

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE

(An Autonomous Institution Affiliated to Andhra University)
Reaccredited by NAAC with 'A' Grade(3rd Cycle)
District Resource Centre & Center for Research Studies
Maddilapalem, VISAKHAPATNAM 530 013, Andhra Pradesh



Name of Department	MICROBIOLOGY
Name of Event Organized	STUDENT INDUCTION PROGRAMME(SIP) FOR 2019-20 ADMITTED BATCH
Date of Event Organized	02-07-2019
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	110 students + 12 staff
Objective of the Event	To explain students about the Autonomous system
Description of the event	STUDENT INDUCTION PROGRAMME(SIP) for 1 st year students and discussed regarding Autonomous calendar, syllabus, course outcomes, question paper pattern, mid examinations pattern, semester end examinations, internal external system, credit system, code of conduct, usage of books and any other matter related to the curricular, co-curricular such as quiz, student seminars, group discussions, poster presentations, elocution, debate and extra-curricular such as sports, games, cultural etc. for all the students.
Outcome of the Event	Students got acquainted with the semester system, academic calendar, mid sem, semester end exams





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Name of Department	MICROBIOLOGY
Name of Event Organized	GROUP DISCUSSION ON WATER BORNE DISEASES
Date of Event Organized	19-08-2019
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	51 students + 3 staff
Objective of the Event	To make students involve in the precautions to be taken to avoid water borne diseases
Description of the event	The event was conducted among the final year students of MB/BT/C and MB/BC/C. Despite of knowing about the food and water infections most of the people ignore to take minimum precautions. The students are given such a challenges regarding the disease causing organism, sources of infection, diagnosis and treatment.
Outcome of the Event	Students got familiar with the food and water borne diseases prevalent during current period







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Name of Department	MICROBIOLOGY
Name of Event Organized	A.P SCIENCE CONGRESS 2019
Date of Event Organized	28-11-2019
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	2 students + 1staff
Objective of the Event	To make students participate in the Science Congress at Dr.B.R.Ambedkar University, Srikakulam, Echerla
Description of the event	D.Vanaja Sri and N.L.Prasanna made a poster presentation on "Improvement of Soil fertility using Microbial Consortium" and presented in the Science Congress
Outcome of the Event	Students have explained the poster to the participants visited there from all over the state

IMPROVEMENT OF SOIL FERTILITY USING MICROBIAL CONSORTIUM

Dr.Ch., Lalitha, Assistant Professor and

Students- Vanaja Sri Doddi., N.L. Prasanna (II yr B.SC)

Department of Microbiology, Dr.V.S. Krishna Govt. Degree College(A), Visakhapatnam

POSTER PRESENTATION SUBMITTED TO AP SCIENCE CONGRESS 2019, HELD ON 29-11-2019, Dr.B.R.AMBEDKAR UNIVERSITY, EDCHERLA, SRIKAKULAM

ABSTRACT:

Synthetic pesticides or fertilizers used as nutritional sources for agricultural practices are creating physicochemical and biological deterioration of the soil. The soil accumulated with synthetic chemicals is deprived of soil microflora and gradually does not support the crop development. So a shift to traditional practices to nourish the soil or crop is hardly required which includes the conversion of agricultural residual wastes into value-added compost using decomposer microorganisms.

KEY WORDS: Synthetic fertilizers, agricultural residues, soil microflora, consortium and organic farming

OBJECTIVES OF ORGANIC FARMING

Organic farming methods use the natural environment to enhance the productivity of agriculture.

Organic farming uses carbon-based fertilizers and biological pest control and does not use synthetic fertilizers.

Crop diversity can be seen in organic farming. In conventional farming mass production of one crop in one location is focused while in organic farming it is possible to grow multiple crops in the same place.

Organic farming uses methods like green manure and composting which replaces nutrients taken from the soil from the previous crops, organic farming rel...

Methods of organic farming you must be aware of:

Crop rotation: In this form of organic farming, farmers do not grow the same crops on the same section of land year after year. If you are thinking why there are numerous benefits associated with this practice, this technique naturally replenishes the soil as diverse plants donate nutrients to the soil. Also, disrupting the habitat of weeds and insect pests helps control them.

Crop diversity: Old-style farming practices follow a monoculture in which only one type of crop is cultured in a particular piece of land. Nowadays, diverse crops are cultivated instantaneously on the same plot of land. This is a type of organic farming method which is also known as polyculture and is a great way to meet the rising demand for crops. This technique also helps in producing the required soil microorganisms.

Biological pest control: The agricultural field contains a mixture of the organism, some of which are used for <u>cultivation</u> and some are damaging. The development of these organisms must be under control to guarantee the protection of the field and the crops. Pesticides and herbicides that comprise of fewer chemicals or are natural can be used for pest control.

MATERIALS OF ORGANIC FARMING.

It is defined by the use of fertilizers of organic origin such as compost manure, green manure, and bone meal and places emphasis on techniques such as crop rotation and companion planting.

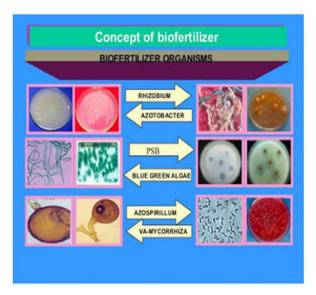
RESULT

Microorganisms contribute for the establishment of soil biological properties and mineralization. The microbial seed when used as consortium improves the nitrogen fixing, and solubilises <u>phosphorus</u>

Organic agriculture reduces non-renewable energy use by decreasing agrochemical needs (these require high quantities of fossil fuel to be produced). Organic agriculture contributes to mitigating the greenhouse effect and global warming through its ability to sequester carbon in the soil. Many management practices used by organic agriculture (e.g. minimum tillage, returning crop residues to the soil, the use of cover crops and rotations, and the greater integration of nitrogen-fixing legumes), increase the return of carbon to the soil, raising productivity and favouring carbon storage

CONCLUSION

The consortium also acts as biocontrol agent and controls the growth of <u>disease causing</u> microbes. The activities of microbes also favour the efficient composting of soil. Fortification using plant growth promoting Microbes highly improves the productivity. Microbes such as *Trichoderma*, *Pseudomonas*, *Bacillus*, *Azotobacter* and *Azospirillum* have shown promising results by improving the fertility of soil. This kind of organic farming yields natural and <u>disease</u> free products.













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Name of Department	MICROBIOLOGY
Name of Event Organized	INDUSTRIAL VISIT TO AUROBINDO PHARMA
Date of Event Organized	19-12-2019
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	58 students + 3staff
Objective of the Event	To make students know about the working conditions inside the pharma company and scope of the subject.
Description of the event	Aurobindo Pharma Pydibhimavaram Srikakulam Field Visit About the company Aurobindo Pharma is a multinational pharmaceutical company headquartered in Hyderabad, India. It is one of the largest pharmaceutical companies in India and the world. The company manufactures and markets a wide range of generic and branded pharmaceuticals, including antibiotics, anti- retrovirals, cardiovascular drugs, and central nervous system drugs. About the facility The Pydibhimavaram facility is one of Aurobindo Pharma's largest manufacturing facilities. It is located in Srikakulam district, Andhra Pradesh, India. The facility has a capacity to produce over 200 million tablets and capsules per year. It also has a dedicated facility for the production of sterile injectables.

The team visited the following areas of the facility:

- The production area
- The quality control area
- The quality assurance area
- The warehouse
- The utilities area

Microbiology lab: It is specifically designed for the study of microorganisms, such as bacteria, viruses, and fungi from the pharma products under quality control. These labs are typically equipped with specialized equipment, such as microscopes, incubators, and biohazard safety cabinets.

Microbiology labs play an important role in the pharmaceutical industry. They are used to:

- Test raw materials for contamination
- Test finished products for sterility
- Develop and test new drugs
- Conduct research on infectious diseases

The specific tasks that might be performed in a microbiology lab at Aurobindo pharmaceutical company:

- Aseptic sampling: This involves collecting samples from sterile environments, such as manufacturing lines and clean rooms, without introducing any contamination.
- **Microbial identification:** This involves identifying the types of microorganisms that are present in a sample.
- Antimicrobial susceptibility testing: This involves testing the effectiveness of different antibiotics against a particular microorganism.
- Environmental monitoring: This involves monitoring the levels of microorganisms in the environment to ensure that they are within acceptable limits.

Outcome of the Event

Students got familiar with the industrial infrastructure, laboratories, equipment and working system











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Name of Department	MICROBIOLOGY
Name of Event Organized	VISIT TO AUROBINDO SKILL DEVELOPMENT CENTRE
Date of Event Organized	19-12-2019
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	58 students + 3staff
Objective of the Event	To make students learn about the instrumentation , their usage for analysis of product, standards of quality control
Description of the event	VISIT TO AUROBINDO SKILL DEVELOPMENT CENTRE It is located 2 km away from the Pharma industry. The Centre is full of interns who completed M.Sc in Chemistry and Life Sciences and interested in joining the Pharma industry. Pharmaceutical labs rely heavily on various separation techniques to ensure the purity, potency, and safety of drugs. The Centre is providing training for the use of chromatography, autoclaves, and other common separation techniques in these labs: Chromatography: • Function: Separates mixtures based on the differing affinities of components towards a stationary and mobile phase. • Applications in Pharma Labs: • Purification of drugs: Isolates the desired drug molecule from impurities present in the reaction mixture.

- Identification of impurities: Helps identify and quantify unknown impurities present in the drug product.
- Quality control: Ensures the consistency of the drug product by monitoring the presence and quantity of active ingredients and impurities.

Autoclave:

- **Function:** Uses steam under pressure to sterilize equipment and materials.
- Applications in Pharma Labs:
- Sterilization of laboratory equipment: Ensures equipment used for aseptic processes (like preparing sterile injections) is free from microorganisms.
- Sterilization of culture media: Prepares sterile broths and agar plates for growing microorganisms used in research and testing.
- Depyrogenation: Removes pyrogens (fever-causing substances) from glassware and other equipment used in contact with injectable drugs.

Other Separation Techniques:

- **Filtration:** Separates particles based on size using filter membranes with varying pore sizes. Used to remove bacteria, viruses, and other large particles from solutions.
- **Crystallization:** Recovers pure compounds from solutions by inducing crystal formation. Used to obtain pure drug crystals from reaction mixtures.
- **Distillation:** Separates components based on their different boiling points. Used to purify solvents and other volatile compounds.
- Electrophoresis: Separates charged molecules based on their size and electrical charge in an electric field. Used to separate proteins, nucleic acids, and other biomolecules for analysis.

Outcome of the Event

Students acquainted to the specific needs of the pharma company and skills to learn before applying to the job in a pharma company.











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Name of Department	MICROBIOLOGY
Name of Event Organized	ADMISSION CAMPAINING
Date of Event Organized	06-01-2020
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	10 staff
Objective of the Event	Visiting Inter colleges and campaign about the programmes available in Microbiology
Description of the event	Campaigning was done for the admissions of 2020-21 academic year at Inter colleges. Heads of the various departments have participated in the campaigning and discussed the various programmes available in the College. Scope of Microbiology and the career opportunities were discussed with Bi.P.C and MLT students.
Outcome of the Event	Got good number of admissions even though it was done online by APSCHE after covid lockdown.







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Name of Department	MICROBIOLOGY
Name of Event Organized	RALLY ON ACCOUNT OF WOMENS DAY
Date of Event Organized	07-03-2020
Name of the coordinator of the Event	Dr.Ch.Lalitha and other women staff
No. of Participant (Student +Staff)	4 staff + 9 girl students of microbiology
Objective of the Event	To participate in the rally against violence on women
Description of the event	The rally took place in the beach road from Aquarium to A.U.Convocation hall. AP Women's Commission chairperson Vasireddy Padma and vice chancellor P.V.G.D.Prasad Reddy participated along with the students in the event.
Outcome of the Event	Girl students of Microbiology joined hands for rally and supported the mission.







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Name of Department	MICROBIOLOGY
Name of Event Organized	ALUMNI MEETING
Date of Event Organized	15-03-2020
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	12 staff
Objective of the Event	To gather all the alumni members of the department and collect their donation as well as feedback
Description of the event	Alumni available in the city attended the meeting and discussed regarding the reputation of institution when they joined jobs or higher education
Outcome of the Event	Alumni decided to gather every year and contribute to the college requirements





పూర్వవిద్యార్థుల కృషితోనే కళాశాల అభివ

మద్దిలపాలెం: కళాశాల అభివృద్ధికి పూర్వ విద్యార్థుల సహాకారం చాలా అవ సరమని వీఎస్ కృష్ణ ప్రభుత్వ డిగ్రీ కళా శాల ప్రిన్సిపల్ డాక్టర్ వి. చంద్రశేఖర్ అన్నారు. స్థానిక కళాశాలలో ఆదివారం పూర్వ విద్యార్థుల సమావేశం నిర్వహిం చారు. ఈ సందర్భంగా ఆయన మాట్లా డుతూ.. ఏటా పూర్వ విద్యార్థుల సమ్మే

ళనం నిర్వహిస్తున్నామని తెలిపారు. కార్యక్రమంలో కళా శాల వైస్ట్రాన్స్పిపల్ డాక్టర్ శ్రావణ్కుమార్, ఐక్యూఏసీ కోఆ రైనేటర్ డాక్టర్ లలితా, పూర్వ విద్యార్థి, ప్రస్తుత అరుకు



కళాశాల పూర్వ విద్యార్థులతో ట్రిన్సిపల్ చంద్రశేఖర్ తదితరులు

డిగ్రీ కళాశాల ప్రిన్సిపల్ డాక్టర్ చంద్రమౌళి, ప్రస్తుత అధ్యాపకులు డాక్టర్ విజయ్మ్పతాప్, డాక్టర్ హరి, పూర్వవి ద్యార్థులు శ్రీనివాసరావు, దత్తుప్రకాష్ పాల్గొన్నారు.

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Name of Department	MICROBIOLOGY
Name of Event Organized	COVID-19 AWARENESS PROGRAMME
Date of Event Organized	17-03-2020
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	18 students + 6 staff
Objective of the Event	In view of surge of Covid -19/corona virus among the world, World Health Organization and Govt of India declared lockdown from 18-03-2020.
Description of the event	In view of emerging disease COVID-19 / CORONA VIRUS, department of Microbiology students along with NSS volunteers conducted an awareness programme on the preventive measures to be taken to control the upcoming disease. Since it's a respiratory disease the students of Microbiology those who are already familiar with Influenza virus, they have prepared charts and given instructions regarding hand washing and wearing of mask to all the classrooms.
Outcome of the Event	Later all these kind of instructions made into e- posters during lockdown which were followed by the people through out India.





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Name of Department	MICROBIOLOGY
Name of Event Organized	A DEBATE ON NOVEL CORONA VIRUS OUTBREAK
Date of Event Organized	01-05-2020
Name of the coordinator of the Event	Dr.Ch.Lalitha
No. of Participant (Student +Staff)	46 students + 1 staff
Objective of the Event	In view of surge of Covid -19/corona virus among the world, most of the people believed it as a bio war agent. To clarify the conflict this debate was conducted.
Description of the event	Students of final year microbiology of MB/BT/C and MB/BC/C have participated in this event. Some discussed that Corona virus is a bio warfare. Some thought it's a leak from laboratory from the researchers who got attacked while working with SARS virus. Some discussed that this a mutated form for SARS after discovering the unusual spread of pathogen and noticed by the researchers its used to kill few people which got transmitted drastically all over the world and became a pandemic.
Outcome of the Event	Whatever the reason may be without proper evidences nobody couldnot conclude the source of transmission. What is challenge ahead is to stop the spread of its transmission and pathogenicity and weaken the virus.

