



**KONGUNADU ARTS AND SCIENCE COLLEGE**  
(Autonomous)  
Coimbatore - 641 029

**KASC-INSTITUTION INNOVATION CELL (KASC-IIC)**

**KAPILA: Kalam Program for IP Literacy and Awareness**  
**Schedule for**  
**National Intellectual Property Literacy Week**  
**(15- 23 October 2020)**

The KAPILA Institute level activity was discussed during first council meeting held on 2<sup>nd</sup> November, 2020 and assigned to the following faculty members to perform the activities.

S. No	Activity / Programme	Staff Incharge
1.	Encourage student/ faculty/staffs to write case studies/articles regarding Innovation & Intellectual Property, entrepreneurial culture	<b>Dr. R. Ranjith Kumar,</b> Dept. of Biotechnology
		<b>Dr. P. Sumathi,</b> Dept. of Botany
2.	Create a short video on best innovative practices/innovation and incubation facilities existing in campus to support student regarding innovation, Intellectual Property and entrepreneurship	<b>Dr. R. Karthik,</b> Dept. of Information Technology
		<b>Dr. K. Saravanakumar,</b> Dept. of Physics
3.	Involving student music clubs or bands to create a song on "Innovation, Intellectual Property & entrepreneurship	<b>Dr. M. Venkatachalam,</b> Dept. of Mathematics (Aided)
		<b>Dr. S. P. R. Priyalatha,</b> Dept. of Mathematics (Aided)
4.	Place / Share a banner in Institute / WhatsApp /Facebook for awareness among students regarding the campaign	<b>Dr. K. Velmurugan,</b> Dept. of Zoology
		<b>Dr. K. Nirubama,</b> Dept. of Biochemistry
5.	Identifying existing Product ready of applying for patent	<b>Dr. B. Divya Priya</b> Dept. of Commerce (PG)
		<b>Dr. S. Rajeshkumar,</b> Dept. of Zoology

**Encourage student/ faculty/staffs to write case studies/articles regarding  
Innovation & Intellectual Property, entrepreneurial culture**

**Title of the Paper:** A Study on Performance of Foreign Direct Investment in Service Sector in India

**Author Name:** Dr. S. Punitha Devi

**Designation:** Assistant Professor & Head, Department of BBA CA

**Institution:** Kongunadu Arts and Science College,  
Coimbatore – 641029

**Phone No:** 9944111148

**Mail Id:** [devipunitha03@gmail.com](mailto:devipunitha03@gmail.com)

**Abstract**

Foreign Direct Investment (FDI) is an investment made by a foreign individual or company in productive capacity of another country. The Indian economy is at 11<sup>th</sup> position in the world with regards to the nominal GDP for the year 2011-2012. It witnessed a low growth and the reasons traced out could be weak monetary policy, inflation issues and low investments. FDI is accepted in the perspective of bridging the gap between savings and investment. In India FDI policy is governed by the Government of India and with the provision of Foreign Exchange Management (FEMA) 1999. FDI is one of the measures of growing globalization. India is one of the most attractive destinations for foreign investment. Since liberalization when FDI were allowed to enter India, the economy has grown by manifolds. FDI plays a vital role in the Indian economy. This paper focuses on need of FDI and trend and pattern of FDI equity inflows in the country. For this the analysis is undertaken for the time period from 2011-2012 to 2019-2020. Based on the need of the correlation and ANOVA is used in the study. The service sector has the highest contribution in the Indian economy. At the same time construction and development, computer hardware and software sector and telecommunications is also growing at a tremendous rate.

**Keywords:** *FDI, FEMA, GDP, ANOVA, Globalization, Equity Inflows*

**CONCEPT NOTE**

**ON**

## HERBAL BASED OLIGOSACCHARIDE MULTI PLANT BIO NUTRIENT PRODUCT

Dr. R. RANJITH KUMAR

Assistant Professor

Department of Biotechnology

Kongunadu Arts and Science College

Coimbatore, Tamil Nadu, India

Email: [ranjithkumarr\\_bt@kongunaducollege.ac.in](mailto:ranjithkumarr_bt@kongunaducollege.ac.in)

### INTRODUCTION OF BIOPOLYMER AS A CROP BIO NUTRIENT:

The second-most abundant sea species exoskeleton derivative alkaline natural biopolymer oligosaccharides are the effective alternative source for chemically oriented plant nutrients and yield enhancers. Because of the Natural bio-fungicide, bio-bactericide, and hormone inducing and yield enhancement properties in commercially cultivated crops like Tomato (*Solanum Lycopersicum L*), Banana (*Musa*), and eggplant (*Solanum melongena*). Type-2 Biopolymer was suitable to increased total phenolic compound Contents in Bio (*Camellia sinensis*) Leaves by Pre-and Post-Treatments Srisornkompon *et al.*, (2014). The Foliar spraying Biopolymer over mango trees improved vegetative growth such as fruits number, weight and size were increased Zagzog *et al.*, (2017). According to the reports the chitin derivative biopolymer (N-2-chloro-6-fluorobenzyl-biopolymer) exhibit effective insecticidal activity against oleander aphid (*Aphis nerii*) and larvae of leaf-worm (*Spodoptera littoralis*) in cotton crops (Sahab *et al.*, 2015). Study revealed a combination of nano level Biopolymer (CS)-g-poly (acrylic acid) (PAA) has a potential insecticidal activity against the insects of soybean cotton aphid (*Aphis gossypii*) and cowpea weevil or cowpea seed beetle (*Callosobruchus maculatus*).

This polysaccharide-based biopolymer could degrade enzymatically (Escudero *et al.*, 2017) then it can stimulate to increased symbiotic beneficial rhizosphere biota at low concentrations so, thus mechanism control the plant affecting pathogens Bell *et al.*, (1998). Wheat plant Growth and productivity by nano biopolymer and NPK combination in sandy soil Abdel-Aziz *et al.* (2016) then bacterial and fungal wilt disease control in tomato crops Abo-Elyousr *et al.* (2014), were exhibit persistence use of Biopolymer as a nontoxic ecofriendly biofertilizer in our countries commercially cultivated crops.

**Biogenic bio waste in crop growth enhancement:** The saponin rich bio waste extracts are good growth stimulator and regulator natural source. It shows unique advantage physiological effects in plants like Lemna, mustard, barley and Strawberry Andresen and

Cedergreen (2010). Study of Yarahmadi and Rajabpour 2015 reveals the combination of bio extract with sodium sorbate shows good insecticide against the arthropod insects of spider mite and whiteflies. The associate distillery sludge waste with Bio waste (Bio leave residue) were convert into vermicomposting adopted by earthworm *Eisenia fetida*. Then the physiochemical parameters were revealed Total N, P and K, Ca and Mg matters increased in 45<sup>th</sup> day of fully converted compost product (Mahaly *et al.*, 2018). Jaswinder Singh (2014) study also showed 80% feed mixture of bio waste with cow dung can be degraded in this stipulated time and gives the best quality product (Vermicompost) by the *Eisenia fetida* earthwarm species. From this study expose the soil friendly species *Eisenia fetida* could convert the bio waste into plants essential nutrients source. Different concentration of bio extract combines with other nutrients promote the plants growth includes corn, soybean, wheat, rice, barley, oats, canola, or turf grass (Chambers, 2014).

#### **Focus and impact of product in field:**

The positively charged biopolymer and negatively charged bio polyphenols associate with each other to form polyelectrolyte matrices of pH-tunable dimensions led stability (Liang *et al.*, 2017). This stable bio compatible would be increase the reach of nutrient source to the targeted site of plant roots in soil and hydroponic systems. In this aspect our product focus on the eco-friendly herbal polymer approach of “Bio waste bioactive compounds combined biopolymer colloidal” will be an effective water-soluble bio-nutrient with the potential of bio fungicide, bio bactericide and hormone enhancer for the both Horticultural and agricultural sectors. Based on the degradability and sustainable source of the raw material to the product production may led to fulfill the market demand of the organic biofertilizer through this eco-friendly approach.

#### **Economical advantage of Product**

- Major alternative source for Chemical fertilizer and nutrients
- High end of product sustainability lead to circular economy aspect
- Productive and distributing are low cost effect
- Product will produce only by the regional raw materials
- Optimum product to fulfill the demand of Asia-Pacific market

#### **Biological advantage of product**

- Effective herbicide and insecticide to the selective species
- Effective biofungicide and biobactericide especially against *wilt fusarium* in field level crops like tomato, banana and egg plant

- Polyphenol enhancement to the horticultural plants
- Multiple nutrients source of soil and hydroponics plants

## **ROLE OF BIOFERTILIZER OR BIOPESTICIDE IN AGRICULTURE DEVELOPMENT AND NOVEL NANO BIOFORMULATION FOR SUSTAINABLE AGRICULTURE**

Mr. JAGADESH.R, II MSC BIO TECHNOLOGY, Department of Biotechnology,  
Kongunadu Arts and Science College, Coimbatore, Tamil Nadu, India.

### **BACKGROUND OF THE STUDY**

The purpose of this research is to find out the awareness and the acceptance of the bio fertilizer in and around the Niligiri district. The survey has been conducted to identify the awareness among the farmer's. Though, they are aware that, bio fertilizer will give more field than the chemical fertilizer farmers are unaware due to the low availability, high cost, initial low productivity. Since, bio fertilizers have significant and enduring environmental import, which nullifying the adverse effect of chemical fertilizer. The massive increase in the use of chemical fertilisers indicates that we are depleting our natural resources knowingly. This motivated the study to find out the awareness and acceptance of bio-fertilizers among the TamilNadu farmers and to find the ways and means of providing awareness to the farmers about the bio-fertilizers in order to increase their yield.

The Niligiri district comprises of five taluk mainly udhagamandalam, kundah, coonoor, kotagiri, gudalur. The survey was carried out in and around of kotagiri to coonoor. The soil of kotagiri and kundah are more acidic in the nature. Organic carbon is high in all the type of soil. The available nitrogen content of the soil ranged between medium to high in all soil type. The phosphate availability is low due to the fixation of phosphate ion. The potassium content is high in all the type of soil. The pH plays major role in the soil type. The acidic soil might have lyst to open up and produce the juvenile. It is important to increase the soil fertility and better field non-organic fertilizer contains phosphate, ammonium etc. This could cause adverse effect in health as well as environmental problem.

### **ABOUT THE INDUSTRY**

The company sustains on the power of microbial bio-prospecting company in the erode providing the eco being solution for the clean and sustainable agriculture. The main focus is to commercialization of the bio resource in bacteria, fungi, algae, and thus improve the quality of human life.

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**  
**Re-accredited by NAAC with A<sup>+</sup> Grade (4<sup>th</sup> cycle)**  
**College of Excellence (UGC)**  
**COIMBATORE – 641 029**

**CIRCULAR**

**05.11.2020**

The Institution Innovation Cell (IIC) of our College is effectively functioning with a higher motive of encouraging the students and researchers to come out with innovative ideas. IIC of our Institution proposes to have a theme song on "Innovation, Intellectual Property and Entrepreneurship". In this regard, interested faculty members, Research scholars and students are asked to compose a theme song adhering to the following instructions:

**Theme Title:** Innovation, Intellectual Property and Entrepreneurship

**Language:** English / Tamil (Preferably English)

**Duration:** Maximum 6 minutes

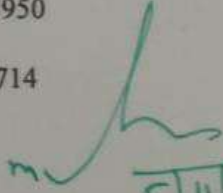
**Last Date:** 25.11.2020

**Email Id:** [venkatmaths@kongunaducollege.ac.in](mailto:venkatmaths@kongunaducollege.ac.in)

For further details contact:

Dr. M. Venkatachalam, Assistant Professor of Mathematics – 9791615950

Dr. S. P. R. Priyalatha, Assistant Professor of Mathematics – 7708065714

  
5/11/2020  
**PRINCIPAL**

To

1. All the Heads of the Departments
2. All the students through the Heads of the Departments
3. All the staff members through the Heads of the Departments

Copy to

1. Secretary's office
2. Dean, Academics
3. Dean, R & D
4. Librarian
5. Controller of Examinations
6. Office Superintendent (Aided & Unaided)

Copy for favour of information of :  
Chief Executive Officer - Unaided courses

We have invited the theme song on **“Innovation, Intellectual Property and Entrepreneurship”** from all the Staff and Students through the Circular dated 05.11.2020 signed by the Principal. In this regard, we have received one lyrics from our faculty member **Dr. M. Vigneshwaran**, Assistant Professor of Mathematics. The lyrics are given hereunder.

**Welcome Boys**

**Welcome Girls**

**Now the Society in your hands**

**Mix with them**

**Fix the goal**

**Working towards it ever**

**Give it up at any time never**

**Perseverance is the key of Success**

**Get the spark**

**Connect your thoughts**

**Enact your minds**

**Innovate the technology**

**Serve the society up to the mark**

**Beware always aware**

**Someone may steal your thoughts**

**Come on youngsters come on**

**Get the patent in your name**

**Set the record as of now**

**Own a company with positivity**

**Produce the products with quality**

**Export them with purity**

**Always have the honesty**

**Stand in business longevity**

**Achieve to achieve**

**Join in the IIC**

**Stalwarts are your guiding stars**

**Fetch the guidance from their hearts**

**Take the best from their words**

**Make it possible at your age**

மானுடம் பயனுற  
புதுமைகள் கொண்டிடும்  
மகத்துவம் செய்திடும்  
கருவிகள் கண்டிட  
எம் இளையரே வருக!

மக்களைக் கண்டிடு  
தேவையை அறிந்திடு  
கற்றத்தைக் கலந்திடு  
நுட்பத்தில் தேர்ந்திடும்  
கருவிகள் படைத்திடுக!

படைத்ததைக் காத்திட  
பயனுடையது ஆக்கிட  
பலரும் வாழ்த்திட  
உரியவன் என்றிடும்  
உரிமையைப் பெற்றிடுக!



கருவிகள் பெருக்கிட  
பாரெங்கும் பரப்பிட  
என்றும் பயன்பட  
குடும்பங்கள் தழைத்திட  
தொழில் முனைவோர் ஆகிடுக!

அனைத்தும் அடைந்திட  
அகிலமும் போற்றிட  
அன்புடன் ஊக்கமளிக்கும்  
ஆக்கத்திற்குத் துணையாகும்  
உயர் ஆய்வாளர்கள் வழிநடத்தும்  
கல்லூரி கண்டுபிடிப்பு சபையில் இணைந்திடுக!

- முனைவர் ம. விக்னேஸ்வரன்

உதவிப் பேராசிரியர்

கணிதவியல் துறை

கொங்குநாடு கலை அறிவியல் கல்லூரி

கோவை

## Place / Share a banner in Institute / WhatsApp /Facebook for awareness among students regarding the Campaign

To discuss and implement the IIC-Kapila First quarter activities for the Academic Year 2020-2021, a meeting was arranged through Google meet on **2<sup>nd</sup> November 2020**. Two faculty members Dr. K. Velmurugan, Assistant Professor, Department of Zoology and Dr. K. Nirubama, Assistant Professor, Department of Biochemistry have been assigned to implement above mentioned activity. To create awareness among the students regarding the IIC- Kapila campaign, the following efforts have been made:

1. A **5X 4 size Permanent Acrylic board** has been prepared and the same has been placed at the entrance of the college for better visualise by the students and staff members and involve themselves in the college IIC activities.
2. A **8X 4 size banner** design was created and the soft copy of the same has been put in the **college website**. To create awareness among all the stakeholders the same has been circulated through the college **Facebook, Twitter account wall** and through **WhatsApp** group for wide reach to all the students and staff members.

The copy of the banners & Board has been given below:

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ARIIA 2020 Rank: 'Band A' (06 -25) Category  
NIRF Rank: 70 (All Over India)  
IIC 2.0 Rank ★★★★★

MoE's INNOVATION CELL (GOVERNMENT OF INDIA)

ARIIA ATAL RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENTS

**KASC - INSTITUTION INNOVATION COUNCIL (IIC)**

INSTITUTION'S INNOVATION COUNCIL (Ministry of Education initiative)

**Create a holistic ecosystem to foster Innovation and Entrepreneurship among all stakeholders.**

सभी हितधारकों के बीच नवाचार और उद्यमशीलता को बढ़ावा देने के लिए एक समग्र पारिस्थितिकी तंत्र बनाएं

Engage faculty and students in various innovation related activities like ideathon, hackathon, creative thinking, design thinking POC development, pre-incubation to incubation and IP management.

# KONGUNADU ARTS AND SCIENCE COLLEGE

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ARIIA 2020 Rank: 'Band A' (06 -25) Category

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## KASC - INSTITUTION INNOVATION COUNCIL (IIC)



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Engage faculty and students in various innovation related activities like ideathon, hackathon, creative thinking, design thinking POC development, pre-incubation to incubation and IP management.



**Create a short video on best innovative practices/innovation and incubation facilities existing in campus to support student regarding innovation, Intellectual Property and Entrepreneurship**

Kongunadu Arts and Science College is located in a serene and ecofriendly location. The Kongu ganapathy temple imbues a sense of divinity and positivity that envelops the campus. The KASC Tech Hub is the home base for the techno- brilliant students. The computer labs are well furnished with state-of-art facilities. The Biotech laboratory and the plant tissue culture laboratory are the epitome of modern technology as it plays the host of all the modern equipment needed for ground breaking research. The culture room is well fortified with the necessary machines and tools. The Physics lab holds Equipments and Amenities for the researchers to explore their field.

The Zoology lab, animal room and museum host the models, equipments and specimen needed by the students to expand their knowledge base. The instrument lab is one of the prides of the place and it is the home for modern paraphernalia in the field of research and investigation. The apiculture center holds a wealth of firsthand information. The Aquarium, Green house and Vermiculture point serve as the places that provide first hand training and observation for the students to learn through first hand scrutiny.

Video Link: <https://youtu.be/mmOCL7a0Cuk>

**Identifying existing Product ready of applying for patent**

NIC Id	IIC Id	Prototype Title	Team lead name
61401	IC201810336	Formulation of Herbal Tooth paste	Soundarya G
66416	IC201810336	Herbal Mushroom	A. Janani
65488	IC201810336	Harrier RT*100	PriyaDarshan G
69558	IC201810336	Low cost Antiviral Reusable facemask coated with biosynthesized nanomaterials	Karthik Kumar D
60868	IC201810336	Bionanomulsion for fruit preservation activity	Hariharan Y

**Faculty Start-ups:**

Faculty Name	Department	Prototype
Dr. V. Suganthi, Assistant Professor	Bio-chemistry (UG)	Kongu “k”ookies
Dr. E. Jayanthi, Assistant Professor	Chemistry	Kongu-San