. Following are the causes of water pollution:

#### **Sewage and Wastewater**

Many people put their waste directly into water bodies. Moreover, households may use septic tanks, which eventually infiltrate into the soil, causing pollution of groundwater which is not served by municipal treatment plants.

#### **Industrial Effluents and Industrial Usage**

Some industries may directly pump their untreated wastes into water bodies like rivers. Moreover, various industries also use water as a coolant, thereby causing pollution. Increased water temperatures can cause a reduction in the levels of oxygen; which can cause the death of fish and other organisms.

  
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### **Eutrophication**

Eutrophication is caused when large quantities of nutrients are introduced into a body of water, causing the rapid growth of algae. This can decrease the oxygen level within the water, rendering the fish unable to breathe. Moreover, this phenomenon also can introduce dangerous toxins into the water body, which may harm or kill most organisms, including humans

### **Deforestation**

Deforestation can cause soil erosion. When these loose soil particles enter a water body, they will make the water murky. This can make the water very misty as it also has the capability to cause mechanical damage to aquatic organisms, (such as sand particles getting stuck in gills).

### **Agricultural Run-Offs**

Agricultural run-offs include fertilizers and other chemicals which will make the water toxic. Moreover, some of these fertilizers can induce eutrophication.


### **Accidents**

Accidents can involve events such as leaks and oil spills. Oil spills, in particular, are very damaging to the environment and aquatic life. It occurs when large oil tankers, barges or drilling rigs are involved in accidents. The most well-known oil spill was that of the troubled Horizon, which occurred on 20th April 2010.

### **Causes and Effects of Noise Pollution**

#### **Man-Made Noise Pollution**

Industrialization, poor urban planning, transportation and more lead to noise pollution. While slight noise can be okay for the human ears, when the noise goes from 30-140 dB it is very harmful for the

  
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humans. Right from headaches, problems with the vision, it can lead to various issues.

### Environmental Noise Pollution


Environmental noise pollution is what occurs naturally. If it goes beyond 140 dB, it can adversely affect human health. Some of the examples of environmental noise pollution include thunderstorms, sounds from animals, and more.

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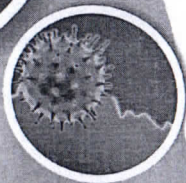
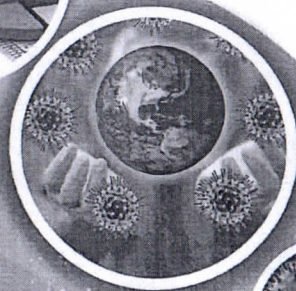
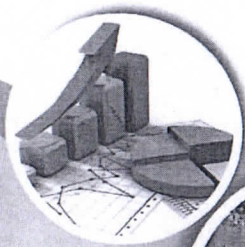
# Pandemic COVID-19

## Repercussion and Lessons

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## Pandemic and cursed Humanity: Reproach to Traditional Lifestyle

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Despite supposed massive progress in the scientific realm, COVID-19 has brought this world to its knees. Since March 2020, our fast-paced lives have experienced an unprecedented halt. With the effects of the virus still unravelling, the world is experiencing an unusual lifestyle- away from offices, schools and friends; just locked down at home. A leveller in its spirit, this virus has affected everyone irrespective of their social and financial status. Never before has humanity faced such testing times together.

Human-race rediscovers themselves, their habits and lifestyles at every big challenge to survive and be ready for it in the future. This unforeseen pandemic may have made us insular, but it has also brought the world closer. Confronted with this ominous scenario of being stuck inside for an indefinite time, one saving grace has been the opportunity to rekindle the lost relationships within our families. Loaded with a huge ego, unfulfilled desires and a false sense of pride, most of us had lost our ways mesmerizing the westernized modernity. It is astounding to learn, how we were so tied up in knots with our daily work schedules; so busy chasing a future that we forget to count on our blessings. Fortunately, the traditions of eating together and enjoying dinner table conversations are back. With TV classics making their way back on screen, Doordarshan brought back the golden era for us to enjoy during this lockdown. Despite such a strong presence of various OTT platforms, Ramayana and Mahabharata created a significant buzz and gained huge viewership. With our favourite shows back on television, families got to spend more time together, reliving those good old days.

Amidst this lockdown, one more important change has been the realization in regards to the syndrome of obsessive consumerism. Globally, people are turning towards Indian lifestyles of minimalism; making more thoughtful purchasing decisions and consciously putting in efforts to both "preserve" and "conserve". People are now aware that it's only their body's resistance and mind's resilience that can enable them to cope in this

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vulnerable world. Trends towards Indian ancient lifestyle of vegetarianism, fertilizer free food, yoga, usage of herbs based medicine is gaining prominence.

Studies indicate that recent lifestyle changes (work from home and lack of in-person interactions) have led to a rise in psychological sufferings. Yoga and meditative practices (earlier rejected as being slow, monotonous and ineffective) have proven to be particularly useful in allaying anxiety and fight social isolation. It has been an effective tool in ensuring the physiological and psycho-social care. On the spiritual and cognitive level, people (especially Indians) across the globe are resorting back to ancient Indian scriptures in search of answers. At the spiritual level, ancient Indian texts (Bhagwat-Gita and Vedas) have gained unprecedented traction. Traditional scriptures and meditative practices (Dhyana) offer myriad ways for us to release ourselves from the pain and regret of what has already passed. In this world of uncertainty, where anxiety and fear get triggered by unforeseen situations or the thought of a future, such practices can be a serious source of comfort.

Recently, a new start-up named "The Ramayana School", founded by Shantanu Gupta, has gained global prominence during Corona pandemic. Their concept of the live online workshop on leadership lessons from Ramayana (for children of age 7-14 years) and Global Ramayana Olympiads has connected them with thousands of families (NRI's and foreign nationals) from over 15 countries across the globe. Their attempt to chart out a viable alternative model of polity and leadership based on Ramayana has been appreciated and has gained them invitations from ICCR (Thailand Chapter), JNU and other prestigious institutions.

Even, the smallest of things like social etiquettes, gestures and ways of greeting have seen a radical change, keeping in mind the protocols laid down by WHO. Across the globe, people are avoiding hugs, handshakes, high-fives and resorting to 'Namaste' (an archaic Indian practice of non-contact based greeting).

In terms of diets and eating habits, the world is switching over to healthier alternatives with food industry witnessing gradual adaption. People have become more conscious of their lifestyle choices and opting for Satvik-diet (sustainable plant-based alternatives). The strong shift indicated in 2020 seems to take us back to our roots and bring back the trend towards vegan & organic food. Ayurveda, an important, but often overlooked segment of healthcare has witnessed a spike in demand and regulatory global-acceptance in form of the immunity-boosting supplement. In the absence of allopathic medicine offering a definite cure, the demand for naturopathy and traditional herbal medicines has been on the rise. Proving to be an effective preventive treatment, it can complement (rather than be an alternative for) modern western medicine. India is the oldest surviving civilization in the world. Its traditional knowledge around health, food, naturopathy and human psychology are time tested and can provide the remedy to modern global challenges. With modernity's glittering facade getting unveiled as an elusive mirage.

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A forgotten truth has gradually dawned onto us; we are not the only one but one of the million other species, sharing this planet. Rather than being blind to the specious privilege of living in unequalled urbanity, we should experience the world within the limits of our immediate neighbourhood; live in harmony with the environment rather than claiming supremacy over it. As we went into lockdown, nature quietly went about reclaiming itself, so should the humanity. We must move beyond the false narratives and flawed perceptions that attempts to degrade our traditional practices and understand the real reason behind certain archaic habits. Even when all the restrictions are lifted and things return to normal, our attempt should be towards crafting a sustainable way of life; eschewing exploitative practices as far as possible.

There are two major influences: staying at home (which includes digital-education, smart working, limitation of outdoors and in-gym physical activity) and stockpiling food, due to the restriction in grocery shopping. In addition, the interruption of the work routine caused by the quarantine could result in boredom, which in turn is associated with a greater energy intake. In addition to boredom, hearing or reading continuously about the COVID-19 from media can be stressful. Stress leads subjects toward overeating, especially 'comfort foods' rich in sugar, defined as "food craving". Those foods, mainly rich in simple carbohydrates, can reduce stress as they encourage serotonin production with a positive effect on mood. However, this food craving effect of carbohydrates is proportional to the glycemic index of foods that is associated with the increased risk of developing obesity and cardiovascular diseases, beyond a chronic state of inflammation, that has been demonstrated to increase the risk for more severe complications of COVID-19.

This new condition may compromise maintaining a healthy and varied diet, as well as a regular physical activity. For example, limited access to daily grocery shopping may lead to reduce the consumption of fresh foods, especially fruit, vegetables and fish, in favour of highly processed ones, such as convenience foods, junk foods, snacks, and ready-to-eat cereals, which tend to be high in fats, sugars, and salt. Moreover, psychological and emotional responses to the COVID-19 outbreak, may increase the risk of developing dysfunctional eating behaviors. It is well known how the experience of negative emotions can lead to overeating, the so-called "emotional eating". In order to contrast and respond to the negative experience of self-isolation, people could be more prone to look for reward and gratification physiologically associated with food consumption, even overriding other signals of satiety and hunger. In addition, boredom feelings, which may arise from staying home for an extended period, are often related to overeating as a means to escape monotony. On the other hand, negative experiences may lead to eating restriction, due to the physiological stress reactions that mimic the internal sensations associated with feeding-induced satiety.

Finally, lifestyle may be substantially changed due to the containment measures, with the consequent risk of sedentary behaviours, modification in smoking and sleeping

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habits. Of interest, different studies reported an association between sleep disturbances and obesity due to increase the secretion of pro-inflammatory cytokines by the increased visceral adipose that could contribute to alter the sleep-wake rhythm. In addition, also diet seems to influence the quality of sleep. In fact very recently in a cross-sectional study included 172 middle-aged adults it has been reported that good sleepers had higher adherence to the Mediterranean diet (MD) and lower body mass index (BMI) compared to poor sleepers [21].

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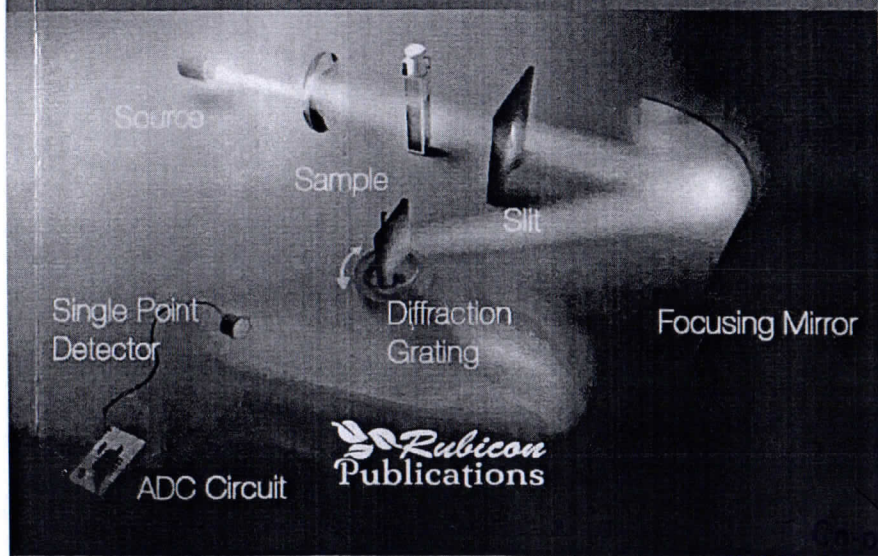
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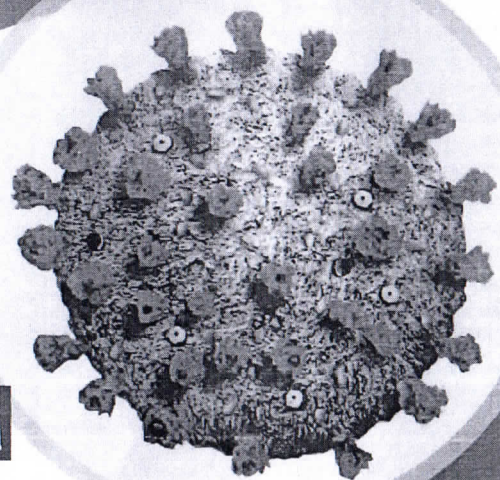
  
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# The Forbidden COVID-19 A Lesson To Learn कोविड-19

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एक सबक भविष्य के लिए



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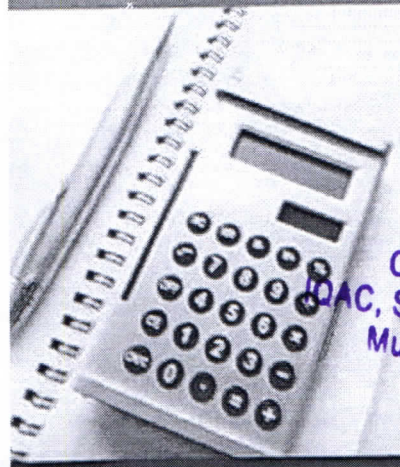
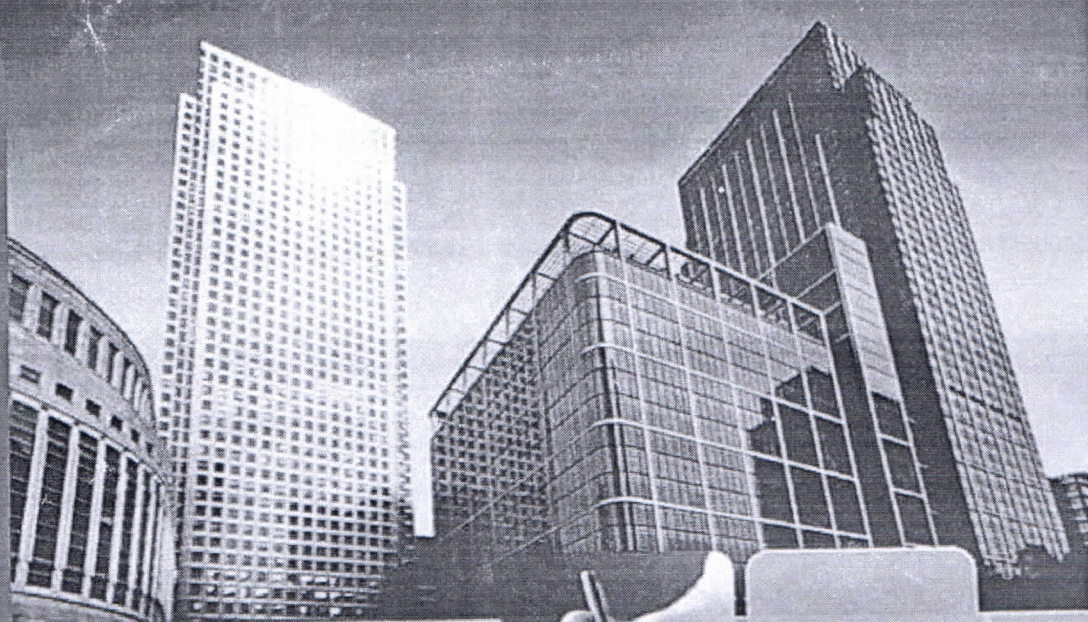




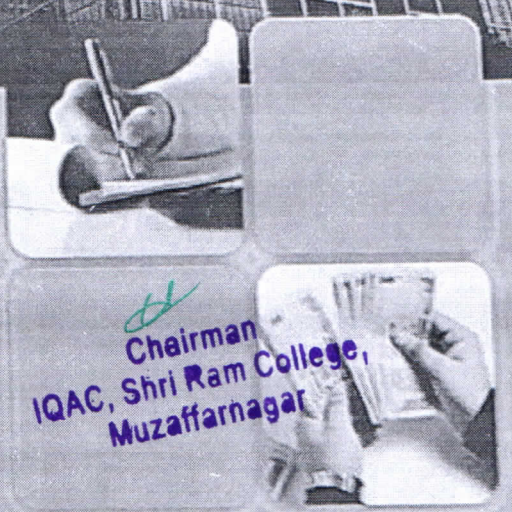
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## *Syllabus*

**BACHELOR OF COMMERCE (B. Com.-II)**

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**Unit II :**

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**Unit III :**

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**Unit IV:**

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**Unit V:**

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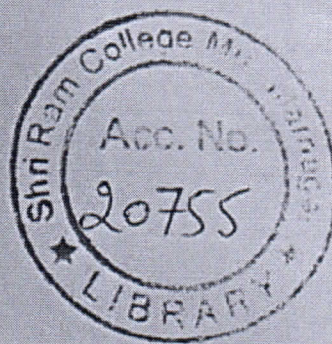
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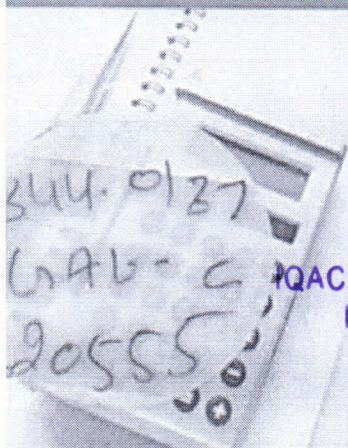
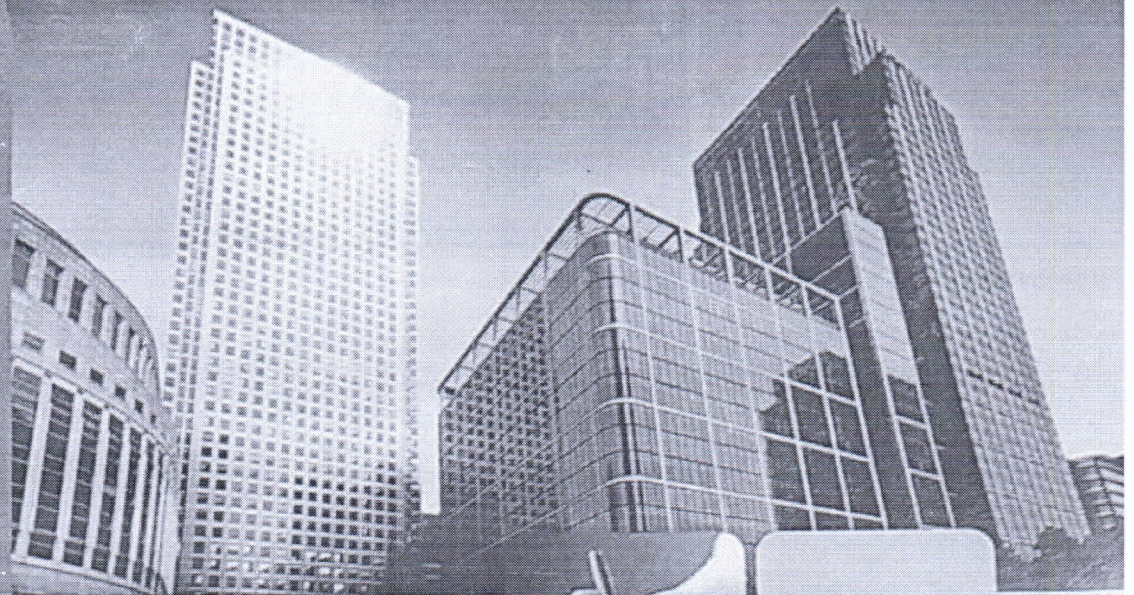


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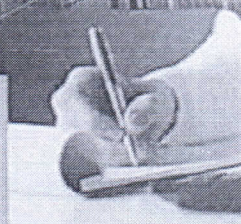
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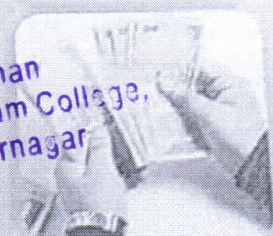
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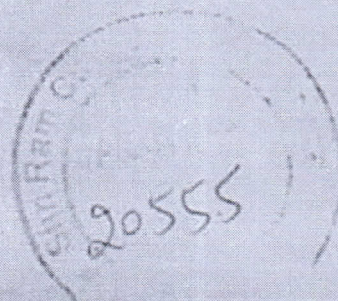
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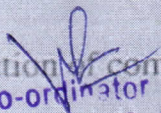
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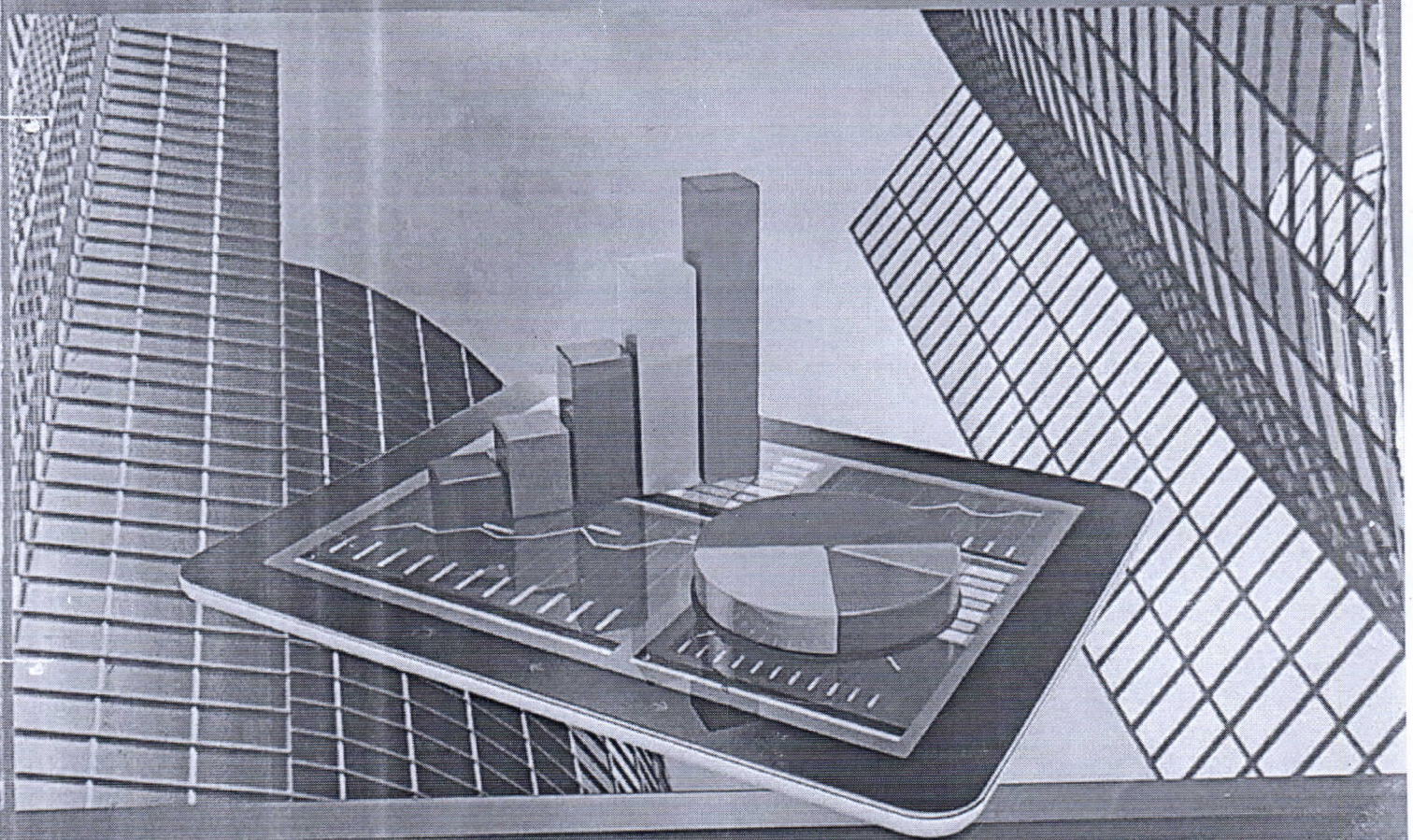
  
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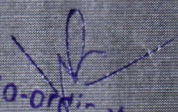


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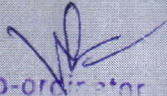
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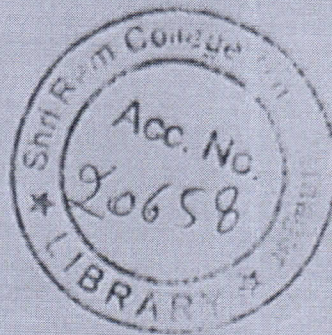


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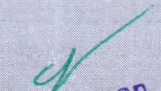
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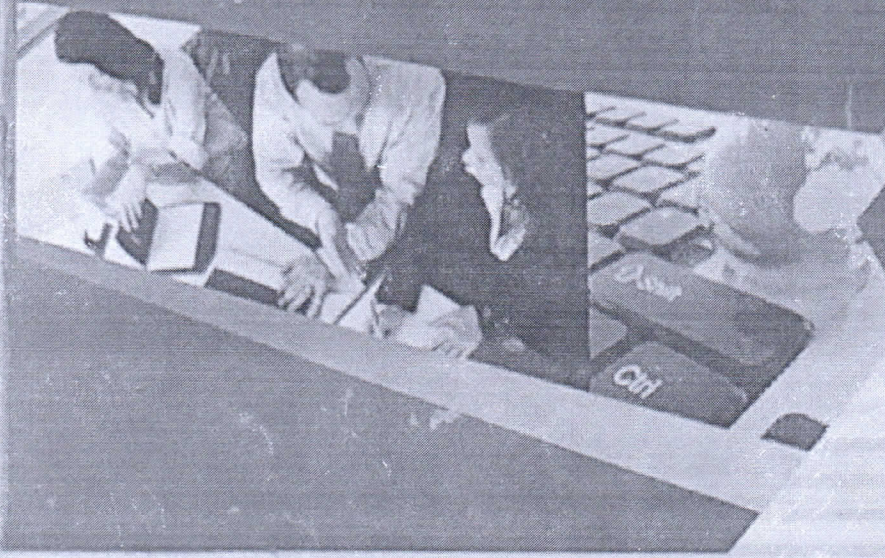
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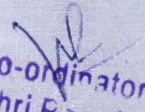


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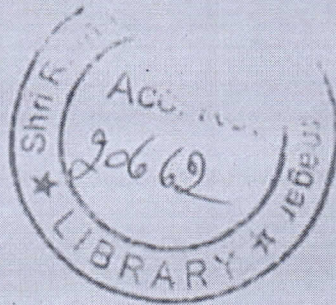
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अध्याय

पृष्ठ-क्रम

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
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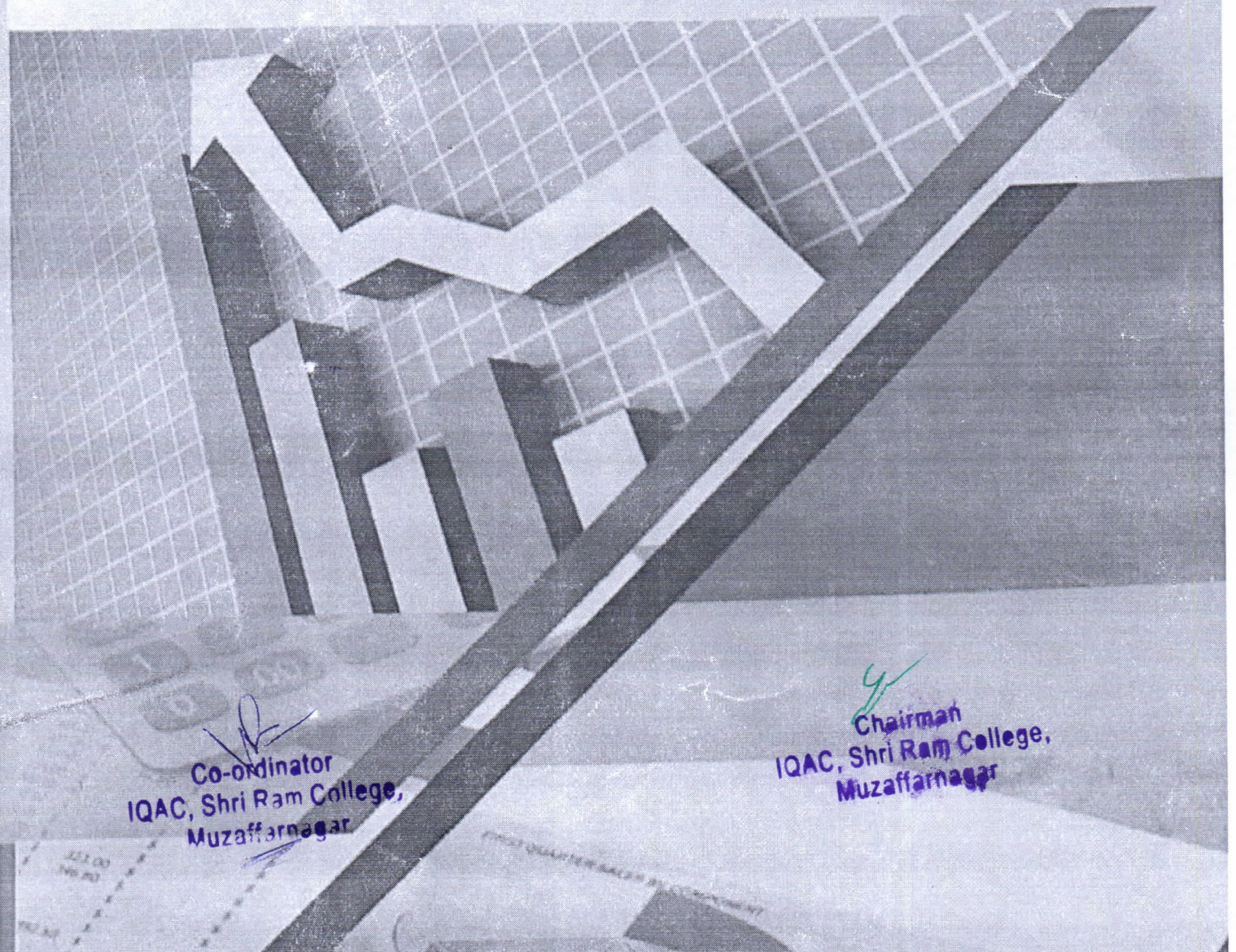
  
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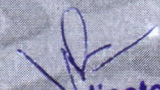




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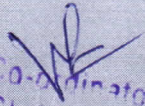
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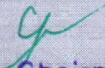
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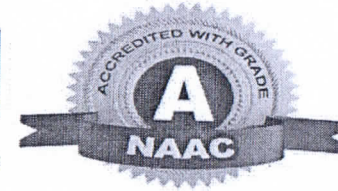
  
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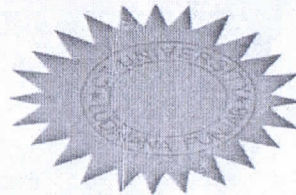
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