



# **Little Flower Degree College**

(Affiliated to Osmania University)

Uppal, Hyderabad

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**LEAD TO ILLUMINATE**



**MICRO BIOLOGY**

**2018-19**



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## DEPARTMENT OF MICROBIOLOGY

### ANNUAL REPORT FOR ACADEMIC YEAR 2018 - 19

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1	21-08-2018	Field trip	CDFD, Uppal, Hyderabad	27
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3	22-09-2018	“Microorganisms are Ubiquitous” INTRA COLLEGIATE COMPETITION	LFDC Campus	5
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5	03-10-2018	Birth and Growth of Biotechnology in India, Open Day Seminar	CDFD, Uppal, Hyderabad	43
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8	26 /02/ 2019	Fun with Microbes	Physics Lab, LFDC 2nd Floor	18
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10	30-03-2019	Virtual Labs are innovative practices for ICT teaching	Keshav Memorial Institute of Commerce and Sciences, Narayanaguda, Hyderabad	1
11	26/04/2019 & 27/04/2019	National seminar on Health, Hygiene, and sanitation	LFDC Montfort Hall	60



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### Field Trip

**TOPICS: Field Trip to CDFD, Uppal, Hyderabad**

**DATE: 21 Aug 2018**

**VENUE: CDFD, Uppal, Hyderabad.**

**TIME: 9:00pm TO 1:45**

**No of Participants: 27**

Department of Microbiology organized a field trip to Centre for DNA Fingerprinting and Diagnostics (CDFD) along with the BTMC II students. The CDFD is an autonomous organization funded by the Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India. CDFD receives funding also from other agencies on specific collaborative projects. In addition, DNA Fingerprinting and Diagnostics services provided by the centre support some of the activities. The Centre is recognized by the University of Hyderabad for pursuing Ph.D. programme in Life Sciences. The centre is equipped with world class state-of-the-art instrumentation and computing infrastructure to facilitate working in frontier areas of research in Life Sciences. Dr. Vinod Kumar Mishra Head SEF had shown various scientific instruments like, High Performance Liquid Chromatography (HPLC), Mass Spectrometry (MS), Gas Chromatography (GC), DNA Sequencing machine. Demonstration of some instruments was given. Students gained practical knowledge about how the sample process is done for DNA Fingerprint analysis of culprit.



**CDFD, Uppal, Hyderabad campus**





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**Dr. Vinod Kumar Mishra Head SEF had showing various scientific instruments operation**



**Students interacting with CDFD Scientist**



**Staff and Students Field Trip to CDFD, Uppal, Hyderabad photo in seminar hall**



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### INTRA COLLEGIATE COMPITION

**TOPICS: Microbiology puzzle**

**DATE: 19 Sep 2018**

**VENUE: LFDC campus.**

**TIME: 02:00 to 02: 30 pm**

**No of Participanta:30**

Department of Microbiology conducted Microbiology puzzle competition to various groups' students of I, II- and III-year students on 19 Sep 2018. The event was organised to bring awareness among students about microbial activities and practical. Students gained practical knowledge about microbial world and their significance with reference to terminology.



Students participating in Intra Collegiate Microbiology Puzzle Competition



Students participating in Intra Collegiate Microbiology Puzzle Competition





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## INTRA COLLEGIATE COMPITION

**TOPICS: Microorganisms are ubiquitous Model presentation**

**DATE: 22 Sep 2018**

**VENUE: LFDC campus.**

**TIME: 2:00 to 2: 30 pm**

**No of Participants: 05**

Department of Microbiology conducted Microbiology model presentation to various groups' students of I, II- and III-year students on topic **Microorganisms are ubiquitous Model presentation** on 22 Sep 2018. The event was organised to demonstrate ubiquitous nature of microbial world to students through presentations. Students prepared various models like Bacteria in Thermophilic conditions, various types of Microorganisms.



**Judges evaluating the Models displayed by students**



**Participant students explaining about the displayed model**



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**Students participated in Intra Collegiate Competition on Microorganisms ubiquitous Model presentation**



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### Field Trip to CCMB

**TOPICS:** Field Trip to CCMB, Habsiguda, Hyderabad

**DATE:** 26 Sep 2018

**VENUE:** CCMB, Hyderabad.

**TIME:** 09:00pm to 01:45

**No of Participants:** 24

Department of Microbiology organized a field trip to CCMB along with the BTMC II and I year students. The objective of the field trip is to facilitate student interaction with scientists and their lab exposure in cell and molecular biology field. CCMB celebrated its foundation day as open day on every 26<sup>th</sup> September 2018. Students saw various scientific instruments like Microscopes (Electron, phase contrast, confocal etc), High Performance Liquid Chromatography (HPLC), Mass Spectrometry (MS), Gas Chromatography (GC), DNA Sequencing machine, Liquid nitrogen plant, Experimental model organisms like Zebra fish, Drosophila, various poster presentations on present research work in CCMB etc. students gained knowledge about techniques and various model organisms used for research. Students gained exposure to art of the infrastructure facilities and their application in Microbiology field

**Scientist explaining the working principle of electron microscope and students visited research labs in CCMB**



**Scientist explaining the working Principle of electron microscope and students visited research labs in CCMB**





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**Scientist explaining the working Principle instruments in CCMB**



**ZONAKI House, Zebra fish model was shown to students in Field Trip to CCMB, Habsiguda, Hyderabad**



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### Outreach Program in CDFD

**TOPICS:** Outreach programme in Birth and Growth of Biotechnology in India

**DATE:** 3 Oct 2018

**VENUE:** CDFD, Uppal, Hyderabad.

**TIME:** 4pm TO 5: 00 pm

**No of Participants:** 43

Department of Microbiology attended a guest lecture of Dr. Bala Subramanyam, on the topic "Growth of Biotechnology" conducted by CDFD Uppal Hyderabad. To provide an opportunity for the students to gain exposure to expert analysis on emerging areas of Biotechnology., Outreach program in CDFD was planned, the students of BTMC I, II and III gained knowledge about research and its applications, recent advancements in Biotechnology and their application in Microbiology field



A session by Dr. Bala Subramanyam, on the topic "Growth of Biotechnology" conducted by CDFD Uppal Hyderabad



Faculty and Students Group photo in CDFD Uppal Hyderabad



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### Guest lecture in IICT How does the Brain create the Mind?

**Topic:** How does the Brain create the Mind  
**Date:** 08<sup>th</sup> JANUARY 2019  
**Resource Person:** Prof. Mriganka Sur, MIT. Boston, US.  
**Organized:** Telangana Academy of Sciences, Telangana.  
**Venue:** Seminar Hall, IICT, Hyderabad  
**No of Participants:** 14

Students of BTMC II and III yr. along with faculty Mrs. J. Usha Rani from Department of Microbiology attended Guest Lecturer on **How does the Brain create the Mind** on 08<sup>th</sup> JANUARY 2019 in IICT Tarnaka. To provide an opportunity to students to gain understanding on behavior and its nexus with brain function with an emphasis on computation methods. Prof. Mriganka Sur, MIT. Boston, US. talked about the animal behavior and the response of the brain. He told the benefits of new technology to analyze the brain function. The comparison between computer and brain was interesting, how dreams are associated with thoughts and neuron signal transmission was explained. Students gained understanding on computational biology and its relevance to human brain function.



Prof. Mriganka Sur, MIT. Boston, US. With students of LFDC group photo





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Staff and students attended Guest Lecturer on **How does the Brain create the Mind in IICT**



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### **FIELD TRIP to BITS Hyderabad**

**TOPIC: Field trip to Birla Institute of Technology and Science, Hyderabad**

**DATE: 01-02-2019**

**VENUE: BITS Campus, Shameerpet, Hyderabad**

**TIME: 8:00am TO 2:00pm**

**No of PARTICIPANTS: 29**

The Department of Microbiology organized a field trip for the B.Sc. III year (BTMC) students to Birla Institute of Technology and Science (BITS) on 01 Feb 2019. To provide students an opportunity to gain familiarity with advancements in environmental microbiology application. Prof. P. Sankar Ganesh in charge for Environmental Biotechnology Laboratory was the resource person, Birla Institute of Technology and Science, Pilani - Hyderabad campus is one of the premier technical and science institutes of higher learning in India. Students were shown Basic equipment, and specialized equipment for high quality, cutting-edge research include laminar flow hoods for animal cell cultures, CO<sub>2</sub> incubators, HPLC, water deionization/purification system, plant growth chamber, visible and UV spectrophotometers, advanced PCR machines, QRT-PCR machines, hybridization oven, advanced table and floor top centrifuges, ELISA reader, cold room, gel documentation system, flow cytometer, servers for computational work etc. The equipment in the central instrumentation facility instruments as HPLC, GC, AAS, Spectro-fluorometer, LC-MS, FTIR, DSC etc. were seen by students gained understanding on laboratory applications of environmental biotechnology and its nexus with microbiology in protecting the environment in summary, the visit could assist in gaining Knowledge about research, Planning for higher education and career.



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Students were shown operation of various instruments in central instrumentation facility and Students attending Prof. Sankar Ganesh Lecture



Students attending Prof. Sankar Ganesh Lecture



Students visited BITS Pilani Hyderabad campus Library





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Anand Research scholar showing Students Bioreactor and explained its applications



Methane gas production unit BITS campus



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### Inter collegiate competitions

#### Fun with Microbes

**Event:** Inter collegiate competitions

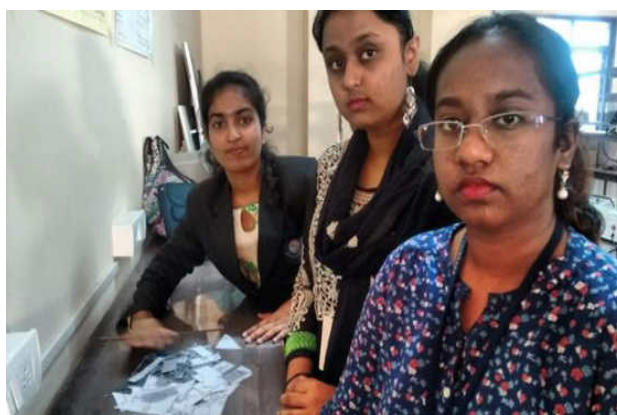
**Topic:** Fun with Microbes

**Date:** 26<sup>th</sup> February 2019

**Venue:** Physics Lab, LFDC 2<sup>nd</sup> Floor

**Participants:** 18

Department of microbiology conducted Microorganisms model arrangement on 26<sup>th</sup> February 2019. Students from various colleges attended the inter collegiate competitions organized by the students of LFDC Uppal. They had a great time with activities polishing their knowledge, understanding and applications. Micro-organisms models were made by participants who arranged the maximum number of microorganisms in their actual positions and given time maximum marks were allotted to them. At the end valedictory function was organized and prizes were given to the winners.



Participants arranging Models from various colleges



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### TWO DAYS NATIONAL SEMINAR

**TOPIC:** National Seminar on Innovations in Nanobiotechnology

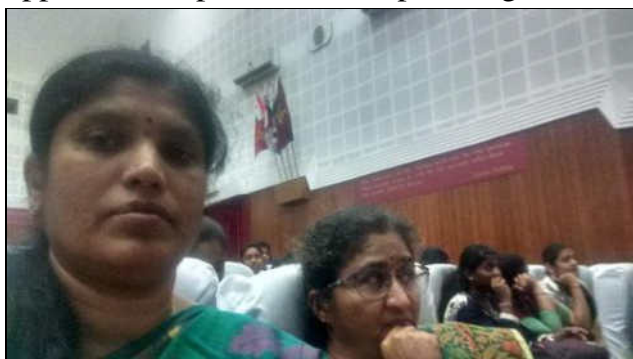
**VENUE:** Bhavan's Vivekananda College of Science, Humanities and Commerce, Sainikpuri

**DATE:** 27th and 28-02-2019

**TIME:** 09:00 pm to 05:00 pm

**PARTICIPANTS:** 01

**Ms. J. Usha Rani**, Asst Prof Microbiology attended and presented research paper in Two-day national seminar on Innovations in Nanobiotechnology conducted by department of Microbiology and Biochemistry on 27<sup>th</sup> 28<sup>th</sup> Feb 2019 in Bhavan's Vivekananda College of Science, Humanities and Commerce, Sainikpuri, Secunderabad. J. Usha Rani gave Oral presentation on original research work. Nanobiotechnology field aims to overcome the current challenges in medical and biological world and developing better nano tools by mimicking biological processes. Nanobiotechnology finds its application in detection of pathogens and biomolecules, Drug and Gene delivery, Diagnostic and Treatment of cancer, Tissue Engineering and Creation of nanostructures mimicking biomolecules. Presently this technology also helps in meeting the need for affordable, clean drinking water through rapid, low-cost detection and treatment of impurities in water. Nanofabricated materials are being employed in agricultural practices and as well as in bioremediation. Present seminar provided a common platform for all the researchers to interact and discuss on the challenges and opportunities posed in this upcoming field.



Mrs. J. Usha Rani attended & presenting original research work in Two-day national seminar on Innovations in Nanobiotechnology





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### ONE DAY NATIONAL LEVEL WORKSHOP

**TOPIC:** Virtual Labs are innovative practices for ICT teaching

**VENUE:** Keshav Memorial Institute of Commerce and Sciences, Narayanaguda, Hyderabad

**DATE:** 30-03-2019

**TIME:** 09:00 pm to 05:00 pm

**PARTICIPANTS:** 01

**Ms. J. Usha Rani**, Asst Prof Microbiology attended One day national level Workshop on Virtual Labs are innovative practices for ICT teaching in collaboration with Amrutha Vishwavidyalaya, Kerala and Commissioner of Collegiate Education, Telangana state, Hyderabad on 30 March 2019 conducted by Department of Bio-Technology and Physics. Mr. Saneesh, Amrutha Vishwavidyalaya was the Resource person. Dr. KOMAL, Assistant Prof, St pious College presented technical session. The Workshop was informative and useful for improving our teaching methods.



Mr. Saneesh, Amrutha Vishwavidyalaya was the Resource person for the session ICT teaching



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Dr. K. Gomathi & Mrs J. Usha Rani from Department of Zoology and Microbiology attended One day national level Workshop on Virtual Labs



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### TWO DAY NATIONAL SEMINAR

**TOPIC:** Health, Hygiene and Sanitation.

**Date:** 26th and 27th April 2019

**Venue:** Montfort Hall

**Time:** 9:30 am TO 3:30pm

**Participants:** The National seminar was attended by sixty (60) participants including Academicians, scholars, and students.

Major theme of the seminar is to explore, document and analyse the role of health, hygiene and sanitation on public health and impact on sustainable development. To sensitize the undergraduate, post graduate and faculty members about innovative approaches and applicable ideas in advancing science and technology in 21 centuries. It was also aimed at providing some insights on public health, art of preventing disease, prolonging life and promoting human health perspectives on state of the art on current trends in the above said areas leading to sustainable development in biomedical and chemical sciences. In the era of Sustainable Development, an integrated response to address the complex environmental, societal, economics and governance challenges is need of the hour. Moving forward, an appropriate focus, investment and innovation in health, hygiene and sanitation sectors is gaining prominence across all societies. In this context, Department of Zoology, Microbiology at Little Flower Degree College is aimed at organizing a National Seminar on a thematic area including "Health, Hygiene and Sanitation". The resource persons for this seminar are experts who are specialized in probiotic sciences, nutrition sciences, clinical medicine and public health issues, effect of health due to pollution, and food safety. The seminar was a national gathering of academicians, researchers and students in biological sciences and allied areas including chemical sciences.

The National seminar was inaugurated with energizing traditional and holistic Prayer. Prof G. Bagyanaryana, (Former Vice Chancellor, Palamuru University) and E.C. Member, Telangana Academy of Sciences was the Chief Guest. The session was inaugurated by lighting of the lamp. The chief guest addressed the participants with his inaugural speech. He emphasized on the importance of Public Health issues and sanitation. He also appreciated the efforts of the College and Zoology & Microbiology Departments to have taken the current issues for discussion. The Guest of Honour, Prof. Geetha Rajalingam (Retired), Department of Zoology,





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Osmania University, delivered her message on the Health and Hygiene and its impact on the society. The proceedings CD of the National Seminar on Health, Hygiene and Sanitation were released by the dignitaries. Chief guest Prof G. Bagyanaryana, (Former Vice Chancellor, Palamuru University) and E.C. Member, Telangana addressing the gathering, Lighting of the lamp, the proceedings CD of the National Seminar on Health, Hygiene and Sanitation was released by the dignitaries. Forenoon session of the Day I was begun by Key-Note Speech by Dr. T. Shailaia Assist Professor from Indian Institute of Public Health, Hyderabad. She emphasized on Clinical medicine and public health issues and policies. She made it interesting by citing many examples of the clinical cases.



The proceedings CD of the National Seminar on Health, Hygiene and Sanitation were released by the dignitaries. Chief guest Prof G. Bagyanaryana, (Former Vice Chancellor, Palamuru University) and E.C. Member, Telangana addressing the gathering, Lighting of the lamp, the proceedings CD of the National Seminar on Health, Hygiene and Sanitation was released by the dignitaries



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The second speaker Dr. Vijaya Bhaskar Reddy, Dept. of Botany, Nizam College, Hyderabad, delivered a lecture on Pollen Allergy. He talked about Aerobiology, Aero palynology and the various diseases caused due to pollen. The third session was proceeded by Dr. Meghanathan, Scientist, NEERI, IICT, Hyderabad on Epigenetic modulation due to smoke and its effect on health. He gave interesting information on how health is affected by pollution. The session was continued by the paper presentations by the participants various were chaired by Dr Shailaja Tetali and Dr. Meghanathan. The second day of the seminar was again started off with holistic prayer. The first speaker was the resource person Dr. Sudha Rani, Assistant Professor, School of Life Sciences, Pondichery Central University, Pondicherry. She delivered a lecture on "Importance of Awareness On heathy diet and Physical activity. disease prevention. She gave interesting information on the physical fitness and health.



Principal, Rev. Bro Vincent Reddy presenting bouquet to Dr. Vijaya Bhaskar Reddy, Dept. of Botany, Nizam College, Hyderabad. Vice - Principal presenting bouquet to Dr. T. Shailaja Associate Professor from Indian Institute of Public Health, Hyderabad. Dr. Meghanathan, Scientist, NEERI, IICT, Hyderabad



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The second session was proceeded by Mrs. Phanl Kumari, Assistant Professor. St Ann's college. Mehdipatnam, Hyderabad on Food safety. She talked about Nutrition, its objective Balanced diet. nutritional deficiencies and dietary guidelines. The session was continued by the paper presentations by the participants Various institutions which was chaired by Dr Sudha Rani and Mrs. Phani Kumari. The National seminar was concluded by valedictory Testimonials and feedback from the participants endorsed the value addition of the seminar Dr. Gomathi. K, Convener, proposed vote of thanks by expressing her deep sense of appreciation to the dignitaries who graced the occasion. She placed her gratitude on records for Principal, Rev. Bro Vincent Reddy, Vice Principal, Mrs. Jayanthi Reddy, for them constant support, guidance, and encouragement throughout, and the dedicated colleagues who assisted in the success of the seminar. The financial support by the Telangana Academy of Sciences was greatly acknowledged. The participants of various colleges and Institutions were appreciated and thanked for being a part of the success of the Seminar.

.....The Report is concluded.....