

HINDU COLLEGE – GUNTUR

STUDENT CENTRIC METHODS 2.3.1(Q_LM)

DEPARTMENT OF BOTANY

EXPERIANTIAL LEARNING

COMMUNITY OUTREACH PROGRAMME 2020-2021

COMMUNITY OUTREACH PROGRAMME

SNO	ACTIVITY	DATE	DURATION hrs/days	No. of Participants
	2020	-21		
7	YOUTH DAY	12-01-2021	ONE DAY	08

LABORATORY SESSIONS

INDEX

S.No.	Name of The Activity	Date	Duration hrs/days	No. of Participants
	2020-21			
4	BOTANY LAB EXPERIMENT "TISSUE SYSTEMS"			32

FIELD VISITS

INDEX

S.No.	Name of The Activity	Date	Duration hrs/days	No. of Participants	
	2020-21				
5	VISIT TO LAM FARM	01-02-2021	ONE DAY	17	

National Youth Day

Title of the Event : National Youth Day

Date : 12-01-2021

Venue : Hindu College, Botany Department

Co-ordinator : K. V. S. Durga Prasad

No. of Staff members involved : 05 No. of Students involved : 30

Aim of the event: To bring the awareness of Swamy Vivekanda and his mission

Programme procedure: On the occasion of National youth day and swamy Vivekananda birthday. We arranged a meeting to the students in our department .Our teachers spoke about

Vivekananda and also allowed the students to share their views.

Outcome of the Event: Students got very much motivated with the event.



BOTANY LAB EXPERIMENT "TISSUE SYSTEMS"

2020-2021

Name of the event : BOTANY LAB EXPERIMENT "TISSUE SYSTEMS

Venue : Botany lab -1

Co-ordinator : G.V.S. Subrahmanyam

No. of students participated : 32

Objective of the event: To study the plant tissues, by taking the section cutting of the root, stem and leaf thin sections of roots of dicot and Monocot showing the tetrac (8 + vascular bundles) in Monocot. In stem, the vascular bundles are broken ring, and in Monocot they are scattered type. **Out of the event:** The students got practical knowledge in identifying the intersal structure of dicot and Monocot plants by studying the internal characters.



HINDU COLLEGE – GUNTUR STUDENT CENTRIC METHODS 2.3.1(Q_LM)

Visit to LAM FARM

Name of the Event : Field Visit to Lam Farm

Date : 01-02-2021

Venue : Lam Farm Agricultural Station, Amaravathi Road, Guntur

Chief Guest : Dr. K. Sarada

Co-ordinator : Dr. M. Madhavi

No. of Staff members involved : 03

No. of Students participated : 14

Objective of the Event: To bring awareness among students in practical knowledge and also to have interaction with scientists of the LAM FARM research station.

Plan of Execution: The Department of Botany organized study visit to LAM FARM Research Station Guntur, Dr.M.Madhavi involved very actively in co-ordinating this event. The other Staff members as K.V.S.Durga Prasad HOD of Botany, G.V.S. Subhramanyam and Dr. N. Kirshana also involved Students are very happy in explaining the crop techniques to the students. Students visited pathology division and learned the different diseases caused to the crop plant and the preventive measures to be take Dr.N.Suresh senior scientist explained the various techniques in Pesticides and insecticides. Dr. P.Lakshmana Rao senior scientist in soil science

Explained about different types of soils and also the growth. If crops in different soils pH Solubilities absorption capacities of soils Dr.K.Sarada Senior Scientist in Plant Biotechnology explained about the latest techniques that are used in crop improvement and explained the working mechanism of PCR-SDS-DNA isolation techniques.

The Department of Botany students learned the practical knowledge in handling the biotechnological tools and also different crops grown in the LAM field

Outcome of the Event: Students are very happy in learning the advance techniques in plant biotechnology and acquired knowledge on hands in techniques with scientists.







HINDU COLLEGE – GUNTUR

STUDENT CENTRIC METHODS 2.3.1(Q_LM)

DEPARTMENT OF BOTANY

PARTICIPATIVE LEARNING

ASSIGNMENTS & WEB ASSIGNMENTS
WEBINARS
GROUP DISCUSSIONS
SEMINARS
2020-2021

INDEX

ASSIGNMENTS

S.NO	TOPIC	No. of		
		Participants		
	2020-21			
16	Transpiration	5		
17	Plant diseases caused by Bacteria	5		
18	Bentham& Hooker's Classificatio n	5		

WEB ASSIGNMENTS

S.No.	Name of the Topic	No. of students Participated
	2020-2021	
10	Phytogeographic regions of India	1
11	Botanical nomenclature	1
12	Chromosomes	1

WEBINARS

SNO	ACTIVITY	DATE	DURATION	No. of
			hrs/days	Participants
		2020-21		
1	National Webinar on World Environment day	05-06-2020	One Day	500
2	Webinar on International Bio- Diversity Day	22-05-2021	One Day	175

GROUP DISCUSSIONS

Sl.No.	Name of the Topic	No.of		
		Participants		
	2020-2021			

1	Population community	4
2	Virus living or non living	4
3	Heterospory and seed habit	4

SEMINARS

SNO	TOPIC	DURATION hrs/days	No. of Participants	
	2020-21			
16	General characters of viruses	10min	1	
17	Annonaceae	10min	1	

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ASSIGNMENTS

S.NO	TOPIC Par			
	2020-21			
16	Transpiration	5		
17	Plant diseases caused by Bacteria	5		
18	Bentham& Hooker's Classificatio n	5		

HINDU COLLEGE – GUNTUR STUDENT CENTRIC METHODS 2.3.1(Q_LM)

NATIONAL WEBINAR ON WORLD EVNIRONMENT DAY

Name of the Event: National Webinar on World Environment day

Date: 05-06-2020

Venue: Online Zoom Platform

Chief Guests: Prof.Dr. Appa Rao Podile, VC, University of HYD. Prof.KVSG Murali Krishna,

JNTU Kakinada.

Other Dignitaries : Secretary & Correspondent and Principal

Co-ordinator : KVS Durga Prasad, HOD of Botany

No. of Staff members involved : 20

No. of Students participated : 500

Objective of the Event: To bring awareness about the importance and role of Nature to the Mankind, and also the role of public towards Nature.

Plan and Execution: World environmental day is celebrated as a festival every year on 6th June. In this process, the Department of Botany organised this event @ on-line due to pandemic.

The Resource Persons are:-



podili apparao-converted.pdf

Prof. Dr. Podile Appa rao *PhD, DSc(h.c), FNA, FNSc, FNASc, FNAAS, FAMI*

Senior Professor, J.C.Bose Fellow(DST), Vice Chancellor, University of Hyderabad, Adjunct Chair Professor, Department of Biotechnology, Asia University, Taichung, Taiwan

Toipc- LIVING WITH THE VIRUS.

Given a wonderful talk on"Role of Virus in Protecting the Nature". Virus is playing a big role in cleaning the environment by decaying the dead bodies on earth from time to time. Among many viruses some are harmful as Corona Virus and some are beneficial as (SARS). He explained about the importance of virus to the mankind and nature, and also the explained the role of covid-19 as a population control tool in this Globe.

HINDU COLLEGE – GUNTUR STUDENT CENTRIC METHODS 2.3.1(O_LM)

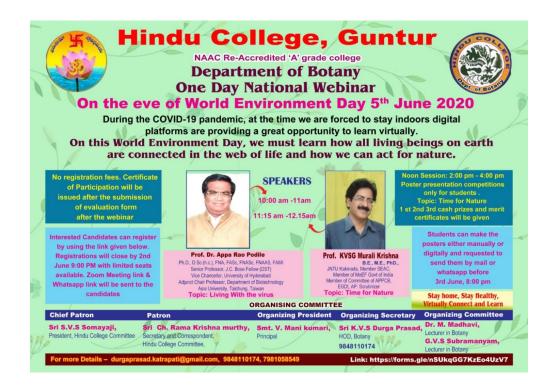
Prof. GVSG Murali Krishna. B.E., M.E., PhD.,

JNTU- kakinada, Member SEAC, Member of MoEF Govt of India, Member of Committee of APPCB, EGDt. AP Scrutinizer.

Topic- TIME FOR THE NATURE.

He gave a valuable talk on Nature, the nature is called as a 'Mother', because it is accepting and bearing all the good and bad from the living organism. The nature is responding accordingly to seasons, time and factors. The nature always do best to the living organisms. If the nature is not in balanced condition, the effect is shown to the entire World. The World cannot go against nature, the things done by the human beings should be acceptable by the nature as plantation, afforestation, preventing forest fire, Saving the endangered and endemic Funa etc.

<u>Outcome of the Event:</u> The students and staff got good information about the viruses and the role of nature, and also learned about to protect the nature for our future generation. Poster presentation activity also conducted by the students on the same topic, as of that the students felt very happy in preparing their own poster presentation and explaining it.





POSTER PRESENTATION-PARTICIPANTS LIST

HINDUCOLLEGE GUNTUR

NATIONAL WEBINER - FRIDAY 05.06.2020

DEPARTMENT OF BOTANY

SNO	NAME OF THE PARTICIPANT	COLLEGE ADDRESS
1	Anam Shahid	Debojyoti Mondal, Sayan Kumar Saha Surendranath College, University of Calcutta.
2	ANAMIKA BISWAS , MITALI PAUL , ROHIT DAS , SAYANTIKA ROY	DEPERTMENT OF BOTANY, SURENDRANATH COLLEGE, UNIVERSITY OF CALCUTTA.24/2,MG ROAD, KOLKATA-700009
3	ARITRIKA SINHA	DEPARTMENT OF BOTANY SURENDRANATH COLLEGE.
4	chakradhar dirisala	HINDU COLLEGE GUNTUR
5	CHANDRIMA ADHIKARY	DEPARTMENT OF BOTANY SURENDRANATH COLLEGE.
6	KSV MANIKANTA	TJPS GUNTUR
7	Laasyapriya Mudigonda	HINDU COLLEGE GUNTUR
8	A.RAJA Mallika Reddy	AGRICULTURAL COLLEGE, BAPATLA
9	N VIJAY SAHIT	HINDU COLLEGE GUNTUR



HINDU COLLEGE, GUNTUR [AP] RE-ACCREDITED BY NAAC WITH 'A'GRADE



DEPARTMENT OF BOTANY NATIONAL WEBINAR

WORLD ENVIRONMENTAL DAY - 05-06-2020



This is to certify that Mr/Mrs/Ms has successfully participated in the one day National Webinar on the occasion of World Environmental Day organized by Department of Botany on 05-06-2020

Organizing Secretary KVS.Durga Prasad, HOD of Botany Smt.V.Mani Kumari Principal,HinduCollege

HINDU COLLEGE – GUNTUR STUDENT CENTRIC METHODS 2.3.1(Q_LM)

Webinar on International Bio-Diversity Day

Name of the Event: International Bio diversity Day

Date: 22-05-2021

Venue: Online Zoom Platform

Chief Guest: Dr. A. V. V. S. Swamy, (HOD, ENV. ANU.); Dr. V. Sailaja, HOD, (Zoology VSU.)

Co-ordinator : Dr. M.MADHAVI

No. of Staff members involved : 25

No. of Students participated : 352

Objective of the Event: To bring awareness among students and staff about, Bio diversity. The role of human beings in protecting the loss of Biodiversity.

Plan and Execution:Botany Department organized national webinar on event of "Biodiversity Day". Staff schalors and students from various colleges and universities attended this webinar.

<u>Dr. Swamy sir:</u> Explained the role of human beings in protecting the loss of Biodiversity, explain the methods of Ex -situ and In- situ conservation. Also explained about species bio diversity; different species living in a place and on two individual is identical to itself.

Genetic diversity: Every individual exhibits different shape, size, and colour with respective of its habitat. The same individual exhibits in different forms because of its genetic variability.

Ecosystem diversity: Each and every individual have its own habit and habitat.

Dr.V.Sailaja garu: Explained about the statistical data of Biodiversity of India and International India is the world 8th most bio-diverse region of the world of 102,718 species of found 36 Bio diversity hot spots.

Outcome of Event: Acquired good knowledge by this webinar.

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WHATSAPP MESSAGE

Hindu College Guntur AP, Department of Botany National Webinar on International Biological Diversity Day Time:May 22, 2021 Saturday,10:00AM to 1-00 PM.

We request you to connect virtually and participate in the webinar on this very important day . **Join Zoom Meeting**

https://us02web.zoom.us/j/85226079582?pwd=dkNJUjJhMWtDOEFOdmFlYkJ4d2hndz09 Meeting ID: 852 2607 9582 Passcode: 123456

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GOOGLE FORM LINK FOR REGISTRATION

https://docs.google.com/forms/d/e/1FAIpQLSenh36SMd59kOzhz6vG07iOZHHiRDTWUOBm

wEBI4A0FGd8IyQ/closedform

WHATSAPP GROUP

Follow this link to join my WhatsApp group:

https://chat.whatsapp.com/D4PSFDu9OfOJmUkyUM2lxK



Follow this link to join my WhatsApp group:

https://chat.whatsapp.com/D4PSFD u9Of0JmUkyUM2lxK

View group

PROGRAMME SHEET

Hindu College, Guntur

NAAC Re-Accredited 'A' grade college
Department of Botany
One Day National Webinar 22nd May 2021 10 AM to 1PM
On the Occassion of International day for Biological Diversity Day

PROGRAMME SCHEDULE 10.00 AM to 1.00 PM

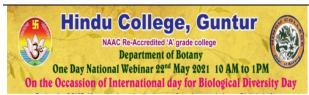
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:	Sri K.V.S. Durga Prasad
	Inaugural speech and Video play
:	Sri Ch. Ramakrishna Murthy,
	Secretary & Correspondent
:	Dr. D.N. Deekshit, Principal
:	Dr. N. Viswam, Vice Principal
	Sri S.V.S. Lakshmi Narayana
	Vice President, Hindu College, Guntur
:	Introduction of Speaker, Dr. V. Sailaja
	by Dr. M. Madhavi
:	Dr. V. Sailaja, Assistant Professor of Zooloy,
	Vikram Simhapuri University
:	Interaction Session - Dr. S.V.S. Girija
:	Thanks by Miss K. Meghana, I M.Sc. Botany
	Sri P.M. Prasad, Vice Principal
:	Introduction of Speaker, Dr. A.V.V.S. Swamy
	By Sri G.V.S. Subrahmanyam
:	Dr. A.V.V.S. Swamy, HOD of Environmental
	Science, Acharya Nagarjuna University
:	Interaction session and Thanks by Dr. N. Krishna
:	Vote of Thanks by Dr. G. Ramesh
	: : : : : : : : : : : : : : : : : : : :

ZOOM LINK:

https://us02web.zoom.us/j/85226079582?pwd=dkNJUjJhMWtDOEFOdmFlYkJ4dhndz09

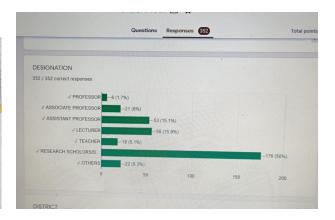
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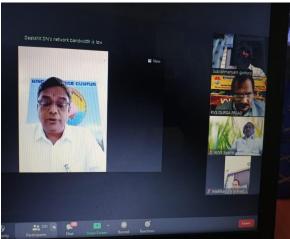


Response for the webinor from various states of the country

Andha Pradesh	302		
Telangana	26	PROFESSOR	6
Dehradun	4	ASSOCIATE PROFESSOR	24
Jharkhand	4	ASSISTANT PROFESSOR	58
Kamataka	5	LECTURER	66
Kerala	16	TEACHER	19
Madhya pradesh	6	RESEARCH SCOLOR/STUDENT	252
Maharashtra	6	OTHERS	26
Manipur	2	TOTAL	451
Marrakech	- 2		
Meghalaya [ML]	1		
Morocco	1		
New Delhi	2		
Odisha	6		
Rajasthan	10		
Tamil Nadu	11		
Uttarakhand	34		
Uttar Pradesh	8		
West Bengal	5		
TOTAL	451		











PRESS COVERAGE



సాందు సాంస్కృతికం, మ్యానిటుడి: స్వానిక జంతుశాస్త్రి విభాగాదిపలి డాక్టల విమే శైలికి జందూ కళాశాల వృక్ష శాస్త్ర విభాగం ఆధ్వర్యంలో మాట్లడుతూ జీవ వైవిధ్య పరీరక్షణ ప్రాధాన్యం శనివారం అంతర్వాతీయ జీవ వైవిధ్య దినోత్స్లి పాఠశాల స్వాయినుంచే అందరికీ తెలియాల్సిన అవ వాన్ని ఫరస్కరించుకొని జూమ్ అంతర్వాల వేది సరం ఉందన్నారు. కళాశాల పాలకమండలి ఉపా కాడ్రామ్తారా 200 మంది పాల్గొన్నరు ముఖ్యఆతి మనిషి సమస్యల్పంటికీ ప్రకృతిలోనే పరిష్కారా మునిషి సమస్యల్పంటి ప్రకృతిలోనే పరిష్కారా మంది మాంచుకుంటి మాంచుకుంటి మాంచుకుంటి మాంచుకుంటి మాంచుకుంటి మాంచుకుంటి మాంచుకుంటి మాంచుకుంటి మాంచుకుంటి మాంచుకుంటినికి మాంచుకుంటి మెంచుకుంటి మాంచుకుంటి మాంచుకుంటిని. థిగా ఆచార్య నాగార్జున విశ్వవిద్యాలయం పర్యావ లున్నాయని, పర్యావరణాన్ని రణ శాష్ట్ర విభాగాధిపతి స్ట్రాఫెసర్ ఏవీవీఎస్ ఆది మనల్ని కాపాడుతుందని వివరించారు. స్వామి పాల్గొన్నారు. ఆయన ద్రసంగిస్తూ జీవ వైవిద్య అధ్యయనాలు నిస్పతంగా జరగాల్సిన కార్యకమాన్ని ప్రారంచించారు. కార్యక్రమంలో కళా ఆవసరం ఉందన్నారు. సృష్టిలో ఉన్న ప్రతి జీవికి ఏదో ఒక ప్రత్యేకత ఉంటుందని, దానిని గుర్తించి వెబినార్ కార్యదర్శి, వృక్షశాస్త్ర విఖాగాధిపతి దుర్గా దానికి తగిన ప్రాథాన్యం ఇచ్చాలన్నారు. ఈ పద్ధిలి ప్రసాద్, కళాశాల వైస్ ప్రిన్సిపల్ పీఎం ప్రసాద్, దానికి రిగ్గాల్ ప్రామ్మేకం క్రవండాన్ని మహమ్మారి సమన్వయకర్త ఎస్వీఎస్ గిరిజ కార్యకుమాన్ని పర్య గడగడ –ాడిస్తోందన్నారు. గౌరవ అతిథిగా పేక్షించారు. అడ్యాపకులు డాక్టర్ మాధవి, సుట్ట పాల్గాన్న విక్రమ సింహపురి విశ్వవిద్యాలయం హ్మణ్యం, డాక్టర్ కృష్ణ, డాక్టర్ రమేష్ పాల్గొన్నారు.

గుంటూరు సాంస్కృతికం, మ్యాస్ట్ మానిక జంతుశాస్త్ర విభాగాధిపతి డాక్టర్ వీఎస్ శైలజ కాపాడుకోగలిగితే

జీవ వైవిధ్య పలిరక్షణతోనే మానవ మనుగడ

గుంటూరు ఎద్యుక్రేషన్: జీవ వైచిధ్య పరిరక్షణ పైన మానమూలె మనగడ ఆధారపడి ఉందని ఏఎ నయా మ్యాకరణ కాస్త విధాగానిపతి ప్రాఫిసర్ మి.వి.ఎ.వి.సి.స్పామి మర్చిన్నారు. అంతర్వాలీయ జీవ వైచిధ్య దిగోత్సనం సందర్భంగా శువారం మార్కెటి నుందిన్నే పాలు కాకాల బోదిని మెలుగా అధ్యర్థలో అధ్యర్థలో జాతియప్పాయి సమస్సు నిర్వహించారు. ముఖ్య అరితిగా పాల్గొన్న ప్రాఫారు. మంట్లామూలు అరిత్సా పాల్గొన్నలో మనసితో పాటు నకల జీవ. ఇంతజాలం అంతర్భా మరుత్తులు మైల్లానికల్ మేలు జీవిత్ కన మనుగడనే ప్రభాస్తరం చేసుకుంటున్నామి అం తోకన వ్యక్షల చేశారు. శీవ వైచిధ్య అర్మయాన్ను పురిత్వ మార్గలు సూరించారు. జీవ వైచిధ్య పారిశ్వ విధ్యం చేశారు. మంట్లానులు ఎదిది రాస్టాల నుంచి 250 దేశాన వ్యక్షల చేశారు. శీవ వైచిధ్య అర్మయాన్ను పరిరక్షణ ప్రాలని సూరించారు. జీవ వైచిధ్య మంది ప్రభాస్తరు మంట్లానులు పరిశ్వ పరిశ్వ ప్రశాస్త్ర ఇవ్వాలని పరిరక్షణ ప్రాలని సూరించారు. జీవ వైచిధ్య మంది పాల్గాలు నుంచి ప్రాల్థాలు మంది ప్రాస్త్రం ప్రస్తాలు మంది ప్రస్తాలు మంది ప్రాల్థాలు నుంచి పరిరక్షణ ప్రాలని పరిరక్షణ ప్రాలని పరిక్షమ సంహవ్యల విశ్వ మంది పాల్గాలు నుంచి పాల్గాలు నుంచి ప్రాల్థారు.



జీవ వైవిధ్యంపై ప్రజల్లో అవగాహన కర్పించాలి

గుంటూరు(విద్య), మే 22: ప్రజలకు జీవవైవిధ్యంపై విస్తృత ప్రచారం చేయాలని ఆచార్య నాగార్మన విశ్వవిద్యాలయం పర్యావరణశాస్థ్ర విభాగాధిపతి ఆచార్య ఏవీఏఎస్ స్వామి ేపర్కొన్నారు. అంతర్జాతీయ జీవవైవిధ్య దినోత్సవం సందర్భంగా శనివారం జూమ్ యాప్ ద్వారా హిందూ కళాశాల ఆధ్వర్యంలో

నిర్వహించిన సదస్సులో ఆయన మాట్కాడారు. విక్రమ సింహపురి వర్సిటీ జంతుశాస్త్ర విభాగాధిపతి డాక్టర్ వీఎస్ శైలజ, హిందూ కళాశాల బ్రీన్సిపాల్ డాక్టర్ డీఎన్ దీక్షిత్, వైస్ బ్రీన్సిపాల్ పీఎల్ ్రపసాద్, కోఆర్తినేటర్ ఎస్ఏఎస్ గిరిజ, కేవీఎస్ దుర్మాపసాద్, డాకర్ మాధవి, సుబ్రహ్మణ్యం, కృష్ణ, రమేష్ తదితరులు పాల్గొన్నారు.

E-Certificate for participants







 $2.3.1(Q_LM)$

Group Discussion::2020-2021

Topic: ""POPULATION COMMUNITY"

Title of the Event : Group Discussion

Venue : Botany lab
Co-ordinator : Dr. M. Madhavi

No. of Staff members involved : 01 No. of Students involved : 04

Objective of the event: To study the Population community.

Discussion: The students discussed about population community. Population it is a group of individuals of the same species which can reproduce among themselves and occupy a particulars area in a given time. Community it is an assemblage of several populations in a particular area and exhibits interaction and interdependence through trophic relationship. Populations are biotic parts of the environment because they are alive. When you combine all of the populations of say a best and population grass population do population bear population that group called the community.

Outcome of the Event: The students got good practical and theory knowledge.



$2.3.1(Q_LM)$

Topic: "VIRUS LIVING OR NON LIVING"

Title of the Event : Group Discussion

Venue : Botany lab

Co-ordinator : K.V.S. Durgaprasad

No. of Staff members involved : 01 No. of Students involved : 04

Objective of the event: To study the Virus living or non living.

Discussion: The students discussed on the virus, living and non-living virus. Virus can only be see under an electron microscope. Viruses are not free living they can only be parasites. All viruses inject living organism and may cause disease viruses cause many types of diseases such aas polio, Ebola and hepatitis. Viruses reproduces by getting their nucleic acid strand into a prokaryote or eukaryotic cell. The RNA or DNA strand then takes over the cell machinery to reproduce copies of itself and the protein coat viral injections in animals trigger an immune response which usually kills the injecting virus vaccines can also produces immune response they give an artificially acquired immunity to the specific viral injection.

Outcome of the Event: This group discussion has given a good knowledge of student in sharing them the information among them this is very useful for improving communication skills.



$2.3.1(Q_LM)$

Topic: "HETEROSPORY AND SEED HABIT"

Title of the Event : Group Discussion

Venue : Botany lab Co-ordinator : Dr. M.Madhavi

No. of Staff members involved : 01 No. of Students involved : 04

Objective of the event: To study the heterospory and seed habit

Discussion: Students are discussed on the heterospory and seed habit. Heterospory is the production of spores of two different sizes and sexes by the sporophytes of land plants the smaller of these, the microspore is male and the larger megaspore is female heterospory evolved during the Devonian period from isospory independently in several plant groups.

Outcome of the Event: This group discussion has given a good knowledge of student in sharing them the information among them this is very useful for improving communication skills.



 $2.3.1(Q_LM)::2020-21$

Name of the Department: Botany Student name: Syed. Sameeja Topic: General characters of viruses

Duration: 10 mins

No. of students attended: 14

Synopsis -General characters of viruses:

They are ultramicroscopic disease-causing organisms.

They have no cellular organisation and metabolic machinery.

They need host's machinery to make their replicas or copies.

They have simple structure and basically composed of nucleic acid wrapped in protein coat.

They are obligatory and intracellular parasites.

They are completely inactive outside the host.

They are always specific in their action i.e. infect a particular organism or organ.

They are neither capable of growth nor division.

They can be crystallised and even in crystalline form, their infectivity is retained.

They can undergo mutations.

Viruses are non-living characters, they are not cells.

They do not have a cytoplasm or any kind of cellular organelles to carry out any kind of metabolism.

Viruses are able to infect all living forms including plants, animals, human beings and even micro-organism.

Viruses are Obligate intracellular parasites they require a living cell or organism for its multiplication.

Viruses can be observed only under the electron microscope.

They are 10 to 100 times smaller than bacteria and its size ranges from 20 to 300 nm so these viruses can pass easily through bacteriological filters. They are filterable.

Size of viruses is measure with the help Ultrafiltration, ultracentrifugation and electron microscopy.

Viruses do not have any kind of cellular organisation.

Viruses have spikes which help the virus to attach on the host cell.

It contains either DNA or RNA as a nuclear material.



 $2.3.1(Q_LM)$

Name of the Department: Botany Student name: SK. Shahina

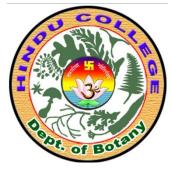
Topic: Annonaceae Duration: 10 mins

No. of students attended: 14

Synopsis-Annonacae: Annonaceae are flowering plants consisting of trees, shrubs, or rarely lianas having 2106 accepted species and more than 130 genera. Several genera produce edible fruits, most notably *Annona*, *Anonidium*, *Asimina*, *Rollinia*, and *Uvaria*. The family is concentrated in the tropics, and about 900 species are neotropical, 450 are Afrotropical, and the other species are Indomalayan. Some of the spices in this family are used as food ingredients having medicinal properties.

The family Annonaceae is composed of more than 119 genera with more than 2000 species. It is the largest family in Magnoliales. Only four genera (Annona, Asimina, Rollinia, and Uvaria) produce edible fruit. The genus Annona is composed of about 120 species and is the most important source of edible fruit in Annonaceae. Annona cherimola L., Annona muricata L., Annona squamosa L., Annona reticulata L., Asimina triloba L., and the interspecific hybrid atemoya (A. cherimola x A. squamosa Mabb.) are some of the most important species of this genus. The Annonaceae consist of trees, shrubs, or woody vines (lianas). The leaves are usually distichous, simple, and exs-tipulate. The inflorescence is a solitary flower or cyme. The flowers are bisexual [unisexual] and hypogynous. The perianth is triseriate, usually 3+3+3, hypanthium absent. The stamens are numerous, usually spiral, apostemonous, rarely basally connate. Anthers are longitudinally dehiscent. The pollen is released as monads, tetrads, or polyads. The gynoecium consists of numerous carpels with superior ovaries, either apocarpous with usually spiral carpels, or rarely syncarpous with whorled carpels. Placentation is variable; ovules are anatropous or campylotropous, bitegmic or rarely tritegmic, 1-numerous per carpel. The fruit is an aggregate of berries or dry and indehiscent units, or a syncarp in which the unit berries fuse to a fleshy receptacular axis. The seeds are endospermous, the endosperm ruminate (having an uneven, coarsely wrinkled texture), oily, sometimes starchy. Resin canals and a septate pith are usually present.





HINDU COLLEGE – GUNTUR

STUDENT CENTRIC METHODS 2.3.1(Q_LM)

DEPARTMENT OF BOTANY

PROBLEM SOLVING

CHARTS & WORKING MODELS
STUDENT PROJECT WORKS
QUIZ ON BOTANY SUBJECT
2020-2021

INDEX LIST OF CHARTS & MODELS

SNO NAME OF THE CHART/WORKING MODEL 2020-21		No of Charts
12	Krebs Cycle	1
13	Electron Transport	1
14	PS-I & PS-II Cycles	1

STUDENT PROJECTS

SNO	ACTIVITY	PRINCIPAL INVISTIGATOR	No. of Particip ants		
2020-21					
7	A STUDY ON WATER ECO SYSTEM	KVS DURGA	03		
		PRASAD	03		

QUIZ ON BOTANY SUBJECT

SNO	ACTIVITY	DATE	DURATI ON hrs/days	No. of Particip ants	
2020-21					
		16-7-2020 to	FOUR	1060	
4	Online Quiz Competitions	19-7-2020	DAYS	1000	
5	Quiz on Botany subject on the occasion of Dr.T.S.Ramarao's death anniversary (An Inter Collegiate Botany Quest on botany subject)	19-12-2020	ONE DAY	100	







A STUDY ON POND ECOSYSTEM

A. Sasank Sai, B. Spandana, Sk. Amreen 3rd BZC Students

Project submitted to The Research committee HINDU COLLEGE GUNTUR.

Project Guide
SRI K.V.S. DURGA PRASAD
HOD
Department of Botany
HINDU COLLEGE
GUNTUR.



Department of Botany HIDNDU COLLEGE GUNTUR December - 2020



DEPARTMENT OF BOTANY, HINDU COLLEGE, GUNTUR

This is to certify that the project entitled "A study on Eco system" submitted by A. Sasank Sai, B. Spandana, Sk. Amreen incorporates the bonafied project work carried out by the in the Department of Botany, Hindu College, under my supervision. This work has not been previously submitted.

K.V.S. Durga Prasad HOD Department of Botany Hindu College, Guntur.

Department of Botany HINDU COLLEGE GUNTUR.



DECLARATION

We declare that the present work entitled "A Study on Eco System" submitted to research committee Hindu College is a bonafied work done by us under the supervision of Sri KVS Durga Prasad, HOD in the Department of Botany, Hindu College, and this work has not submitted earlier in any other institution

Place: Guntur

A.Sasank Sai B. Spandana Sk. Amreen

CONTENTS

INTRODUCTION

MATERIALS AND METHOD

RESULTS

CONCLUSION

REFERENCES

Project on study of fresh water ecosystem

Abstract:

A community of plants depends on sunlight for energy, water, mineral, nutrients come from soil. Ecosystem operating in aquatic habitats is called as water ecosystem. They may be fresh water or saline ecosystem. Fresh water ecosystem may be sedimentary as lakes and ponds. Lintec habitats are represented 3 zones littoral, limnetic, profundal zones. Pond ecosystem is example of lintic type, it has abiotic components and biotic components such as quality and quantity of water, frequency of water, pH inorganic salts and organic salts, temperature and light, Biotic components are producers, consumers, decomposers. Produsers are two types macro and microphytes consumers are heterotropes, these are pimary, secondary and tertairyconsumers. Decomposers are as micro organism or micro consumers play important role in the recycling of minerals in the pond ecosystem.

Introduction:

Organisms living in a particular area may interact with the nonliving (abiotic) physical components of the environment such as air, soil, water and sunlight. Ecosystems are classified into water-based aquatic and land-based terrestrial ecosystem categories. Based on the quality of water involved, the aquatic ecosystems are further classified into fresh water and marine water types. Freshwater ecosystems are a subset of Earth's aquatic ecosystems. They include lakes and ponds, rivers, streams and springs, and wetlands. They can be contrasted with marine ecosystems, which have a larger salt content. Freshwater habitats can be classified by different factors, including temperature, light penetration, and vegetation. The freshwater ecosystems are generally classified into two major groups as, lentic and lotic ecosystems. The term Lentic

ecosystems is given to standing water bodies or still water bodies. The LENTIC Ecosystems includes all standing water bodies like Lakes, ponds, swamps or bogs. The term lotic ecosystem is given to the flowing water bodies. The LOTIC ecosystems include all flowing water bodies like river, springs, creek. The subject of study of freshwater ecosystems is known as **limnology**. Almost all ecological factors like temperature, light, pH, dissolved gases, dissolved salts in water, turbidity, alkalinity, depth and areal distribution, all of these parameters play an active role in controlling the habitat of aquatic ecosystems. Hence, it is necessary to study the freshwater ecosystems in detail.

Structure of ecosystem:

An ecosystem is a dynamic complex of plant, animal, and microorganism communities and the nonliving environment, interacting as a functional unit. A pond is a quiet body of water that is too small for wave action and too shallow for major temperature differences from top to bottom. It usually has a muddy or silty bottom with aquatic plants around the edges and throughout. However, it is often difficult to classify the differences between a pond and a lake, since the two terms are artificial and the ecosystems really exist on a continuum. Generally, in a pond, the temperature changes with the air temperature and is relatively uniform. Lakes are similar to ponds, but because they are larger, temperature layering or stratification takes place in summer and winter, and these layers turnover in spring and fall. Ponds get their energy from the sun. As with other ecosystems, plants are the primary producers. The chlorophyll in aquatic plants captures energy from the sun to convert carbon dioxide and water to organic compounds and oxygen through the process of photosynthesis. Nitrogen and phosphorus are important nutrients for plants. The addition of these substances may increase primary productivity. However, too many nutrients can cause algal blooms, leading to eutrophication.

Producers • Phytoplankton, literally "wandering plants," are microscopic algae that float in the open water and give it a green appearance. They carry out photosynthesis using carbon dioxide that is dissolved in the water and release oxygen that is used by the bacteria and animals in the pond.

- Periphytic algae are microscopic algae that attach themselves to substrates and give the rocks and sticks a greenish brown slimy appearance. They also carry out photosynthesis and produce oxygen, often near the bottom of the pond where it can be used by decomposers.
 - Submerged plants grow completely under water
- Floating plants include plants that float on the surface and plants that are rooted on the bottom of the pond but have leaves and/or stems that float.
- Emergent plants are rooted in shallow water but their stems and leaves are above water most of the time.
 - Shore plants grow in wet soil at the edge of the pond. Consumers
- Zooplankton are microscopic animals that eat phytoplankton or smaller zooplankton.
 Some are single-celled animals, tiny crustaceans, or tiny immature stages of larger animals.
 Zooplankton float about in the open water portions of the pond and are important food for some animals.
- Invertebrates include all animals without backbones. Macroinvertebrates are big enough to be seen with the naked eye. Some of them are only found in clean water.
- Vertebrates are animals with backbones. In a pond these might include fish, frogs, salamanders, and turtles.

Decomposers Animal waste and dead and decaying plants and animals form detritus on the bottom of the pond. Decomposers, also known as detritovores, are bacteria and other organisms that break down detritus into material that can be used by primary producers,

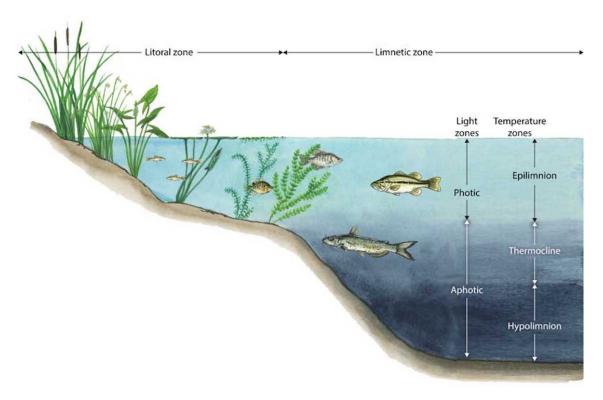


Fig.1 Different zones in Pond ecosystem

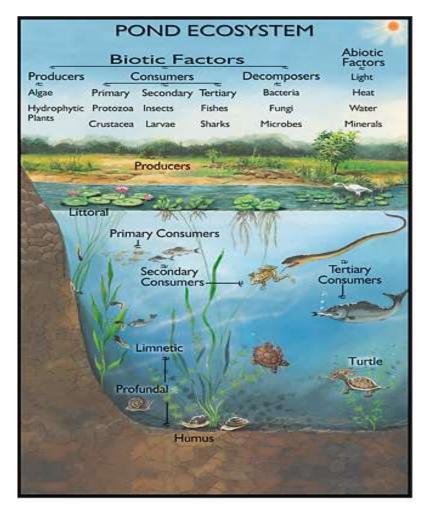


Fig 2: Pond ecosystem

Conclusions:

The Aquatic ecosystems also provide a home to many species including the phytoplankton, zooplankton, aquatic plants, insects, fish, birds, mammals, and others. They are organized at many levels, from the smallest building blocks of life to complete ecosystems, encompassing communities, populations, species, and genetic levels. Humans have long depended on aquatic resources for food, medicines, and materials. as well as fishing and tourism. They are overexploitation of species, pollution from urban, industrial, and agricultural activities, as well as the habitat loss and damming and diversion of water into other places. All these contribute to the declining levels of aquatic biodiversity, especially the freshwater ecosystems.

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$2.3.1(Q_LM)$

Online Quiz Competitions

Name of the Event: Online Quiz Competitions

Date: 16-7-2020 to 19-7-2020

Venue: Online

Co-ordinator: GVS Subramanyam

Chief Guest: KVS Durga Prasad

Other Dignitaries: Principal and Secretary&Correspondent

No. of Staff members involved: 05

No. of Students participated: 1065 from different colleges

Aim of the Event: To bring awareness among students in botany subject and scientists.

Programme procedure: The Botany Department is organising Botany quiz for all the UG and PG students, the quiz is purely on life sciences, to gain knowledge on each and every topic, it becomes easy for competitive exams and research entrance. its a good programme bring happiness and healthy environment among students.

Outcome of the Event: All the students are happy in participating the quiz, we gave prizes for first, second and third.

 $2.3.1(Q_LM)$

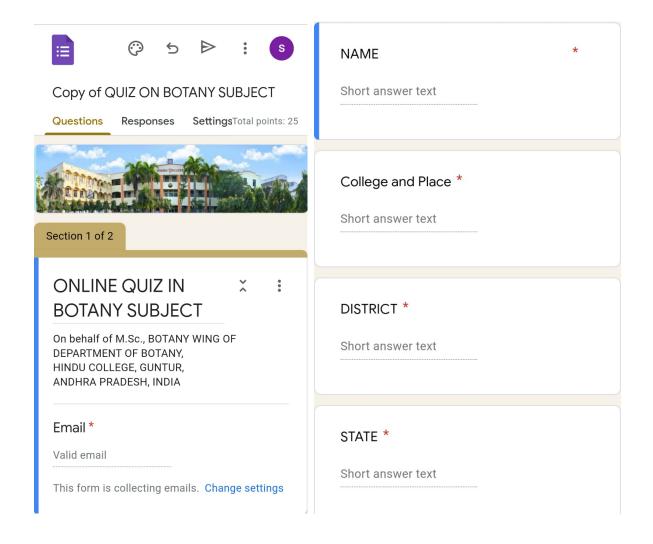
GOOGLE FROM LINK FOR ONLINE QUIZ ON BOTANY SUBJECT

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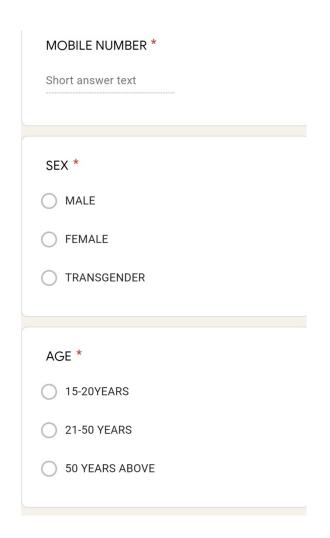
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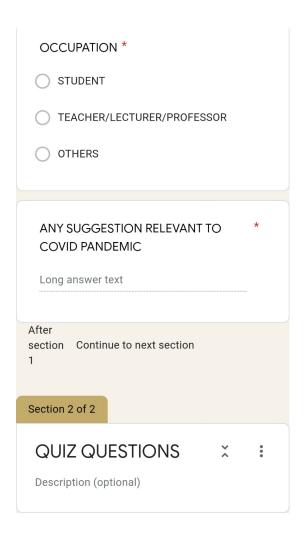
https://docs.google.com/spreadsheets/d/1Ufl5p5TXG6TJrYXa5kyaS1IM8RzZjEYqNmOfx39rs-

E/edit#gid=296168136



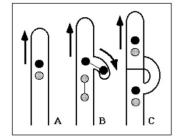
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$2.3.1(Q_LM)$

... 1. What it is called? *



- Budding
- conjugation
- Clamp connection
- Binary fission

24. Primary productivity

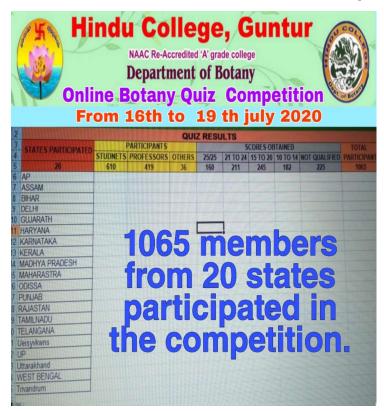
- is equal to the standing crop of an ecosystem.
- is greatest in freshwater ecosystems.
- is the rate of conversion of light to chemical e...
- is inverted in some aquatic ecosystems.

25. Most important causative pollutant of water that changes its pH ia

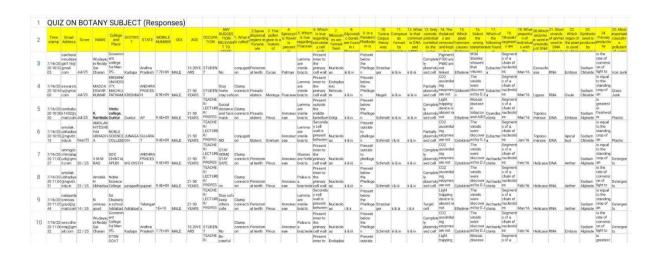
is

- Plastic
- Glass Junk
- Iron Junk
- Detergents

 $2.3.1(Q_LM)$



FEEDBACK - FIRST PAGE



$2.3.1(Q_LM)$

FEEDBACK - LAST PAGE

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ONLINE QUIZ ON BOTANY SUBJECT - CERTIFICATE



HINDU COLLEGE – GUNTUR STUDENT CENTRIC METHODS 2.3.1(Q_LM)

An Inter Collegiate Botany Quest On Botany Subject

Name of the Event: Quiz on Botany subject on the occasion of Dr.T.S.Ramarao's death anniversary (An Inter Collegiate Botany Quest on botany subject)

Date: 19-12-2020

Venue : Department of Botany On line Zoom Plat form

Co-ordinator: K.V.S. Durga Prasad

Chief Guest: Dr. M. Jaganmohan M.D; Professor in Gastroenterology, Siddhartha medical

college, Vijayawada

No. of Staff members involved: 05

No. of Students participated: 100 students for 10 different colleges

Objective of the Event: On the occasion of Legendary personality, Dr.T.S. Ramarao's, death anniversary conducted quiz on botany subject through the interaction among the students of different colleges.

Plan and Execution: In memory of **Dr.T.S. RAMARAO** former HOD of Botany every year we are conducting an inter collegiate Botany competitions in quiz elocution poster presentation . We prepared a broucher regarding the event and is circulated among different colleges .Every year we used to conduct in large scale physically but because of pandemic we conducted this in online .Nearly 10 colleges responded to the competitions . Winners awarded e-certificate and cash prize. The competitions are inaugurated by a chief guest Dr. M. Jaganmohan M.D Professor in Gastroenterology Sidhardha medical college Vijayawada.

Outcome of the event: The students came to know about the legend Dr. T.S. Ramarao. Different college students got interacted very well. They got very good awareness on botany subject

 $2.3.1(Q_LM)$

