2.3.1 Student Centric Methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences and teachers use ICT-enabled tools including online resources for effective teaching and learning process

Student Centric Methods followed by the Institution (DEPARTMENT-WISE)

2023-24

S. No	File Description
1	Department of English
2	Department of Oriental Languages
3	Department of Mathematics
4	Department of Physics
5	Department of Statistics
6	Department of Computer Science
7	Department of Microbiology
8	Department of Biotechnology
9	Department of Botany
10	Department of Chemistry
11	Department of Commerce
12	Department of MCA
13	Department of MBA

DEPARTMENT OF ENGLISH
STUDENT CENTRIC MEHODS 2023-2024

Experiential Learning	ParticipativeLearning	Problem Solving
• Group Discussions • PPT Presentations	• Student Seminars • Guest Lectures • Jam Sessions	• Book Reviews • Assignments • Question Bank • Essay Writing

ENGLISH

PARTICIPATIVE LEARNING.

Class/Year :II B.SC& B.COM
Name of the Activity :GUEST LECTUER
Date :02 .3.2023

To enhance the speaking abilities of the students, a Guest Lecture was arranged for the II years. on "Importance of English Language" Mrs.AnnaShalini,Vice–Principal& H.O.D OF English Department from A.C college ,Guntur.

PROBLEM SLOVING .

To develop skills like planning, editing revising, spelling and grammar organization,

Department of English conducted Essay writing practice to all the students.

PARTICPATIVE LEARNING

SEMINAR PRESENTATION

- Participating in a seminar students can improve communication skill, interaction and helps to gain expert knowledge.

TOPIC :"How a student can improve her speaking skills"


DEPARTMENT OF ENGLISH
STUDENT SEMINAR
PRESENTATION


DEPARTMENT OF ENGLISH
SEMINAR PRESENTATION
TOPIC : How a student can improve her
speaking skills


DEPARTMENT OF ENGLISH
SEMINAR ON
"HOW A STUDENT CAN
IMPOVE HIS / HER
SPEAKING SKILLS".


DEPARTMENT OF ENGLISH
SEMINAR ON
"HOW A STUDENT CAN IMPROVE
HER SPEAKING SKILLS"

GROUP DISCUSSION

Group discussion improves thinking, listening, speaking skills it may ensure academic skills.

POWER POINT PRESENTATION

To aware the students on PPT the Department of English conducted the power point Presentation.

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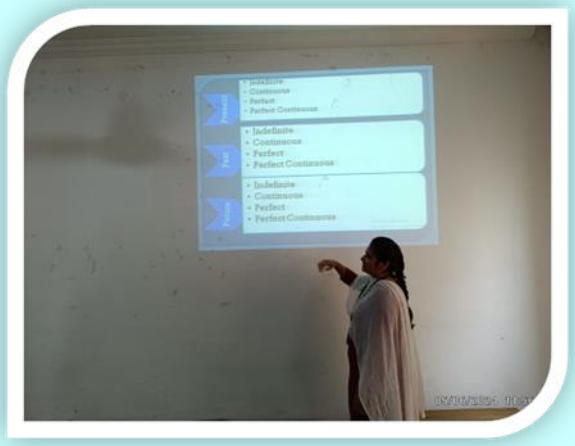
<td>  </td>
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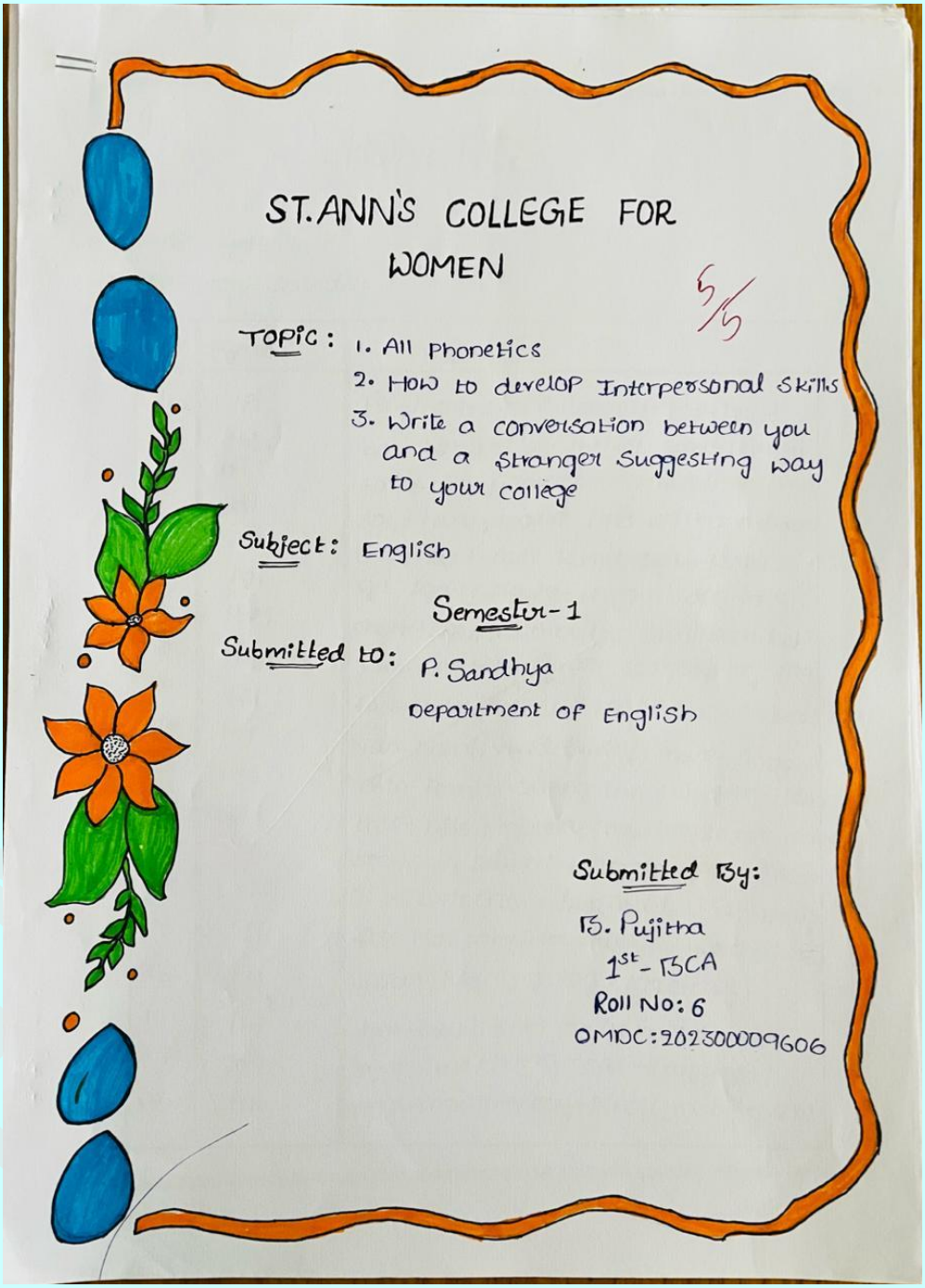
PATICIPATIVE LEARNING

ASSIGNIMENT



Phonetics

Introduction :- Language is a means of communication. It is a system of conventional oral and written signals. In English, unlike Marathi, the correspondence between form and the spoken form is not consistently maintained. We use a number of different speech sounds while speaking English. These speech sounds are called phonemes and the study of these speech sounds is called as phonetics. The purpose of this unit is to introduce students with English speech sounds [phonemes] and speech mechanism and to enable them to use proper pronunciation of English words.

Phonetic Symbols :-

1. Consonant Sounds :

	Symbol	Examples
1.	/p/	pen/pen/, simple/simpl/, tap/tæp/
2.	/b/	bat/bæt/, baby/beibi/, tube/tju:b/
3.	/t/	table/teibl/, interest/intrəst/, cut/kʌt/
4.	/d/	day/dei/, indeed/indi:d/, hand/hænd/
5.	/k/	cat/kæt/, skill/skill/, such/sʌk/
6.	/g/	get/get/, figure/figə(r)/, dog/dɒg)
7.	/tʃ)	chalk/tʃɔ:k/, richer/ɪɪtʃə(r)/, such/sʌtʃ/
8.	/dʒ)	jam/dʒæm/, suggest/sədʒest/, fog/fɒg/
9.	/f/	face/feis/, faithful/feiθfəl/, cough/kɒf/
10.	/v/	van/væn/, vivid/vivid/, move/mu:v/

11. /θ/ thin /θɪn/, nothing /nʌθɪŋ/ə(r)/, cloth /klɒθ/
12. /ð/ this /ðɪs/, mother /mʌðə(r)/, smooth /smuːr/
13. /s/ see /siː/, suspect /səspekt/, face /feɪs/
14. /z/ zoo /zuː/, ozone /əʊzəʊn/, rise /əraɪz/
15. /ʃ/ shoe /ʃuː/, ambition /æmbɪʃn/, wash /wɒʃ/
16. /ʒ/ vision /vɪʒn/, garage /gærɑːʒ/
17. /h/ hat /hæt/, behind /bɪhaɪnd/
18. /m/ mat /mæt/, mermaid /mɜːmeɪd/, jam /jæm/
19. /n/ now /naʊ/, annoy /ənɔɪ/, man //mæn/
20. /ŋ/ English /ɪŋglɪʃ/, ankle /æŋkl/, ring /ɪŋ/
21. /f/ leg /leg/, foolish /fuːlɪʃ/, oil /ɔːɪl/
22. /r/ red /red/, marry /mæri/, here /hɪər/
23. /j/ yes /jes/, beauty /bjuːtɪ/, few /fjuː/
24. /w/ wet /wet/ swim /swɪm/, away /əweɪ/

A. Vowels: a) Pure Vowels :

25. /iː/ heel /iːl/, see /siː/
26. /ɪ/ fist /fɪst/, hill /hɪl/
27. /e/ bed /bed/, ten /ten/
28. /æ/ bat /bæt/, fact /fækt/
29. /ɑː/ dark /dɑː(r)k/, father /fɑːðə(r)/
30. /ɑ/ lock /lɒk/, got /gɒt/
31. /ɜː/ word /wɜː(r)d/, saw /sɜː/
32. /ʊ/ look /lʊk/, should /ʃʊd/
33. /uː/ pool /puːl/, too /tuː/

34.	/ʌ/	fuck /fʌk/, cup /kʌp/
35.	/ə/	attend /ə tend/, pilot /pail ət, colour. /kʌlə(r)/
36.	/3:/	purse /p3:s/, girl /g3:l/
37.	/ei/	fate /feit/, say /sei/
38.	/ai/	rice /rais/, like /laik/
39.	/ɔi/	toy /tɔi/, noise /nɔiz/
40.	/ə ʊ/	so /sə ʊ/, snow /snə ʊ/
41.	/aʊ/	town /taʊn/, now /naʊ/
42.	/iə/	year /jiə(r)/, real /riəl/
43	/eə/	hair /heə(r)/, stare /steə(r)/
44.	/ʊə/	poor /pʊə(r)/, tourist /tʊərist/

11. Voiced or Voiceless consonant sounds.

Whether the consonant sounds are voiceless or voiced depend upon the state of glottis in the vocal cords. In the production of some consonant sounds, the vocal cords are kept loosely together and therefore they vibrate while producing sounds. Such sounds are called "voiced sounds". In the production of some consonant sounds, the vocal cords are kept apart and the glottis is wide open. Hence, they do not vibrate. Such sounds are "voiceless" sounds. Thus, the 24 consonant sounds are divided into voiceless and voiced in the following way.

Voiceless Consonants	Voiced Consonants
/p/	/b/
/t/	/d/
/k/	/g/

/tʃ/	/dʒ/
/ʃ/	/v/
/θ/	/ð/
/s/	/z/
/ʃ/	/ʒ/
/h/	/m/
	/n/
	/ŋ/
	/l/
	/r/
	/j/
	/w/

Interpersonal Skills :- Interpersonal skills are the skills that a person uses to interact with other people. Interpersonal skills are sometimes also referred to as people skills or communication skills, involve such as active listening, tone of voice, delegation and leadership. These skills show how people relate to others.

For instance, to interrupt someone who is currently preoccupied with the task of obtaining information needed immediately?

It is recommended to use the phrases, "Excuse me, are you busy? I have an urgent matter to discuss with you if you have time at the moment".
The usage of above phrases allows the receiver of the message to judge independently and leads to a higher quality interaction.
The five types of interpersonal skills that every person needs to succeed are,

1. Communication skills.
2. Leadership & team management skills
3. Management skills.
4. Negotiation skills.
5. Listening skills.

Communication skills :- It is one of the most important types of interpersonal skills. Effective communication both verbal and non verbal helps us better understanding of a person.
Leadership & Team Management skills :- Effective leadership is an essential requirement in order to achieve organization al goals. A Leader is responsible to provide inspiration, motivation and clear direction toothier team.
Management Skills :- The ability to foster interpersonal relationships, establish clearly are crucial skills for an effective leader. When managers have poor interpersonal communicational skills they can expect to irritate and confuse employees.
Negotiation skills :- Effective negotiation helps us to resolve situations. The aim of win win negotiation is to find a solution that is acceptable to both parties, and leaves both parties

feeling that they have won.

Listening skills :- Active listening is pretty self-explanatory. It's all about actively listening to what someone else has to say rather than passively hearing their message. Approach each conversation like you have something to learn - because, in reality, you likely will find yourself doing just that.

Team work :- The ability to work together as a team is extremely valuable in every work place. Team work involves many other inter personal skills like communication, active listening, flexibility and responsibility. Those who are good team players are often given important tasks in the work place and may seen as good candidates for promotion.

The above are some of the important skills that form interpersonal skills that form interpersonal skills which help to develop and foster longer relationships.

Importance of Interpersonal skills :- Interpersonal skills are important for communicating and working with groups and individuals in your personal and professional life. People with strong interpersonal skills tend to build good relationships and can work well with others. They understand family, friends, coworkers and clients well. People often enjoy working with colleagues who have good interpersonal skills.

Other benefits of interpersonal skills include the ability to solve problems and make good decisions. You can use interpersonal communication skills and the ability to understand others to come to the best solution or make the best decision for everyone involved. People with

The speaker will feel respected and you're likely to be able to recall the conversation more easily afterwards.

7. Be assertive :- It's important to be assertive. Be confident in your ability and opinions, and don't be afraid to express your needs, as well as your limits.

8. Practice empathy :- Gain a well-rounded view of things by putting yourself in other people's shoes. This will help you develop empathy for others, which in turn goes a long way in finding solutions that work for all involved.

9. Maintain your relationships :- Connect with college friends and former colleagues on social media or through email; try to set up face-to-face meetings now and then. This shows your connections that you still value the relationship.

Conversation Between Me and a stranger

Stranger :- Hello Mam, Excuse me

Me :- Yes, How can I help you

Stranger :- Can you please do me a favour?

Me :- Sure, Tell me.

Stranger :- I am new to this place. I want an address could you please help.

Me :- Yeah sure! which address do you want.

Stranger :- I want to go to St. Ann's Degree college for women. Could you please tell me.

ST. ANN'S COLLEGE FOR WOMEN

(A Catholic Christian Minority Institution)
(Affiliated to Acharya Nagarjuna University,
Recognized Under Section 2(f) of UGC Act 1956-New Delhi)
Amaravathi Road, Gorantla, Guntur – 522034 (A.P).
Contact: ✆ 0863-2236470, 2254224 Gmail stannscollegeforwomen@gmail.com
Website: http://www.stannscollegeforwomen.org

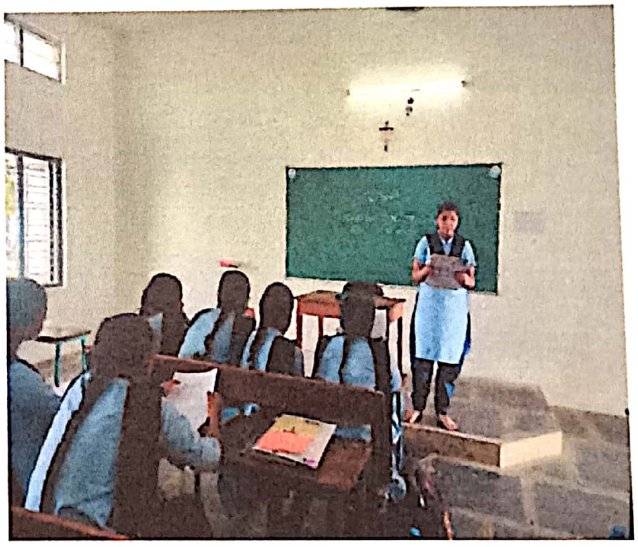
DEPARTMENT OF ORIENTAL LANGUAGES

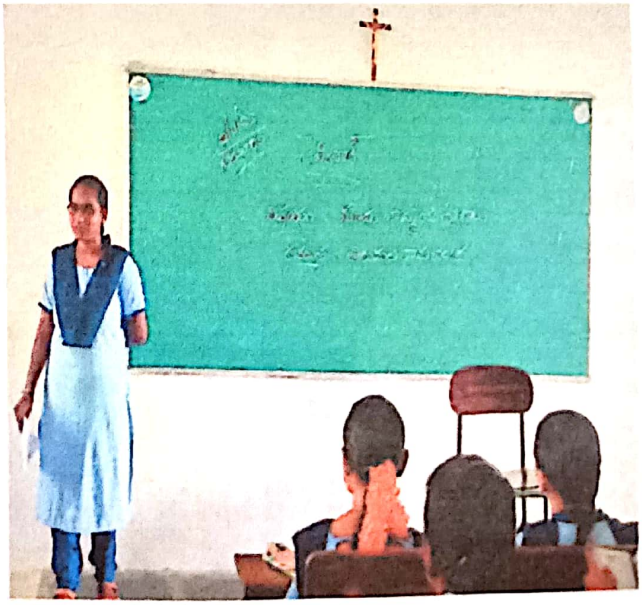
No. of the Students Participated : 137

Name of the Activity : Seminar "Muduvajmaya Sikharalu"

Date of the Activity : 02nd November 2023 (for Batch 2023-27)

The Department of Telugu conducted Seminar activity on 02nd November 2023. 137 students of 1st Semester (2023-24) 1st B.Com, 1st B.Sc and 1st B.C.A programmes are participated in activity.





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Website: http://www.stannscollegeforwomen.org

DEPARTMENT OF ORIENTAL LANGUAGES

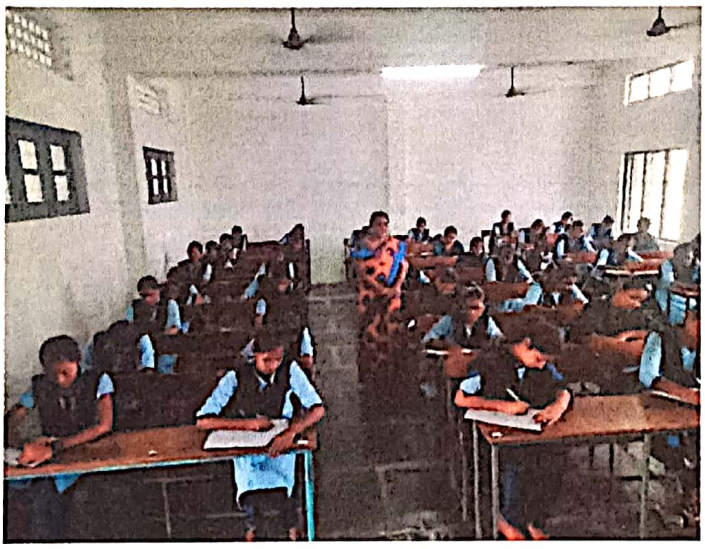
No. of the Students Participated : 108

Name of the Activity : Essay Writing "Baalikaa Vidya Aavasyakatha"

Date of the Activity : 13th September 2023 (for Batch 2022-25)

.

The Department of Telugu conducted Essay Writing activity on 13th September 2023. 108 students of 3rd Semester (2023-24) 2nd B.Com, 2nd B.Sc and 2nd B.C.A programmes are participated in activity. B.Com(General) Garika Hepsiba got first prize and B.C.A Shaik Tasleem got second prize in Essay Writing activity.



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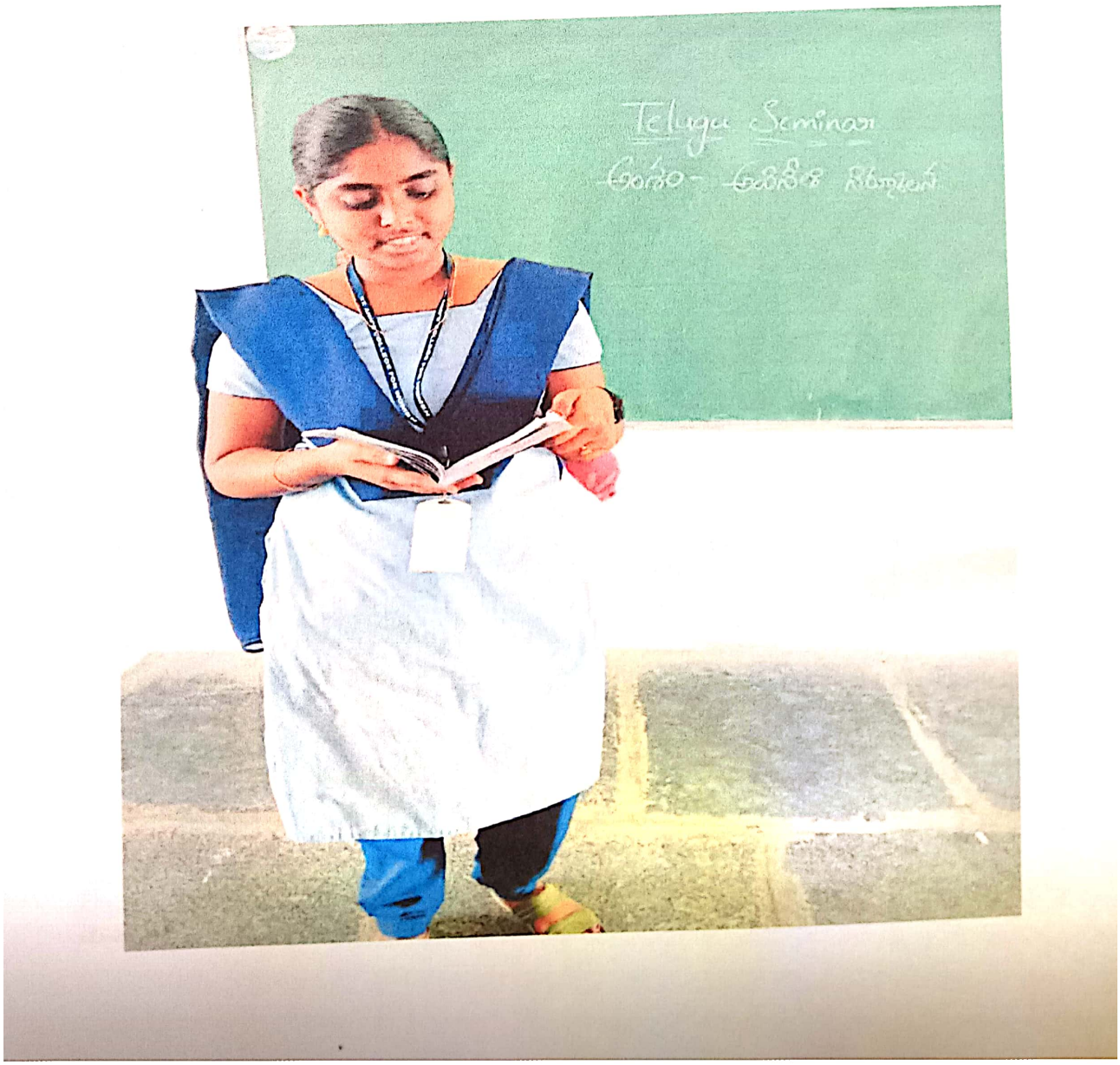
DEPARTMENT OF ORIENTAL LANGUAGES

No. of the Students Participated : 137

Name of the Activity : Seminar "Avineethi Nirmulana"

Date of the Activity : 23rd February 2024 (for Batch 2023-27)

The Department of Telugu conducted Seminar activity on 23rd February 2024. 137 students of 2nd Semester (2023-24) 1st B.Com, 1st B.Sc and 1st B.C.A programmes are participated in activity.



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DEPARTMENT OF ORIENTAL LANGUAGES

No. of the Students Participated : 08

Name of the Activity : Skit activity on "Sarva Matha Sammelanam"

Date of the Activity : 12th March 2024 (for Batch 2023-27)

The Department of Telugu conducted Skit activity on 12th March 2024. 08 students of 2nd Semester (2023-24) 1st B.Com, 1st B.Sc and 1st B.C.A programmes are participated in activity.

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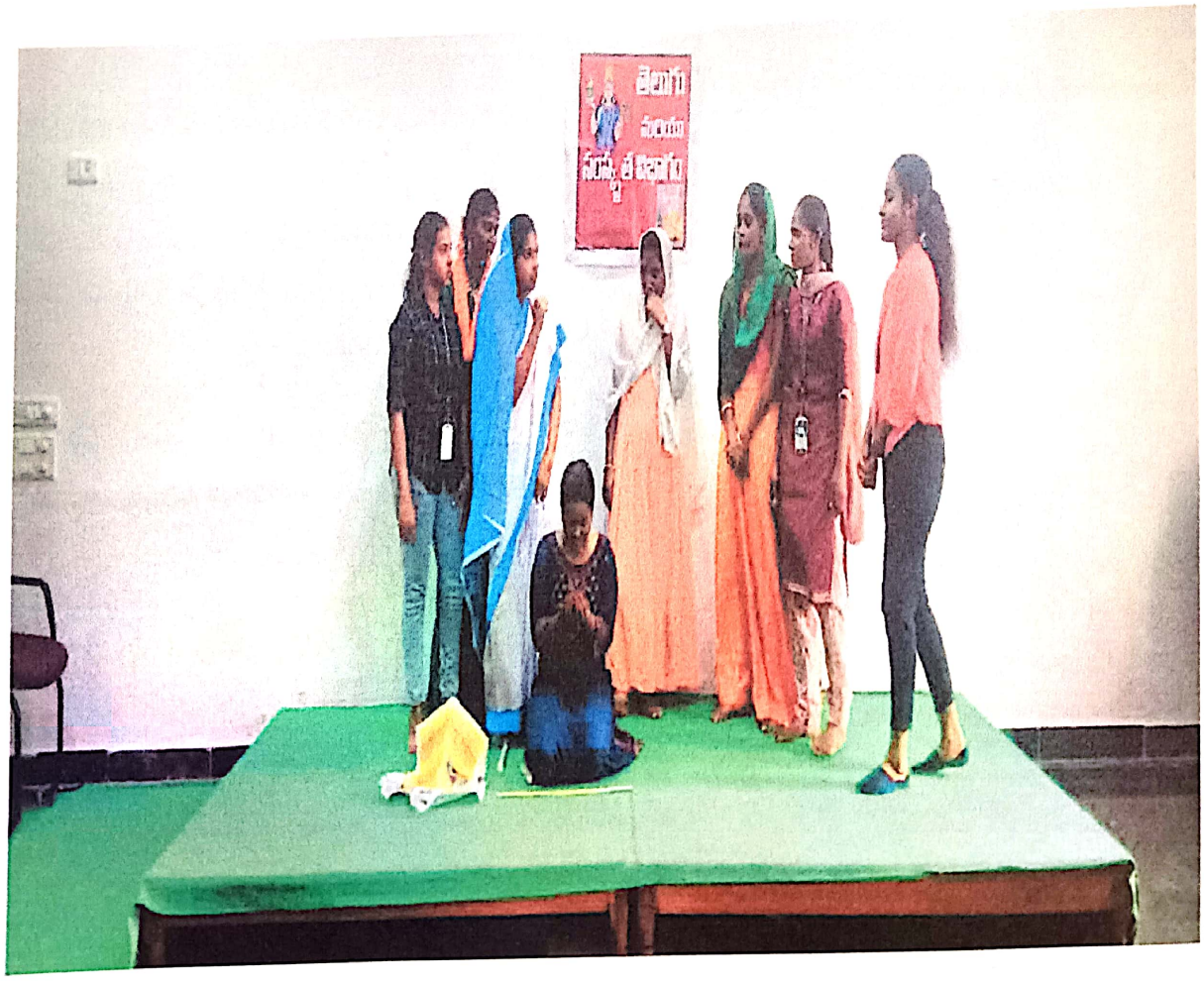

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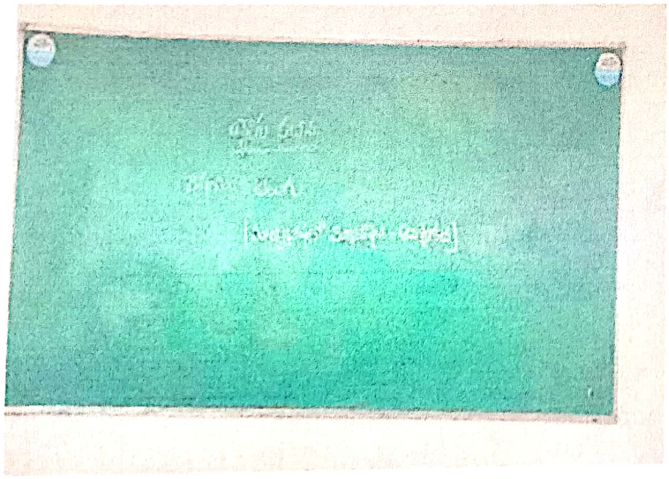
DEPARTMENT OF ORIENTAL LANGUAGES

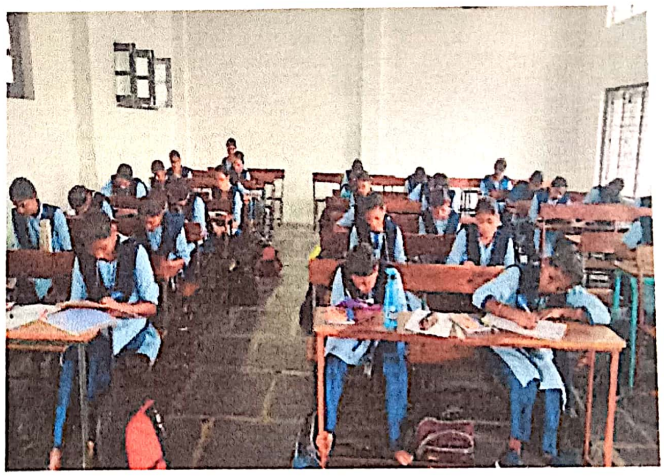
No. of the Students Participated : 137

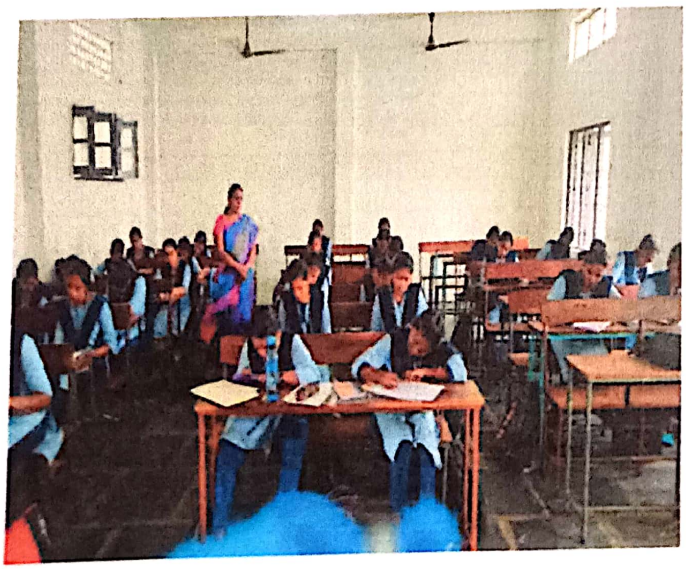
Name of the Activity : Essay Writing on "Maathru Bhashalo Vidya Bhodhana Aavasyakatha"

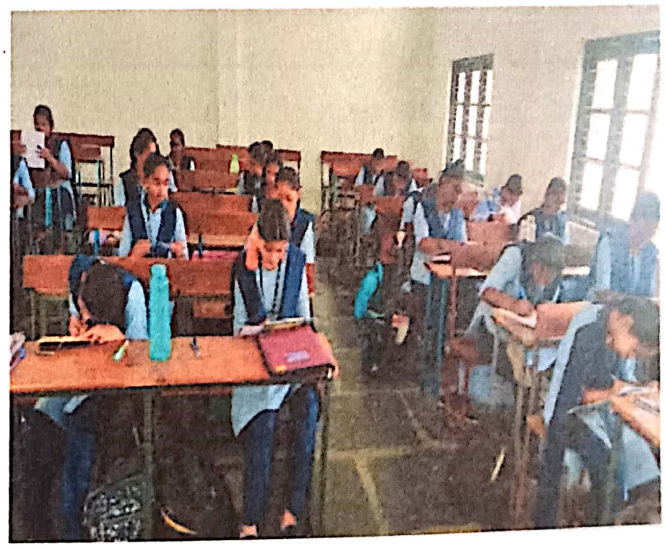
Date of the Activity : 04th March 2024 (for Batch 2023-27)

The Department of Telugu conducted Essay Writing activity on 04th March 2024. 137 students of 2nd Semester (2023-24) 1st B.Com, 1st B.Sc and 1st B.C.A programmes are participated in activity. B.Sc(Micro-Biology) Sk. Dilshad got first prize and B.Com(Res) G. Nikitha got second prize in Essay Writing activity.









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Department Of oriental Languages Sansrit 2023-24

Report

The Department of Sanskrit conducted ***Elocution*** competition **Kalidasa Jayanthi** On30th August 2023. 50 students II[nd]B.Sc, B.Com & BCA students participated in competition. S. Chandrika II BCOM (Computers) got 1[st] place. & D. Poojitha(II BCA) got 2[nd] place.

ST.ANN'S COLLEGE FOR WOMEN

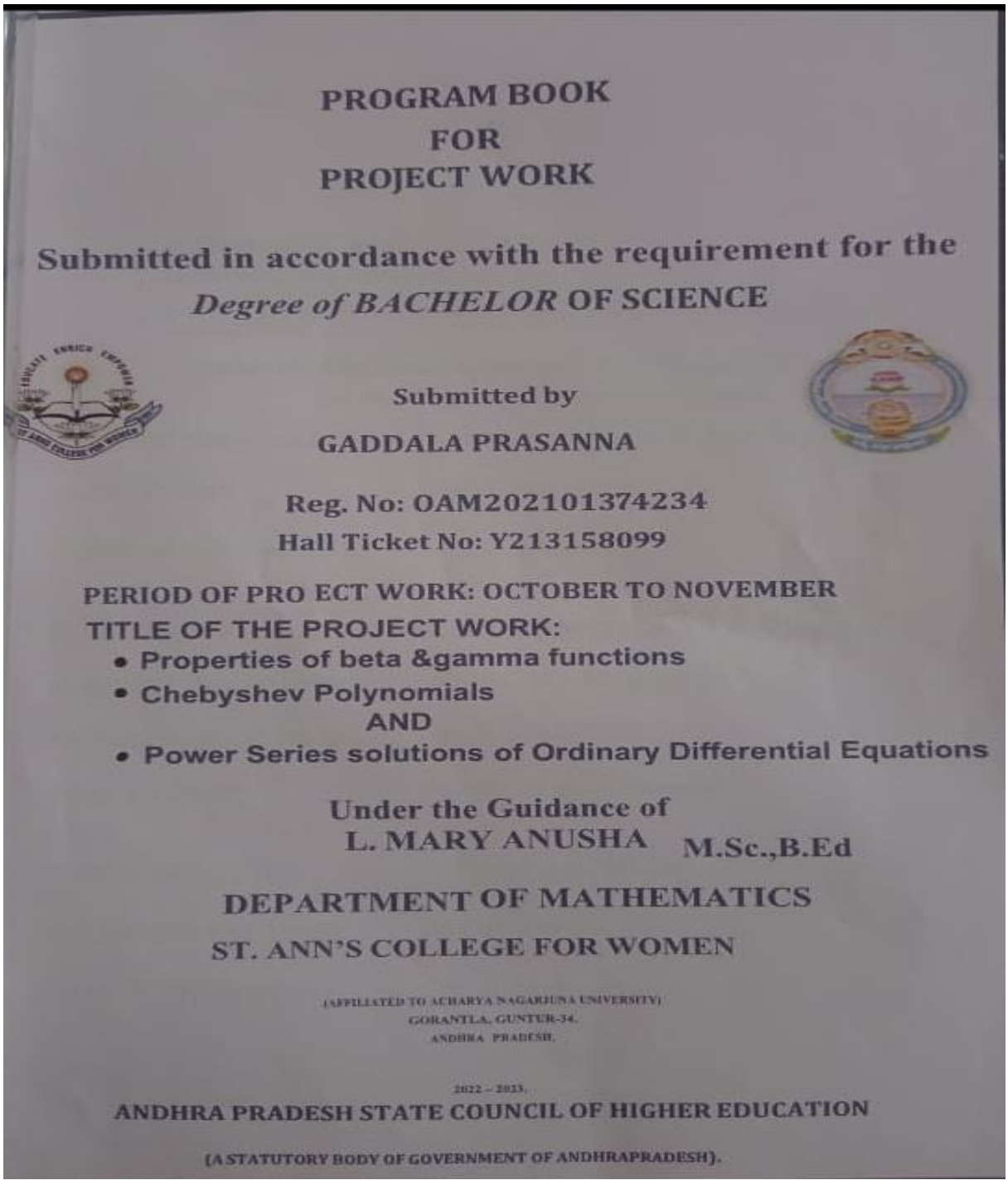
GUNTUR, GORANTLA -34

DEPARTMENT OF MATHEMATICS

ExperientialLearning	ParticipativeLearning	Problem-Solving
• Project Work • GroupDiscussions • PPTPresentations • Add on course	• Studentseminars • Competitions–Quiz	• Assignments • Questionbankpreparation

ExperientialLearning

Project Work



PROGRAM BOOK
FOR
PROJECT WORK

Submitted in accordance with the requirement for the
Degree of BACHELOR OF SCIENCE

Submitted by

GADDALA PRASANNA

Reg. No: OAM202101374234

Hall Ticket No: Y213158099

PERIOD OF PRO ECT WORK: OCTOBER TO NOVEMBER

TITLE OF THE PROJECT WORK:

- Properties of beta &gamma functions
- Chebyshev Polynomials

AND

- Power Series solutions of Ordinary Differential Equations

Under the Guidance of
L. MARY ANUSHA M.Sc.,B.Ed

DEPARTMENT OF MATHEMATICS

ST. ANN'S COLLEGE FOR WOMEN

(AFFILIATED TO ACHARYA NAGARJUNA UNIVERSITY)
GORANTLA, GUNTUR-34.
ANDHRA PRADESH.

2022 – 2023.

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

(A STATUTORY BODY OF GOVERNMENT OF ANDHRAPRADESH).

ST. ANN'S COLLEGE FOR WOMEN

GORANTLA, GUNTUR – 35.

PROJECT WORK
ON

- PROPERITIES OF BETA AND GAMMA FUNCTIONS
- CHEBYSHEV POLYNOMIALS &
- POWER SERIES SOLUTIONS OF ORDINARY DIFFERENTIAL EQUATIONS

Submitted in accordance with the requirement for the Degree of Bachelor of Science

NAME OF THE COLLEGE : ST. ANN'S COLLEGE FOR WOMEN

DEPARTMENT : MATHEMATICS

NAME OF THE FACULTY : L. Mary Anusha

DURATION OF PROJECT WORK : FROM OCTOBER TO NOVEMBER

NAME OF THE STUDENT : GADDALA PRASANNA

PROGRAMME OF STUDY : B. Sc - Mpcs

YEAR OF STUDY : THIRD YEAR – V.Semester

OAMDC NUMBER : OAM202101374234

HALL TICKET NUMBER : Y213158099

DATE OF SUBMISSION : 22-11-2023.

ST. ANN'S COLLEGE FOR WOMEN
GORANTLA, GUNTUR – 35.

STUDENT'S DECLARATION

I **GADDALA PRASANNA** a student of **III Year B.Sc.** Mpcs Program, Reg. No. **Y213158099** of the Department of Mathematics, **ST. ANNS COLLEGE FOR WOWEN**, do hereby declare that, I have completed the mandatory project work from **October to November** Under the Faculty Guideship of **L.Mary Anusha** lecture in the department of Mathematics.

G. prasanna.
Signature and Date

Faculty Guide : L. Mary Anusha.

Head of the Department:
Head of the Department
Department of Mathematics
St. Ann's College for Wome
Gorantla, GUNTUR-35

Principal
PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR-522 035

ACKNOWLEDGEMENT

I wish to convey my deep sense of gratitude to **Dr. Sr. FATIMA RANI. P.,** B.Ed., M.A., Phil., Ph.D., Principal and Correspondent of St. Ann's College for Women for providing us ith necessary infra-structural facilities in a successfully completion of the Short-term ternship.

I am deeply indebted to my Project work mentor L.MaryAnusha Lecture in the epartment of Mathematics for her intellectual stimulation, inspiring, guidance, constructive iticism and helpful suggestions throughout my Project work.

I. express my sincere thanks toL.MaryAnusha lecture in the Department of Mathematics her valuable encouragement, suggestions and guidance in every stage of the completion of internship successfully.

I express sincere thanks to all the Teaching, Non- Teaching of the various Departments id Administrative staff who helped me a lot in completion of this internship.

I wish to express my personal sentiments, love and affection to my parents or their encouragement and blessings while doing this short-term Internship my friends for heir support both directly and indirectly.

Finally, Ithank one and all who helped me during this Two months Project work.

INTRODUCTION:

Beta functions are a special type of function, which is also known as Euler integral of the first kind. It is usually expressed as B (x, y) where x and y are real numbers greater than 0. It is also a symmetric function, such as B (x, y) = B (y, x). In Mathematics, there is a term known as special functions. Some functions exist as solutions of integrals or differential equations.

What are the Functions?

Functions play a vital role in Mathematics. It is defined as a special association between the set of input and output values in which each input value correlates one single output value. We know that there are two types of Euler integral functions. One is a beta function, and another one is a gamma function. The domain, range or codomain of functions depends on its type. In this project, we are going to discuss the definition, formulas, properties, and examples of beta functions. **Example:**

Consider a function $f(x) = x^2$ where inputs (domain) and outputs (codomain) are all real numbers. Also, all the pairs in the form (x, x^2) lie on its graph.

Let's say if 2 be input; then we would get an output as 4, and it is written as $f(2) = 4$. It is said to have an ordered pair (2, 4).

What is beta and gamma function?

We know that there are two types of Euler integral functions. One is a beta function, and another one is a gamma function. Gamma is a

single variable function, whereas Beta is a two-variable function. The relation between beta and gamma function will help to solve many problems in maths.

Who invented the beta function?

Euler and Legendre first studied the beta function and was given its name by ***Jacques Binet***.

Beta Function Definition

The beta function is a unique function where it is classified as the **first kind of Euler's integral**. The beta function is defined in the domains of real numbers. The notation to represent the beta function is "**β**". The beta function is meant by B (p, q), where the parameters p and q should be real numbers.

The beta function in Mathematics explains the association between the set of inputs and the outputs. Each input value the beta function is strongly associated with one output value. The beta function plays a major role in many mathematical operations.

Beta Function Formula

The beta function formula is defined as follows:

$$B(p,q) = \int_0^1 t^{p-1}(1-t)^{q-1}dt$$

Where $p, q > 0$

The beta function plays a major role in calculus as it has a close connection with the gamma function, which itself works as the generalisation of the factorial function. In calculus, many complex integral functions are reduced into the normal integrals involving the beta function.

Beta Function Properties

The important properties of beta function are as follows:

- This function is symmetric which means that the value of beta function is irrespective to the order of its parameters, i.e. B (p, q) = B (q, p)
- B (p, q) = B (p, q+1) + B (p+1, q)
- B (p, q+1) = B (p, q). [q / (p + q)]
- B (p+1, q) = B (p, q). [p / (p +q)]
- B (p, q). B (p +q, 1-q) = π/ p sin (πq)
- The important integrals of beta functions are:
- $$B(p,q) = \int_0^1 \frac{t^{p-1}}{(1+t)^{p+q}} dt$$
- $$B(p,q) = 2\int_0^{\pi/2} sin^{2p-1}\theta cos^{2q-1} d\theta$$

Incomplete Beta Functions

The generalized form of beta function is called incomplete beta function. It is given by the relation:

$$B(z: a, b) = \int_0^z t^{a-1} (1-t)^{b-1} dt$$

It is also denoted by $B_z(a, b)$. We may notice that when z = 1, the incomplete beta function becomes the beta function. i.e. B (1: a, b) = B (a, b). The incomplete beta function has many implementations in physics, functional analysis, integral calculus etc.

What is the use of the beta function?

The beta function in Mathematics explains the association between the set of inputs and the outputs. Each input value of the beta function is strongly associated with one output value. The beta function plays a significant role in many mathematical operations.

Who first introduced the gamma function?

The gamma function was first introduced by the Swiss mathematician Leonhard Euler. His goal was to generalize the factorial to non-integer values. Later, because of its great importance, it was studied by many other mathematicians.

What is gamma function?

The gamma function is a mathematical function that generalizes the factorial function to complex numbers. It is defined by the integral formula

Γ(z) = ∫∞ 0 tz−1e−t dt, where Re(z) > 0.

Gamma Function Properties

- (z) is defined and analytic in the region Re(z) > 0.
- (n+1) = n!, for integer n ≥ 0.
- Γ(z+1) = z Γ(z) (function equation)

This property and property 2 characterizes the factorial function. Thus, (z)generalise n! to complex numbers z. Some authors will write (z+1) = z!.

- (z) can be analytically continued to be meromorphic on the entire plane with simple poles at 0, -1, -2…. The residues are

  Res (Γ, -m) = $\frac{(-1)^m}{m!}$

- $\Gamma(z) = [ze^{\gamma z}]\Pi_1^{\infty}(1+\frac{z}{n})\, e^{-z/n}]^{-1}$, where γ is Euler's constant

$$\gamma = \lim_{n\to\infty} 1 + \frac{1}{2} + \frac{1}{3} + \cdots \frac{1}{n} - log(n) \approx 0.577$$

This property uses an infinite product. Unfortunately, we won't have time, but infinite products represent an entire topic on their own. Note that the infinite product makes the positions of the poles of Γ clear.

Uses of Gamma Function

Gamma function has important applications in calculus, differential equations, complex analysis, and statistics. While the gamma function behaves like a factorial in the case of natural numbers which is a discrete set, its extension to positive real numbers which is a continuous set,
makes the gamma function useful for modelling situations involving continuous change.

Relation with Gamma Function

The given beta function can be written in the form of gamma function as follows:

$$B(p, q) = \frac{\Gamma p.\Gamma q}{\Gamma(p,q)}$$

Where the gamma function is defined as:

$$(x) = \int_0^{\infty} t^{x-1}e^{-t}dt$$

Also, the beta function can be calculated using the factorial formula:

$$B(p, q) = \frac{(p-1)!(q-1)}{(p+q-1)!}$$

Where, p! = p. (p-1). (p-2) … 3. 2. 1

chebyshev polynomials:

*The Chebyshev polynomials of the first kind are a set of orthogonal polynomials defined as the solutions to the Chebyshev differential equation and denoted T_n(x).

*They are used as an approximation to a least squares fit, and are a special case of the Gegenbauer polynomial with alpha=0.
*They are also intimately connected with trigonometric multiple-angle formulas.
* The Chebyshev polynomials of the first kind are denoted T_n(x), and are implemented in the Wolfram Language as ChebyshevT[n, x].
*They are normalized such that T_n(1)=1. The first few polynomials are illustrated above for x in [-1,1] and n=1, 2, ..., 5.

*The Chebyshev polynomial of the first kind T_n(z) can be defined by the contour integral.

$$T_n(z) = \frac{1}{4\pi i} \oint \frac{(1-t^2)\, t^{-n-1}}{(1-2tz+t^2)}\, dt,$$

where the contour encloses the origin and is traversed in a counterclockwise direction (Arfken 1985, p. 416).
*The Chebyshev polynomials of the first kind are defined through the identity

$$T_n(\cos\theta) = \cos(n\theta) \quad \text{or} \quad T_n(\cosh\theta) = \cosh(n\theta).$$

*The Chebyshev polynomials of the first kind can be obtained from the generating functions

$$g_1(t, x) = \frac{1-t^2}{1-2xt+t^2} = T_0(x) + 2\sum_{n=1}^{\infty} T_n(x)\, t^n$$

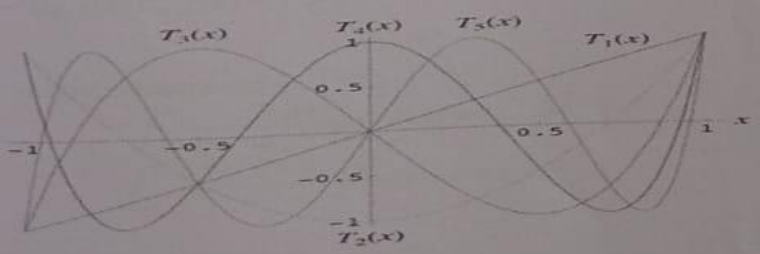
$$g_2(t, x) = \frac{1-xt}{1-2xt+t^2} = \sum_{n=0}^{\infty} T_n(x)\, t^n$$

for |x|<=1 and |t|<1 (Beeler et al. 1972, Item 15). (A closely related generating function is the basis for the definition of Chebyshev polynomial of the second kind.)

Draw a graph representations of chebyshev polynomial ?***Write a table representing chebyshev polynomials of the first kind ?***

Or

***write a coefficients of chebyshev polynomials of the first kind ?**



$$
\begin{aligned}
T_0(x) &= 1 \\
T_1(x) &= x \\
T_2(x) &= 2x^2 - 1 \\
T_3(x) &= 4x^3 - 3x \\
T_4(x) &= 8x^4 - 8x^2 + 1 \\
T_5(x) &= 16x^5 - 20x^3 + 5x \\
T_6(x) &= 32x^6 - 48x^4 + 18x^2 - 1 \\
T_7(x) &= 64x^7 - 112x^5 + 56x^3 - 7x \\
T_8(x) &= 128x^8 - 256x^6 + 160x^4 - 32x^2 + 1 \\
T_9(x) &= 256x^9 - 576x^7 + 432x^5 - 120x^3 + 9x
\end{aligned}
$$

***write a Relations between the two kinds of Chebyshev polynomials ?**

*The Chebyshev polynomials of the firSt and second kinds correspond to a complementary pair of Lucas equences $\tilde{V}n(P, Q)$ and $\tilde{U}n(P, Q)$ with parametersP = 2x and Q = 1;

$$
\begin{aligned}
\tilde{U}_n(2x, 1) &= U_{n-1}(x), \\
\tilde{V}_n(2x, 1) &= 2T_n(x).
\end{aligned}
$$

It follows that they also satisfy a pair of mutual recurrence equations

he second of these may be rearranged using the recurrence definition

$$
\begin{aligned}
T_{n+1}(x) &= x\,T_n(x) - (1 - x^2)\,U_{n-1}(x), \\
U_{n+1}(x) &= x\,U_n(x) + T_{n+1}(x).
\end{aligned}
$$

$$
T_n(x) = \frac{1}{2}\left(U_n(x) - U_{n-2}(x)\right).
$$

sing this formula iteratively gives the sum formula:

$$
U_n(x) = \begin{cases} 2\sum_{\text{odd } j}^{n} T_j(x) & \text{for odd } n. \\ 2\sum_{\text{even } j}^{n} T_j(x) - 1 & \text{for even } n, \end{cases}
$$

while

$$
2\,T_n(x) = \frac{1}{n+1}\frac{\mathrm{d}}{\mathrm{d}x}T_{n+1}(x) - \frac{1}{n-1}\frac{\mathrm{d}}{\mathrm{d}x}T_{n-1}(x), \qquad n = 2, 3, \ldots
$$

This relationship is used in the Chebyshev spectral method of solving differential equations.

Turán's inequalities for the Chebyshev polynomials are

$$
\begin{aligned}
&T_n(x)^2 - T_{n-1}(x)\,T_{n+1}(x) = 1 - x^2 > 0 \qquad \text{for } -1 < x < 1 \qquad \text{and} \\
&U_n(x)^2 - U_{n-1}(x)\,U_{n+1}(x) = 1 > 0\,.
\end{aligned}
$$

The integral relations are[

$$
\begin{aligned}
\int_{-1}^{1} \frac{T_n(y)}{(y-x)\sqrt{1-y^2}}\,\mathrm{d}y &= \pi\,U_{n-1}(x)\,, \\
\int_{-1}^{1} \frac{\sqrt{1-y^2}\,U_{n-1}(y)}{y-x}\,\mathrm{d}y &= -\pi\,T_n(x)
\end{aligned}
$$

where integrals are considered as principal value.

* Solutions to second order differential equations consist of two separate functions each with an unknown constant in front of them that are found by applying any initial conditions. So, the form of our solution in the last example is exactly what we want to get. Also recall that the following T ' eries,

=> **cos(x)=** **(-1)^n x** $\sum$ **i)!**

=> **Sin(x)=** **(-1)^n x^2n+1/(2** $\sum$

*Recalling these we very quickly see that what we got from the series solution method was exactly the solution we got from first principles, with the exception that the functions were the Taylor series for the actual functions instead of the actual functions themselves.

*Now let's work an example with non constant coefficients since that is where series solutions are most useful.

*While we won't cover all possibilities in this chapter we will be looking at two of the more common methods for dealing with this kind of differential equation.

Q. What are the two majorly used or commonly used methods for dealing series solutions of ordinary differential equations?

Ans : The first method that we'll be taking a look at, series solutions, will actually find a series representation for the solution instead of the solution itself. You first saw something like this when you looked at Taylor series in your Calculus class. As we will see however, these won't work for every differential equation

* The second method that we'll look at will only work for a special class of differential equations. This special case will cover some of the cases in which series solutions can't be used

, power series

*Here is a brief listing of the topics :taylor series 2) power series

1) Taylor series: In this section we give a quick reminder on how to construct the Taylor series for a function. Included are derivations for the Taylor series

***series solutions :**

In this section we define ordinary and singular points for a differential equation. We also show who to construct a series solution for a differential equation about an ordinary point. The method illustrated in this section is useful in solving, or at least getting an approximation of the solution, differential equations with coefficients that are not constant.

***Euler solutions :**

In this section we will discuss how to solve Euler's differential equation, **ax^2y''+bxy'+cy=0.** Note that while this does not involve a series solution it is included in the series solution chapter because it illustrates how to get a solution to at least one type of differential equation at a singular point.

EDMI NOTE 9
I QUAD CAMERA

INTERNAL ASSESSMENT STATEMENT

Name of the Student :GADDALA PRASANNA

Programme of Study : B.Sc (Bachelor of Science)

Course : M.p.Cs – Mathematics, Physics, Computer Science

Register No/H.T. No :Y213158099

Name of the College : St. Ann's College for Women

Name of the University : Acharya Nagarjuna University

Sl. No	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	FIELD WORK	05	05

Date: 22/11/23

L. Mary Anusha
Signature of the Faculty Guide

Certified by

Date: 22/11/23

Signature of the Head of the Department / Principal

Head of the Department
St. Ann's College for Women
Gorantla, GUNTUR-35

Seal:

MI NOTE 9
UAD CAMERA

ADD- ON COURSE

All the students of III B.SC-MBC & BBC are hereby informed that the Department of Mathematics in association with IQAC is organizing a 30 hours "Add- On Course" on Vedic Mathematics from 11th September to 27thSeptember 2023. The course will be conducted offline mode from 9:00 AM to 12:00 PM everyday with following contents.

GROUP DICUSSION

Class/Year : III BSc-MPC, MPCs & MSCs

Event : GROUP DICUSSION

Date : 08-11-2023

No. of Students Attended: 140

The Department of Mathematics conducted **GROUP DICUSSION** competition in the Academic year 2023-2024 on 08th November2023 on the topic **"Number theory in every day life".** All the students of the Department of Mathematics III BSc-MPC, MPCs & MSCs students were participated in the competition. Four groups of four members each had actively participated to perform their comprehensive level. **The Mathmagicians of Sk.Ruksana& Team** won the first prize and the **Alge - Bros of M.Geethika& Team** got the Second prize. There were presented with certificates.

POWER POINT PRESENTATION

Class/Year **:**III B Sc-MPC, MPCs & MSCs
Event **:**Power Point Presentation
Date **:**13-12-2023 to 18-12-2023
No. of Students Attended **: 140**

The Department of Mathematics conducted **POWER POINT PRESENTATION**in the academic year 2023-2024 on 13th December to 18th December 2023 on the topic **"Presentation On Linear Equation in Two Variable".**144 Students of the Department of III BSC-MPC, MSCs & MPCs were participated in the presentation




ParticipativeLearning

QUIZ COMPETITION

Class/Year **:** III & II B Sc-MPC, MPCs & MSCs

Event : Quiz Competition

Date : 10-02-2024

No. of Students Attended : 218

The Department of Mathematics conducted **QUIZ COMPETITION** in the academic year 2023-2024 on 10thFeb 2024. All the students of the Department of Mathematics III & II B Sc-MPC, MPCs & MSCs students were participated in the event. It was held in Three rounds of General Knowledge, Subject round & Visual round. Four groups of four members each had actively participated to perform their comprehensive level. **S. Sanjana& Team** won the first prize and the **K. Jones& Team** got the Second prize. There were presented with certificates

THE PARTICIPATES LIST IN QUIZ COMPETITION.

S.No	Group A	Group B	Group C	Group D
01.	K. Sanjana	K. Jones	Sk. Ruksana	B. Sruthi
02.	P. Divya	A. Naga Srivalli	K. Jones	T. Rajeswari
03.	K. Hrudaya Pani	B. Remya	G. Prasanna	Sk. Reshu
04.	R. Rajini	S. Niharika	S.Sucharitha	S. Sanjana

SCORES OF THE GROUPS IN THREE ROUNDS

S.No	Groups	General Knowledge Round Score-5M	Subject Round Score- 10M	Visual Round Score- 5M	Total Scores 20M

01.	Group A	---	04	02	06
02.	Group B	01	04	03	08
03.	Group C	---	03	02	05
04.	Group D	03	09	03	15

THE WINNERS AND RUNNERS IN QUIZ COMPETITION

S.No	Winners-Group D	Runners-Group B
01.	B.Sruthi	K. Jones
02.	T.Rajeswari	A.Naga Srivalli
03.	Sk.Reshu	B.Remya
04.	S.Sanjana	S.Niharika
Total Score	**15**	**08**

According their Scores **S. Sanjana & Team of Group D** won the first prize with the Score of 15 and the **K. Jones & Team of Group B** got the Second prize with the Score of 08. There were presented with certificates.

Students participating in the Quiz Competition:

SEMINAR PRESENTATION

Class/Year : III & II B Sc-MPC, MPCs & MSCs
Event : **SEMINAR PRESENTATION**
Date : 17-11-2023 to 21-11-2023

No. of Students Attended : 218

The Department of Mathematics conducted **SEMINAR PRESENTATION** in the academic year 2023-2024 from17-11-2023 to 21-11-2023. 90 Students of the Department of III BSC &II BSc -MPCs & MSCs were participated in the presentation**.**

Problem-Solving

Assignments

St. Ann's College For Women

Gorantla, Guntur

Department of Mathematics

Paper : Special Functions

Topic : chebyshev Polynomials.

Academic Year : 2023-2024

Submitted to:

Anusha mam

(Leturer of Maths)

Submitted by:

E. Harika

Chebyshev polynomials :-

Definition :-

The chebyshev polynomials of first kind $T_n(x)$ and Second kind $U_n(x)$ are defined by $T_n(x) = \cos(n\cos^{-1}x)$ and $U_n(x) = \sin(n\cos^{-1}x)$ when n is a non negative integer. Sometimes the chebyshev polynomial of the second kind is defined by

$$U_n(x) = \frac{\sin\{(n+1)(\cos^{-1}x)\}}{\sqrt{1-x^2}}$$

$$= \frac{1}{\sqrt{1-x^2}} U_{n+1}(x)$$

Chebyshev's Differential Equation :-

The differential equation $(1-x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} + n^2y = 0$ is called chebyshev differential equation where n is a non negative integer.

Theorem :- $T_n(x)$ and $U_n(x)$ are independent Solution of differential Equation.

Chebyshev's differential Equation is

$$(1-x^2)\frac{d^2y}{dx^2} - x\frac{dy}{dx} + n^2y = 0 \longrightarrow (1)$$

Now $T_n(x) = \cos(n\cos^{-1}x)$

$$\therefore \frac{d}{dx}[T_n(x)] = -\sin(n\cos^{-1}x) \times \frac{-1}{\sqrt{1-x^2}}$$

$$= \frac{n}{\sqrt{1-x^2}} \sin(n\cos^{-1}x)$$

$$\frac{d^2}{dx^2}\{T_n(x)\} = n \cdot \frac{d}{dx}\left\{\frac{1}{\sqrt{1-x^2}} \sin(n\cos^{-1}x)\right\}$$

$= n\left[\sin(n\cos^{-1}x)(-1/2)(1-x^2)^{-3/2}(-2x) + (1-x^2)^{-1/2}\cos(n\cos^{-1}x)\, n\cdot -1/\sqrt{1-x^2}\right]$

$= \frac{nx}{(1-x^2)^{3/2}}\sin(n\cos^{-1}x) - \frac{n^2}{1-x^2}\cos(n\cos^{-1}x)$

$= (1-x^2)\frac{d^2}{dx^2}\{T_n(x)\} - x\frac{d}{dx}T_n(x) + n^2T_n(x)$

$= (1-x)\left[\frac{nx}{(1-x^2)\sqrt{(1-x^2)}}\sin(n\cos^{-1}x) - \frac{n^2}{(1-x^2)}\cos(n\cos^{-1}x)\right]$

$= -x\left[\frac{n}{\sqrt{1-x^2}}\sin(n\cos^{-1}x) + n^2\cos(n\cos^{-1}x)\right]$

$= \frac{nx}{\sqrt{1-x^2}}\sin(n\cos^{-1}x) - n^2\cos(n\cos^{-1}x) - \frac{nx}{\sqrt{1-x^2}}\sin(n\cos^{-1}x) + n^2\cos(n\cos^{-1}x)$

$= 0$

Hence $T_n(x)$ is a solution of (1)

$U_n(x) = \sin(n\cos^{-1}x)$

$y = \sin(n\cos^{-1}x)$

$\frac{d}{dx}\{U_n(x)\} = \cos(n\cos^{-1}x)\, n\frac{-1}{\sqrt{1-x^2}}$

$= \frac{-n}{\sqrt{1-x^2}}\cos(n\cos^{-1}x)$

$\frac{d^2}{dx^2}\{U_n(x)\} = \frac{-n}{\sqrt{1-x^2}}\sin(n\cos^{-1}x)\frac{-n}{\sqrt{1-x^2}} + \cos(n\cos^{-1}x) - n(-1/2)[1-x^2)^{-3/2}(-2x)$

$= \frac{-n^2}{(1-x^2)}\sin(n\cos^{-1}x) + \frac{n}{2}(1-x^2)^{-3/2}(-2x)\cos(n\cos^{-1}x)$

$= (1-x^2)\left[\frac{-n^2}{1-x^2}\sin(n\cos^{-1}x) - nx\frac{1}{(1-x^2)^{1/2+1}}\cos(n\cos^{-1}x)\right]$

$= 0$

$U_n(x)$ is also a solution of (1) $T_n(1)=1$ and $U_n(1)=0$. We observe that $U_n(x)$ is not a constant multiple of $T_n(x)$. Hence $T_n(x)$ and $U_n(x)$ are independent solution of (1)

$\int_{-1}^{1} \frac{T_m(x)\,T_n(x)}{\sqrt{1-x^2}}\,dx = \int_0^{\pi} \cos^2 n\theta\,d\theta = \frac{1}{2}\int_0^{\pi}(1+\cos 2n\theta)\,d\theta = \frac{1}{2}\left(\theta + \frac{1}{2n}\sin 2n\theta\right)_0^{\pi} = \pi/2$

If $m=n=0$ from (1) We have $\int_{-1}^{1} \frac{T_m(x)\,T_n(x)}{\sqrt{1-x^2}}\,dx = \int_0^{\pi} d\theta = \pi$

$$\therefore \int_{-1}^{1} \frac{T_m(x)\,T_n(x)}{\sqrt{(1-x^2)}}\,dx = \begin{cases} 0 & m \neq n \\ \pi/2 & m=n\neq 0 \\ \pi & m=n=0 \end{cases}$$

$$\therefore \int_{-1}^{1} \frac{U_m(x)\,U_n(x)}{\sqrt{(1-x^2)}}\,dx = \begin{cases} 0 & m \neq n \\ \pi/2 & m=n\neq 0 \\ 0 & m=n=0 \end{cases}$$

We have $U_m(x) = \sin(m\cos^{-1}x)$ $U_n(x) = \sin(n\cos^{-1}x)$

$$\int_{-1}^{1} \frac{U_m(x)\,U_n(x)}{\sqrt{(1-x^2)}}\,dx = \int_{-1}^{1} \frac{\sin(m\cos^{-1}x)\,\sin(n\cos^{-1}x)}{\sqrt{(1-x^2)}}\,dx \longrightarrow (2)$$

Putting $x=\cos\theta$ (2) becomes

$$\int_0^{\pi} \sin m\theta \sin n\theta\,d\theta = \frac{1}{2}\int_0^{\pi}[\cos(m-n)\theta - \cos(m+n)\theta]\,d\theta$$

$$= \frac{1}{2}\left[\frac{1}{m-n}\sin(m-n)\theta - \frac{1}{m+n}\sin(m+n)\theta\right]_0^{\pi} = 0 \quad \text{if } m-n\neq 0$$

If $m=n\neq 0$ from (2) we have $\int_{-1}^{1} \frac{U_m(x)\,U_n(x)}{\sqrt{(1-x^2)}}\,dx = \int_0^{\pi} \sin^2 n\theta\,d\theta$

$$= \frac{1}{2}\int_0^{\pi}(1-\cos 2n\theta)\,d\theta = \frac{1}{2}\left(\theta - \tfrac{1}{2n}\sin 2n\theta\right)_0^{\pi} = \pi/2$$

If $m=n=0$ from (2) we have

$$\int_{-1}^{1} \frac{U_m(x)\,U_n(x)}{\sqrt{(1-x^2)}}\,dx = 0$$

Recurrence formula For $T_n(x)$ and $U_n(x)$:-

1. $T_{n+1}(x) - 2xT_n(x) + T_{n-1}(x) = 0$

We have $T_n(x) = \cos(n\cos^{-1}x) = \cos n\theta$ by putting $x = \cos\theta$

$T_{n+1}(x) - 2xT_n(x) + T_{n-1}(x) = \cos(n+1)\theta - 2\cos\theta\cos n\theta + \cos(n-1)\theta$

$\cos(n+1)\theta - [\cos(n+1)\theta + \cos(n-1)\theta] + \cos(n-1)\theta = 0$

$$T_{n+1}(x) - 2xT_n(x) + T_{n-1}(x) = 0$$

2. $(1-x^2)T_n'(x) = -nxT_n(x) + nT_{n-1}(x)$

We have $T_n(x) = \cos(n\cos^{-1}x) = \cos n\theta$ by putting $x = \cos\theta$

$$T_n'(x) = \frac{d}{dx}\cos(n\cos^{-1}x) = -\sin(n\cos^{-1}x)\frac{n}{\sqrt{(1-x^2)}}$$

$$= \frac{n}{\sqrt{(1-x^2)}}\sin(n\cos^{-1}x) = \frac{n}{\sin\theta}\sin n\theta$$

$(1-x^2)T_n'(x) = (1-\cos^2\theta)\frac{n}{\sin\theta} = n\sin\theta\sin n\theta$ and

$-nxT_n(x) + nT_{n-1}(nx) = -n\cos\theta\cos n\theta + n\cos(n-1)\theta$

$-n\cos\theta\cos n\theta + n(\cos n\theta\cos\theta + \sin n\theta\sin\theta) = n\sin\theta\sin n\theta$

$$(1-x^2)T_n'(x) = -nxT_n(x) + nT_{n-1}(x).$$

3. $U_{n+1}(x) - 2xU_n(x) + U_{n-1}(x) = 0$

We have $U_n(x) = \sin(n\cos^{-1}x) = \sin n\theta$ by putting $x = \cos\theta$

$U_{n+1}(x) - 2xU_n(x) + U_{n-1}(x) = \sin(n+1)\theta - 2\cos\theta\sin n\theta + \sin(n-1)\theta$

$= \sin(n+1)\theta - [\sin(n+1)\theta + \sin(n-1)\theta] + \sin(n-1)\theta = 0$

$$\therefore U_{n+1}(x) - 2xU_n(x) + U_{n-1}(x) = 0.$$

$$T_n(x) = \sum_{r=0}^{(n/2)} (-1)^r \frac{n!}{(2r)!(n-2r)!} (1-x^2)^r x^{n-2r}$$

Put $x = \cos\theta$ then

$$T_n(x) = \cos(n\cos^{-1}x) = \cos n\theta = \frac{1}{2}(e^{in\theta} + e^{-in\theta})$$

$$= \frac{1}{2}\left[(\cos\theta + i\sin\theta)^n + (\cos\theta - i\sin\theta)^n\right] = \frac{1}{2}\left[\left\{x + i\sqrt{1-x^2}\right\}^n + \left\{x - i\sqrt{1-x^2}\right\}^n\right]$$

$$= \frac{1}{2}\left[\left\{x + i\sqrt{1-x^2}\right\}^n + \left\{x - i\sqrt{1-x^2}\right\}^n\right] = \frac{1}{2}\left[\sum_{r=0}^{n} {}^nC_r x^{n-r}\left\{i\sqrt{1-x^2}\right\}^r + \sum_{r=0}^{n} {}^nC_r x^{n-r}\left\{-i\sqrt{1-x^2}\right\}^r\right]$$

$$= \frac{1}{2}\sum_{r=0}^{n} {}^nC_r x^{n-r}\left\{1 + (-1)^r\right\} i^r (1-x^2)^{r/2}$$

when r is odd. We have $1 + (-1)^r = 0$ and when r is even we have $1 + (-1)^r = 2$

$$T_n(x) = \frac{1}{2}\sum_{r=0}^{n} {}^nC_r x^{n-r} i^r (1-x^2)^{r/2} \quad (\text{even } r \le n)$$

Take $r = 2s$, when r is integer $r \le n$ means that $s \le n/2$ s in integer

$n/2$ is greatest integer less than or equal $n/2$ now $T_n(x) = \sum_{s=0}^{n/2} \frac{n!(-1)^s}{(2s)!(n-2s)!}$

$$T_n(x) = \sum_{r=0}^{(n/2)} (-1)^r \frac{n!}{(2r)!(n-2r)!} (1-x^2)^r x^{n-2r}$$

Orthogonal Properties Of Chebyshev Polynomials

i. $$\int_{-1}^{1} \frac{T_m(x)T_n(x)}{\sqrt{1-x^2}}\,dx = \begin{cases} 0 & m \neq n \\ \pi/2 & m = n \neq 0 \\ \pi & m = n = 0 \end{cases}$$

We have $T_m(x) = \cos(m\cos^{-1}x)$ $T_n(x) = \cos(n\cos^{-1}x)$

$$\int_{-1}^{1} \frac{T_m(x)T_n(x)}{\sqrt{(1-x^2)}}\,dx = \int_{-1}^{1} \frac{\cos(m\cos^{-1}x)\cos(n\cos^{-1}x)}{\sqrt{(1-x^2)}}\,dx \rightarrow (1)$$

Putting $x = \cos\theta$ in (1) becomes

$$\int_0^{\pi} \cos m\theta \cos n\theta\,d\theta = \frac{1}{2}\int_0^{\pi} [\cos(m+n)\theta + \cos(m-n)\theta]\,d\theta$$

$$= 1/2\left[\frac{1}{m+n}\sin(m+n)\theta + \frac{1}{m-n}\sin(m-n)\theta\right]_0^{\pi} = 0 \text{ if } m \neq n$$

DEPARTMENT OF MATHEMATICS

QUESTION BANK

2023-2024

III B Sc ,PAPER-VII,SEMESTER-V

TITLE: NUMERICAL METHODS

UNIT – 1: FINITE DIFFERENCES

1. Define i) Forward difference operator
   ii) Backward difference operator
   iii) Central difference operator
   iv) Shifting operator
2. Prove that i) $\Delta = E - 1$
   ii) $\nabla = 1 - E^{-1}$
   iii) $E = e^{hD}$
3. Show that i) $(1+\Delta)(1-\nabla) = 1$
   ii) $E\nabla = \Delta$
   iii) $\nabla = E^{-1}\Delta$
   iv) $\Delta - \nabla = \Delta\nabla$
   v) $\Delta + \nabla = \frac{\Delta}{\nabla} - \frac{\nabla}{\Delta}$
   vi) $\Delta = \nabla(1-\nabla)^{-1}$
4. Prove that i) $\delta = E^{1/2} - E^{-1/2}$
   ii) $\mu = \frac{1}{2}\left(E^{1/2} + E^{-1/2}\right)$
   iii) $E^{-1/2} = \mu - \frac{1}{2}\delta$
   iv) $E^{1/2} = \mu + \frac{1}{2}\delta$
   v) $\mu^2 = 1 + \frac{1}{4}\delta^2$
   vi) $\mu\delta = \frac{1}{2}(\nabla + \Delta) = \frac{1}{2}\Delta E^{-1} + \frac{1}{2}\Delta$
   vii) $1 + \mu^2\delta^2 = \left[1 + \frac{1}{2}\delta^2\right]^2$

5. Prove that $\Delta\, log\, f(x) = \log\left[1 + \frac{\Delta f(x)}{f(x)}\right]$
6. Evaluate $\Delta^2\left[\frac{5x+12}{x^2+5x+6}\right]$, the interval of differencing being unity.
7. Prove that $e^x = \frac{\Delta^2}{E} e^x \frac{Ee^x}{\Delta^2 e^x}$.
8. Evaluate i) $\Delta^n sin(ax+b)$

   ii)$\Delta^n\, cos(ax+b)$
9. Given $y_0 = 3; y_1 = 12; y_2 = 81; y_3 = 200; y_4 = 100$. Find $\Delta^4 y_0$ without forming the difference task.
10. i) Given $u_0 = 3; u_1 = 12; u_2 = 81; u_3 = 200; u_4 = 100; u_5 = 8$; find $\Delta^5 u_0$.

    ii) Given $u_0 = 1; u_2 = 11; u_2 = 21; u_3 = 28; u_4 = 29$; find $\Delta^4 u_0$.
11. State and prove fundamental theorem of difference calculus.
12. Find the missing term in the following data

X:	0	1	2	3	4
Y:	1	3	9	?	81

13. Given $u_0 + u_8 = 1.9243, u_1 + u_7 = 1.9590, u_2 + u_6 = 1.9823,$ $u_3 + u_5 = 1.9956$. Find u_4.
14. Find the missing entries in the following table

X:	0	1	2	3	4	5
Y=f(x)	0	-	8	15	-	35

15. Express $f(x) = x^4 - 4x^3 + 7x^2 + 3x - 6$ in terms of the factorial notations.
16. Express the polynomial $f(x) = 11x^4 + 5x^3 + 2x^2 + x - 15$ in factorial notations.
17. Find the function whose first difference is $9x^2 + 11x + 5$.
18. Obtain the function whose first difference is $x^4 - 5x^3 + 3x + 4$.

UNIT – 1A: INTERPOLATION WITH EQUAL INTERVALS

1. State and prove Newton-Gregory formula for forward interpolation with equal intervals.
2. State and prove Newton-Gregory formula for backward interpolation with equal intervals.
3. Using Newton's formula for interpolations, estimate the population for the years 1905:

Year	1891	1901	1911	1921	1931
Population (in thousands)	98	132	168	195	246

4. Find the value of $\log_{10} 337.5$ from the following data:

X	310	320	330	340	350	360
$\log_{10} x$	2.4913	2.5051	2.5185	2.5314	2.5440	2.5563

5. From the following table, find the number of students who obtain less than 45 marks.

Marks	30-40	40-50	50-60	60-70	70-80
No. of students	31	42	51	35	31

6. Estimate the sale for 1966 using the newton's backward interpolation formula:

Year(x)	1931	1941	1951	1961	1971	1981
Sale in thousand(y)	12	15	20	27	39	52

7. Find the cubic polynomial which takes the following values

x	0	1	2	3
f(x)	0	2	1	10

UNIT – 2: CENTRAL DIFFERENCE INTERPOLATION FORMULAE

1. State and prove forward Gauss's formula for equal intervals.

X	1.0	1.1	1.2	1.3	1.4
Y	0.841	0.891	0.932	0.963	0.985

2. State and prove Gauss's backward formula for equal intervals.
3. Use Gauss's forward formula to find the value of y when $x = 3.75$, given the following table

X	25	26	27	28	29	30
F(x)	4.000	3.846	3.704	3.571	3.448	3.333

X	2.5	3.0	3.5	4.0	4.5	5.0
y_x	24.145	22.043	20.225	18.644	17.262	16.047

4. Apply Gauss's forward formula to find the value of u_9 if $u_0 = 14; u_4 = 24; u_8 = 32; u_{16} = 40$.
5. Given $\sqrt{12500} = 111.803399; \sqrt{12510} = 111.84811; \sqrt{12520} = 111.892806; \sqrt{12530} = 111.937483$. Show by Gauss backward formula that $\sqrt{12516} = 111.874930$.
6. State and prove Stirling's difference formula.
7. Use Stirling's formula to find the value of $f(1.22)$ from the following data
8. Use Stirling's formula to find the value of $f(1.22)$ from the following data.
9. State and prove Bessel's difference formula.
10. Apply Bessel's formula to find the value of $f(27.4)$, from the table:
11. Apply Bessel's formula to find the value of $y_{2.73}$ given that $y_{2.5} = 0.4938,\ y_{2.6} = 0.4953,\ y_{2.7} = 0.4965,\ y_{2.8} = 0.4974,\ y_{2.9} = 0.4981, y_{3.0} = 0.4987$

UNIT – 2A: INTERPOLATION WITH UNEQUAL INTERVALS

1. Explaindivided differences
2. State and proveNewton's divided difference formula.
3. Apply Newton's divided difference formula to find the value of f(8), if f(1) = 3, f(3) =31, f(6) = 223, f(10) = 1011, f(11) = 1343.
4. State and prove Lagrange's interpolation formula.
5. By Lagrange's interpolation formula, find the value of y at x =5, given that

X	1	3	4	8	10
Y	8	15	19	32	40

6. Using Lagrange's formula, prove that
   $y_0 = \frac{1}{2}(y_1 + y_{-1}) - \frac{1}{8}\left[\frac{1}{2}(y_3 - y_1) - \frac{1}{2}(y_{-1} - y_{-3})\right]$.
7. By Lagrange's formula, prove that $y_1 = y_3 - 0.3(y_5 - y_{-3}) + 0.2(y_{-3} - y_{-5})$.
8. Using Lagrange's formula, prove that,
   $y_3 = 0.05(y_0 + y_6) - 0.3(y_1 + y_5) + 0.75(y_2 - y_4)$.

UNIT – 3: NUMERICAL DIFFERENTIATION:

1. Using the given table,find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ at x= 1.2.

X	1.0	1.2	1.4	1.6	1.8	2.0	2.2
Y	2.7183	3.3201	4.0552	4.9530	6.0496	7.3891	9.0250

2. From the following table, find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ at x= 1.05.

X:	1.00	1.05	1.10	1.15	1.20	1.25	1.30

Y:	1.00000	1.02470	1.04881	1.07238	1.09544	1.11803	1.14017

3. Find $f'(1.5)$ and $f''(1.5)$ from the following table.

X	1.5	2.0	2.5	3.0	3.5	4.0
F(x)	3.375	7.000	13.625	24.000	38.875	59.000

4. From the following table, find the value of $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$at x =2.03.

X	1.96	1.98	2.00	2.02	2.04
y	0.7825	0.7739	0.7651	0.7563	0.7473

5. Using the given table, find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$at x =2.2

X	1.0	1.2	1.4	1.6	1.8	2.0	2.2
Y	2.7183	3.3201	4.0552	4.9530	6.0496	7.3891	9.0250

6. Find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$at x = 0.6 from the following data.

x	0.4	0.5	0.6	0.7	0.8
y	1.5836	1.7974	2.0442	2.3275	2.6511

7. From the following table, find $\frac{dy}{dx}$ and $\frac{d^2y}{dx^2}$ at x = 3.

x	0	1	2	3	4	5	6
y	6.6897	7.4036	7.7815	8.1291	8.4510	8.7510	9.0309

8. Find the value of f' (x) at x = 0.04 from the following table, using Bessel's formula.

x	0.1	0.02	0.03	0.04	0.05	0.06
f(x)	0.1023	0.1047	0.1071	0.1096	0.1122	0.1148

9. Find f' (2.5) from the following table:

x	1.5	1.9	2.5	3.2	4.3	5.9
f(x)	3.375	6.059	13.625	29.368	73.907	196.579

10. Using Newton's divided difference formula find f' (10) for the data.

x	4	5	7	10	11	13
f(x)	48	100	294	900	1210	2028

11. From the following table, find the value of x for which y is minimum. Also find this value of y.

x	0.60	0.650	0.70	0.75
f(x)	0.6221	0.6155	0.6138	0.6170

12. From the following table find x correct to two decimal places, for which y is maximum and find this value of y.

x	1.2	1.3	1.4	1.5	1.6
f(x)	0.9320	0.9636	0.9855	0.9975	0.9996

UNIT – 4: NUMERICAL INTEGRATION:

1. A) Define Numerical Integration.
   B) State and prove trapezoidal rule.
2. Evaluate $\boldsymbol{I = \int_0^1 \frac{dx}{1+x}}$ correct to three decimal places by Trapezoidal rule with $h = 0.25$.
3. Evaluate of $\int_0^1 \frac{x}{1+x}\, \boldsymbol{dx}$ correct to three decimal places by Trapezoidal rule by taking 6 sub- intervals.
4. Using Simpson's $\frac{1}{3}$ rule, evaluate $\int_0^1 \frac{1}{1+x}\, \boldsymbol{dx.}$
5. Evaluate $\int_0^1 \frac{dx}{4x+5}$ by using i) Trapezoidal rule ii) Simpson's $\frac{1}{3}$ rule.
6. Evaluate $\int_0^1 \frac{dx}{4x+5}$ by using Simpson's $\frac{1}{3}$ rule.
7. Find the value of integral $\int_0^1 \frac{dx}{1+x^2}$ by using Simpson's $\frac{1}{3}$ and Simpson's $\frac{3}{8}$ rule. Hence obtain the approximate value of π in each case.
8. Using Simpson's $\frac{3}{8}$th rule, evaluate $\int_0^6 \frac{1}{1+x^2}\, \boldsymbol{dx}$ by dividing the range into equal parts.
9. Using Simpson's $\frac{3}{8}$th rule, evaluate $\int_0^1 \frac{1}{1+x}\, \boldsymbol{dx}$ with h = $\frac{1}{6}$.
10. Derive the Simpson's $\frac{3}{8}$ rule. Using this rule evaluate $\int_0^{\pi/2} e^{\sin x} \boldsymbol{dx}$ by taking $h = \pi/6$.

11. Evaluate $\boldsymbol{I = \int_0^1 \frac{1}{1+x^2}\, dx}$, by Boole's method, take h = 0.25.
12. Evaluate the integral $\int_0^6 \frac{1}{1+x^2}\, dx$using Weddle's rule.
13. Find the value of $\int_0^1 \frac{1}{1+x^2}\, dx$ using Weddle's rule.
14. Evaluate the integral $\int_4^{5.2} log\ x\, dx$, by using Weddle's rule.
15. Integrate numerically $\int_0^{\pi/2} \sqrt{sin\ x}$by Weddle's rule.

UNIT – 4: NUMERICAL SOLUTION OF ORDINARY DIFFEREMTIAL EQUATIONS:

1. Using the Taylor series for y(x), find y (0.1) correct to four decimal places if y(x) satisfies $y' = x - y^2, y_0 = 1$, where $x_0 = 0$.
2. Solve the differential equation $\frac{dy}{dx} = x + y$, with y(0) = 1, x ∈ [0,1]by Taylor series expansion to obtain y for x = 0.1.
3. Using Taylor's series expansion, tabulate the solution x = to x = 4.4 in steps of 0.1 of differential equation $5xy' + y^2 - 2 = 0$ with y(4) = 1.
4. Using Taylor's series expansion to find a solution of the differential equations $\frac{dy}{dx} = (0.1)(x^3 + y^2)$with y(0) = 1, correct to 4 decimal places.
5. Derive Picard's method of successive approximations and find $y^{(n)}$.
6. Use Picard's method to find y(0.1) and y(0.2), given that $\frac{dy}{dx} = x + y^2, y(0) = 0.$
7. Solve $y' = y - x^2, y(0) = 1$by Picard's method up to the fourth approximation. Hence find the value of y(0.1), y(0.2).
8. Employ Picard's method to obtain y(0.1) of the equation $\frac{dy}{dx} = x^2 + y^2$, given that $y_0 = 0$ when $x_0 = 0$.
9. Explain the method of solving differential equation$y' = f(x, y), y(x_0) = y_0$ by Euler's method.
10. Solve the equation $\frac{dy}{dx} = 1 - y$, with initial condition x = 0, y = 0 , using Euler's algorithm and tabulate the solution at x = 0.1,0.2, 0.3.

11. Given $\frac{dy}{dx} = x^3 + y$, y(0) = 1, compute y (0.02) by Euler's method taking h =0.01.
12. If $\frac{dy}{dx} = x^2 + y$, y(0) = 1 then determine y(0.02), y(0.04) and y(0.06) using Euler's modified method.
13. Given $\frac{dy}{dx} = x + y$ with initial conditions y(0) = 1. Find y(0.05) and y(0.1), correct to 6 decimal places by Euler's method.
14. Find the solution of $\frac{dy}{dx} = x - y$, y(0) =1 at x = 0.1, 0.2, 0.3 and 0.5 using modified Euler's method.
15. Solve the equation y' = x + y with y_0 = 1 by Runge – Kutta rule from x = 0 to x = 0.4 with h = 0.1.
16. Applying Runge – Kutta method to find on approximate value of y for x = 0.2 in steps of 0.1 if $\frac{dy}{dx} = x + y^2$, given that y = 1 when x = 0.
17. Solve $\frac{dy}{dx} = xy$ using Runge – Kutta method for x = 0.2 given that y(0) = 1 taking h = 0.2.
18. Solve $\frac{dy}{dx} = -2xy^2$ with y(0) = 1 and h = 0.2 on the interval [0,1] using Runge – Kutta fourth order method.

ST.ANN'SCOLLEGEFORWOMEN
(Affiliated to Acharya Nagarjuna University,
RecognizedUnderSection2(f)ofUGCAct1956-NewDelhi)
Amaravathi Road,
Gorantla, Guntur – 522034 (A.P)
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Criterion:II

Metric–2.3.1

2.3.1 STUDENT CENTRIC METHODS

DEPARTMENT OF PHYSICS

STUDENT CENTRIC METHODS

Experiential Learning	Participative Learning	Problem-Solving Methods
- ICT Methods - Workshop - Lab sessions - Project& Internship - Group Discussions - Community service project	- Practical Demonstration - Exhibitions - Student seminars - Competitions– Quiz	- Campus recruitment training programmes - Assignments - Question bank preparation

ICT METHODS

The department of Physics has been using ICT TOOLS to teach the students such that the activities carried out through digital and interactive tools increase student concentration and, therefore, they assimilate concepts more quickly, enhancing learning. This type of tool involves students in more practical learning, with the aim of reinforcing what they have learnt. The diverse sources of information that technologies provide bring new points of view to students. It facilitates communication between teachers and students. New technologies in the classroom, specifically those that allow access to online content, improve learning productivity

LECTURE ON SOLAR ENERGY AND ITS APPLICATIONS


GPS Map Camera
Guntur, Andhra Pradesh, India
133-2-273, Ravi Nagar, Gorantla, Guntur, Andhra Pradesh 522034, India
Lat 16.331185°
Long 80.441412°
20/03/23 12:48 PM GMT +05:30
Google


WHAT IS SOLAR ENERGY ?
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Long 80.441412°
03/04/23 12:19 PM GMT +05:30
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10-109/2, Amaravathi Rd, Gorantla, Guntur, Andhra Pradesh 522034, India
Lat 16.346788°
Long 80.437436°
12/12/23 12:02 PM GMT +05:30
Google

2.3 STUDENTS CENTRIC METHODS 2023-2024

The Department of Physics has organized different activities to benefit the students with greater academic success, greater character development, especially in the areas of time-management and leadership skills, more positive social development, and greater interest in community involvement.

The activities conducted by the Department in the academic year 2023-2024 are listed below:

S.No	Date of implementation	Class & Group	Semester	Event/Activity
1	31st August2023	B.Sc (MPCs & MPC)	III,V	One Day Workshop On **"Milestones Of ISRO"**
2	23rd November 2023	B.Sc (MPCs & MPC)	IV	Group Discussion
3	2nd Week, December,2023	B.Sc (MPCs & MPC)	V	PPT
4	20th March 2024	B.Sc (MPCs)	II,IV	Quiz
5	04th April 2024	B.Sc (MPCs)	IV	Seminars
5	28th February 2024	B.Sc	II, IV	Essay Writing on Indigenous Technologies for Viksit Bharat

EXPERIENTIAL LEARING

ONE DAY WORKSHOP ON "MILESTONES OF ISRO"

ORGANIZED BY

DEPARTMENT OF PHYSICS

Held On 31st,August, 2023.

"One Day Workshop onMILESTONES OF ISRO" was organized by the Department of Physics held on 31st, August, 2023 conducted for I, II &III Year B.Sc –MPCs & MPC Students.

A Resource person was invited for the event, Mr. Ch. Ram Prasad,Associate Professor, HOD, Department of Physics,JKC College,Guntur.

- **OVERVIEW ON MILESTONES OF ISRO**
- **INVITATION/BROCHURE**
- **REGISTRATION FORM**
- **DETAILS OF THESTUDENTSREGISTERED/PARTICIPATED**
- **CERTIFICATE OF PARTICIPATION**
- **PHOTOS**

OVER VIEW ON MILESTONES OF ISRO:

Indian Space Research Organization (ISRO) is the space agency of India. The organisation is involved in science, engineering and technology to harvest the benefits of outer space for India and the mankind. ISRO is a major constituent of the Department of Space (DOS), Government of India. The department executes the Indian Space Programme primarily through various Centres or units within ISRO.

ISRO was previously the Indian National Committee for Space Research (INCOSPAR), set up by the Government of India in 1962, as envisioned by Dr.Vikrama Sarabhai. ISRO was formed on August 15, 1969 and superseded INCOSPAR with an expanded role to harness space technology. DOS was set up and ISRO was brought under DOS in 1972.

The prime objective of ISRO/DOS is the development and application of space technology for various national needs. To fulfill this objective, ISRO has established major space systems for communication, television broadcasting and meteorological services; resources monitoring and management; space-based navigation services. ISRO has developed satellite launch vehicles, PSLV and GSLV, to place the satellites in the required orbits.

ISRO has the world's largest constellation of remote-sensing satellites and operates the GAGAN and IRNSS (NavIC) satellite navigation systems. It has sent three missions to the Moon and one to Mars.

ISRO's programmes have played a significant role in the socio-economic development of India and have supported both civilian and military domains in various aspects including disaster management, telemedicine and navigation and reconnaissance missions. ISRO's spin-offtechnologies also have founded many crucial innovations for India's engineering and medical industries.

On August 23, India achieved a historic milestone by successfully landing the first-ever rover on the south pole of the moon. This groundbreaking achievement made the Indian Space Research Organization (ISRO) the first entity to explore this uncharted lunar region.

The moon landing took many by surprise, as other major space agencies had not explored the moon's south polar region until now. Chandrayaan 3 represents a continuation of ISRO's efforts following the unsuccessful Chandrayaan 2 mission in 2019, which failed to achieve a soft landing. The new rover also showcases ISRO's unique capabilities in safe lunar landing and surface roving. Chandrayaan 3 stands out as one of the most cost-efficient space missions ever, with a budget of only INR 615 crore. This achievement is especially remarkable given that it comes in under the earlier, more modest budget of Chandrayaan 2, which was INR 978 crore.

UPCOMING MISSIONS:

The year 2023 proved to be an **important one for space missions,** with NASA's OSIRIS-REx mission **returning a sample from an asteroid** and **India's Chandrayaan-3 mission,** and 2024 is shaping up to be **another exciting year for space exploration.** The Indian Space Research Organization (ISRO) has an ambitious lineup of upcoming space missions, showcasing its commitment to advancing space exploration and technology. The upcoming missions of ISRO are Adithya L1, Gaganyaan 1, NISAR, Gaganyaan 2, Venus Orbiter Mission (Shukrayaan), Mars Orbiter Mission 2 (Mangalyaan 2), Lunar Polar Exploration Mission etc.

Objectives:

1. To make everyone understand how ISRO has started.
2. To get aware of own Rocket Launch vehicle development.
3. To discuss the challenges faced during Moon Mission.
4. To discuss Pinnacle of ISRO's achievements in 2023.
5. To know the upcoming Missions of ISRO.

Major Topics to be covered:

1. Raise of ISRO.
2. Rocket Launch Vehicles of ISRO.
3. First Indian Satellite launched by ISRO.
4. Chandrayaan-I.
5. Chandrayaan-II.
6. Chandrayaan-III.
7. Upcoming Missions of ISRO.

Resource Person:

Mr. Ch. Ram Prasad,
HOD, Department of Physics,
JKC College.

Registration Fee Details:

Registration is completely free of cost.

Who can register

Students Only

Chief Patron:

Rev. Dr. Sr. Fatima Rani. P
B.Sc., B.Ed., MA(Litt)., M. Phill., Ph.D.
Principle & Correspondent
St. Ann's College for Women.

Workshop Convener:

Mr. Ch.Rama Rao
HOD, Department of Physics,
St. Ann's College for Women.

Organizing Committee:

N.Sri Harika
Lecturer,
Department of Physics.

Students committee:

1. B.Remya (III MPCs)
2. S.Veda Phani Sri (III MPCs)
3. N.Sruthi (III MPCs)
4. B.Vasavi (III MPCs)
5. V.Githika (III MPCs)
6. Sd.Suhana (III MPC)
7. K. Amulya (II MPCs)
8. M. Pravallika (II MPCs)
9. B.Sravanthi (II MPCs)
10. P. Divya (II MPCs)

"We Request the Honor of your Presence"

ST. ANN'S COLLEGE FOR WOMEN
Amaravathi Road, Gorantla, Guntur-522034, AP.
(Affiliated to Acharya Nagarjuna University, Recognized Under Section 2(f) of UGC Act 1956-New Delhi).

ONE DAY WORKSHOP ON
MILESTONES OF ISRO

ORGANISED BY

DEPARTMENT OF PHYSICS

On
31st, August, 2023

VENUE:
ST. ANN'S COLLEGE FOR WOMEN
Seminar Hall

MOTTO:
EDUCATE, ENRICH, EMPOWER

About the College :

St. Ann's college for women was established in 1997 to uplift the rural women, impart intellect and spiritual integrity into the young lives and serve them for overall development. It is affiliated to Acharya Nagarjuna University and ever since its inception it has been emerging as a universal cosmopolitan and prestigious college in Guntur.

Initially the college had only B.Sc (M.B.C), B. Sc (M.P.Cs) and B.Com (General) courses. In 1998, B.C.A course & B.Sc (M.S.Cs) were introduced. Keeping in pace with the emerging needs of the society, additional course of B.Com (Res) was added in 1999. Seeing the aptitude for research in Biology, the courses were again streamlined in 2003 with the introduction of Biotechnology (B.B.C). To bridge the gap of previous value based education and the present day job oriented education, a Post Graduate course of M.C.A was installed into College academics in 2003.

During the Academic year 2007–2008, to be in par with the professionalism, M.B.A course was introduced and the college grew to the heights of excellence in educational ladder and thus reached the status of Post Graduate College.

In the present day of Commercialization of Education., though the college is encircled with many corporate colleges, still it has a strength of 900 students and 35 experienced, competent teaching Staff and 10 non teaching Staff, both at UG and PG levels. As the college is away from hustle & bustle of City, a serene and calm environment prevails in the campus.

About the Department:

The department of Physics was established in the year 1997 with B.Sc Mathematics, Physics and computer science with intake 30 students. Later it was enhanced to 50 students as intake in the academic year 2013. The course B.Sc Mathematics, Physics and Chemistry was introduced in the academic year 2003-2004 with intake of 60 students. In the academic year 2019-2020 additional section Mathematics, Physics and Computer Science with intake 50 students has granted by APSCHE, affiliated to Acharya Nagarjuna University.

The Department has dedicated, experienced and well qualified faculty members who continually update the knowledge on global trends. Teaching is a noble profession that shapes the character, caliber and future of an individual to develop a broad, deep and rigorous knowledge of the quantitative problems that govern the natural world. In this connection, the department of physics organizes various curricular and co-curricular activities like seminars workshops, quiz and PowerPoint presentation etc.

Lighting of the lamp by Dr.Sr.FathimaRani.P, Principal &Ch.Ram Prasad Resource Person

Dr.Sr.FathimaRani.P, Principal felicitating the resource person

Rocket Launch Vehicles Presentation by B.Remya III MPCs

History of ISRO Presentation by E.Harika

Chandrayaan III Lander & Rover Presentation by S. Veda Phani Sri and N. Sruthi

Upcoming Missions of ISRO Presentation by Ch.Vaishnavi and V.Githika

Own Satellites developed by ISRO Presentation by Ch. Sasi Rekha

College Staff visiting Milestones of ISRO Gallery

Milestones of ISRO Power Point Presentation by S.Sanjana

Students visiting Milestones of ISRO Gallery

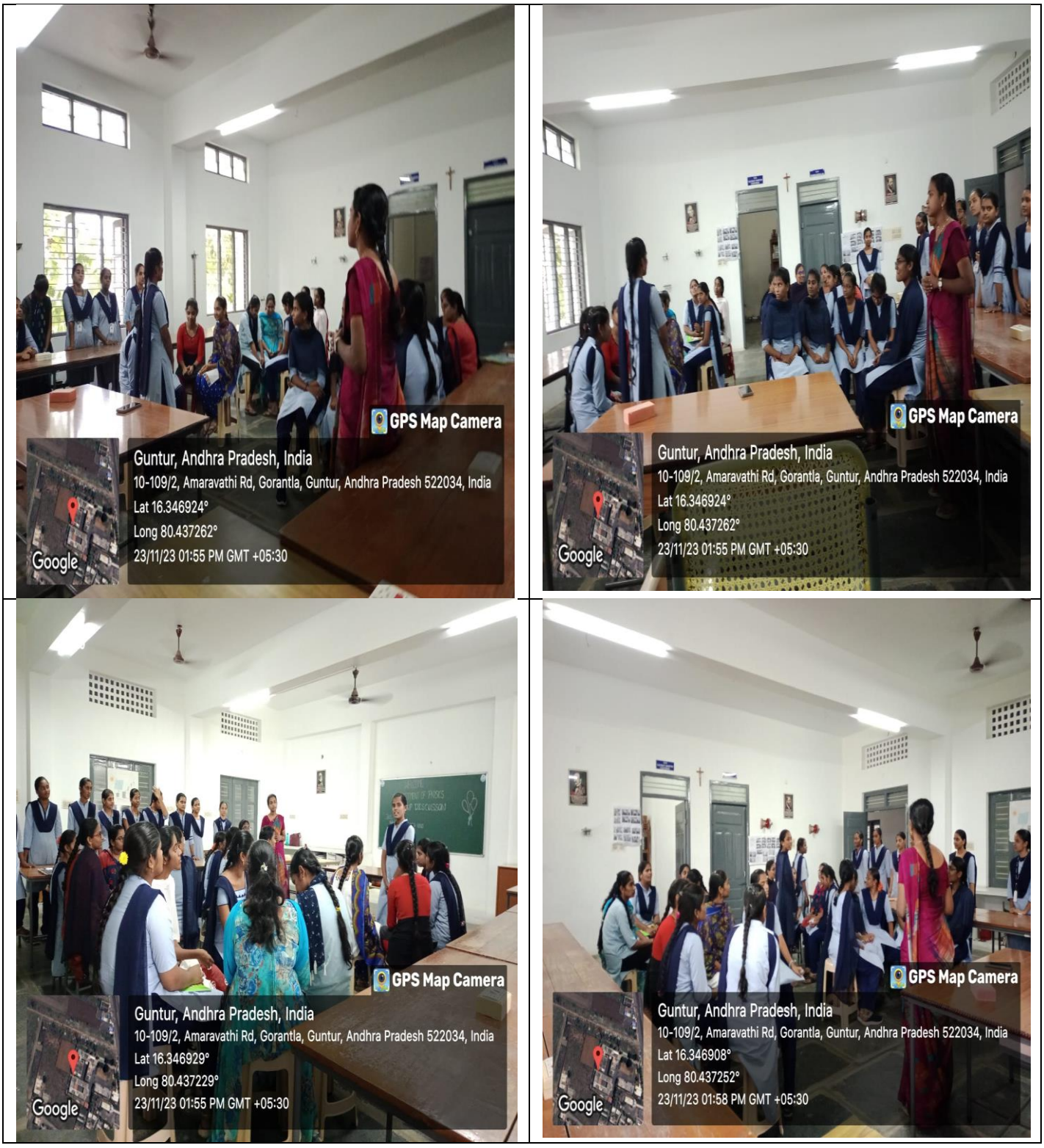
Explaining Gallery to the Students

GROUP DISCUSSION:

Group Discussion brought out the skills of the students. Enthusiastic students enthralled the audience with their presentations. It was conducted for the I, & II year students on 23rd Novemeber, 2023. Some mind blowing overflow of wit and intelligence of young minds.

The participants list and assessment of marks judges provided below:

Sl. No.	GROUP	NAME OF THE PARTICIPANTS	TOPIC NAME
1	I	A. Vijaya Lakshmi B. Manasa G. Hari Priya K. Vaidurya	Nobel Prizes in Physics- 2023
2	II	K. Rithika M. Bindu M. Aruna Kumari N. Swathi	Nobel Prizes in Physics- 2023
3	III	O. Sruthi P. Keerthi P. Divya P. Nava Jyothi	Nobel Prizes in Physics- 2023
4	IV	P. Sandhya Sravanthi .B S. Jainabi A.Madhu Bharathi	Nobel Prizes in Physics- 2023



GROUP DISCUSSION PHOTOS

Winners: Group III

Runners: Group IV

Power Point Presentation:

Power Point presentation brought out the skills of the students. Enthusiastic students enthralled the audience with their presentations. It was conducted for the II & IV year students on 2nd Week December, 2023. Some mind-blowing overflow of wit and intelligence of young minds.

<table>
<tr>
<td> 

PPTPresentation on Refrigeration System by B.Remya</td>
<td> 

PPT Presentation onFlate Plate Collector</td>
</tr>
<tr>
<td> 

PPT Presentation on Solar Radiation by CH.Vijayadurga</td>
<td> 

PPT Presentation on Rfrigeration Components by G.Prasanna</td>
</tr>
</table>


Hearty Welcome
to
ILM-HR TEAM
CAMPUS PLACEMENT DRIVE
Date: 01-02-2024
vivo V23


Hearty Welcome
to
ILM-HR TEAM
CAMPUS PLACEMENT DRIVE
Date: 01-02-2024
SOLAR DOLLARS AND SENSE
HOW SOLAR WORKS
vivo V23

PARTICIPATIVE LEARNING

QUIZ:

Quiz competition was conducted to encourage the students to showcase their knowledge. A large number of students actively took part in the competition held on 20th March 2024.In Quiz Competition, 24 students were participated.

S. No	Reg. No	Name of the student	Event	Topic	Semester and Group
1	Y223158058	Abburi Vijaya Lakshmi	Quiz	PHY and GK	IV, MPCs
2	Y223158059	Akkala Poornima Purandhathi	Quiz	PHY and GK	IV, MPCs
3	Y223158060	Amruthapudi Madhu Bharathi	Quiz	PHY and GK	IV, MPCs
4	Y223158066	Doradla Prathyusha	Quiz	PHY and GK	IV, MPCs
5	Y223158067	Gontu Hari Priya	Quiz	PHY and GK	IV, MPCs
6	Y223158104	Shaik Jainabi	Quiz	PHY and GK	IV, MPCs
7	Y223158105	Sravanthi Bolleddu	Quiz	PHY and GK	IV, MPCs
8	Y223158107	Thirumalasetty Navya	Quiz	PHY and GK	IV, MPCs
9	Y223158108	Vajragiri Guru Lakshmi	Quiz	PHY and GK	IV, MPCs
10	Y223158097	Pasupuleti Divya	Quiz	PHY and GK	IV, MPCs
11	Y223158099	Peddiboyina Sumalatha	Quiz	PHY and GK	IV, MPCs
12	Y223158100	Pojula Nava Jyothi	Quiz	PHY and GK	IV, MPCs
13	Y233158079	Pagidipalli Sravanthi	Quiz	PHY and GK	II, MPCs

14	Y233158082	Pasupuleti Devaraja Priyadarshini	Quiz	PHY and GK	II, MPCs
15	Y233158094	Sivarathri Surekha	Quiz	PHY and GK	II, MPCs
16	Y233158099	Vollu Naga Sindhu	Quiz	PHY and GK	II, MPCs
17	Y233158103	Potakamuri Milkha Jubedha	Quiz	PHY and GK	II, MPCs
18	Y233158044	Amaresam Bhavani	Quiz	PHY and GK	II, MPCs
19	Y233158047	Arudala Jyothi	Quiz	PHY and GK	II, MPCs
20	Y233158065	Kunchala Vidya Bharathi	Quiz	PHY and GK	II, MPCs
21	Y233158066	Madasu Swapna	Quiz	PHY and GK	II, MPCs
22	Y233158071	Mogili Harika	Quiz	PHY and GK	II, MPCs
23	Y233158125	A.Navya Sri	Quiz	PHY and GK	II, MPCs
24	Y233158126	D. Sailaja	Quiz	PHY and GK	II, MPCs

Firstly, a preliminary round has been conducted to select 16 students out of 24 for further rounds. In preliminary round, a rapid fire test comprising of 10 questions 5 from GK and 5 from physics was conducted. Based on the marks obtained in the test 16 students got qualified for further rounds. These 16 students have been divided into 4 teams based on lottery process.

The 16 members list of qualified candidates in quiz is given below:

S.No	Reg.No	Name of the Student	Event	Topic	Semester and Group
TEAM- A					
1.	Y223158058	Abburi Vijaya Lakshmi	Quiz	PHY and GK	IV, MPCs
2.	Y223158059	Akkala Poornima Purandhathi	Quiz	PHY and GK	IV, MPCs
3.	Y233158079	Pagidipalli Sravanthi	Quiz	PHY and GK	II, MPCs
4.	Y233158082	Pasupuleti Devaraja Priyadarshini	Quiz	PHY and GK	II, MPCs

TEAM-B					
1.	Y223158060	Amruthapudi Madhu Bharathi	Quiz	PHY and GK	IV, MPCs
2.	Y223158108	Vajragiri Guru Lakshmi	Quiz	PHY and GK	IV, MPCs
3.	Y233158094	Sivarathri Surekha	Quiz	PHY and GK	II, MPCs
4.	Y233158099	Vollu Naga Sindhu	Quiz	PHY and GK	II, MPCs
TEAM-C					
1.	Y223158066	Doradla Prathyusha	Quiz	PHY and GK	IV, MPCs
2.	Y223158067	Gontu Hari Priya	Quiz	PHY and GK	IV, MPCs
3.	Y233158126	D. Sailaja	Quiz	PHY and GK	II, MPCs
4.	Y233158065	Kunchala Vidya Bharathi	Quiz	PHY and GK	II, MPCs
TEAM-D					
1.	Y223158104	Shaik Jainabi	Quiz	PHY and GK	IV, MPCs
2.	Y223158105	Sravanthi Bolleddu	Quiz	PHY and GK	IV, MPCs
3.	Y233158125	A.Navya Sri	Quiz	PHY and GK	II, MPCs
4.	Y233158044	Amaresam Bhavani	Quiz	PHY and GK	II, MPCs

Winners: Team- B
Runners: Team-C

STUDENT SEMINARS:

The Department of Physics conducted student seminars to enable the students to improve their knowledge and understanding of a topic by engaging with key issues - participation is therefore necessary and successful participation involves preparation. This helps Identify own strengths and develop areas for growth, Demonstrate that challenges have been undertaken, developing new skills in the process.

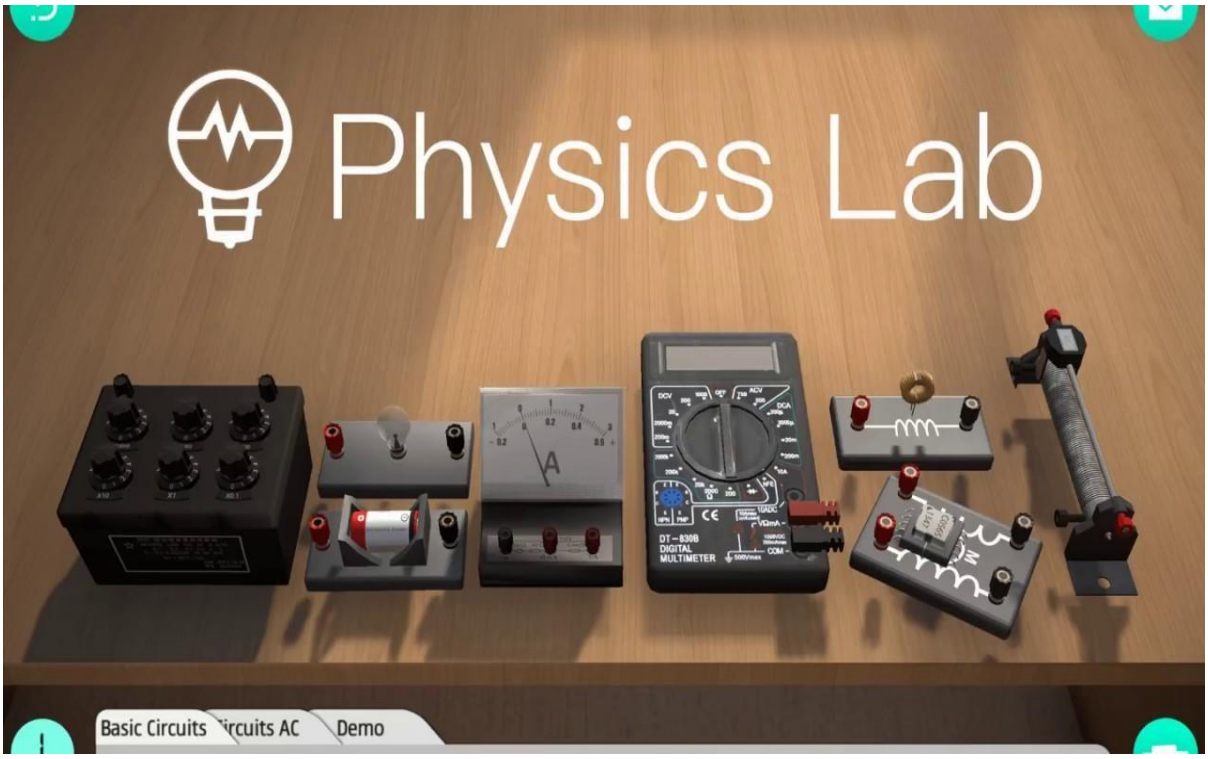
Seminar by Sravanthi -II MPC's

Seminar by Amulya – II MPC's

Seminar by II MPC's Student

Seminar by II MPC's Student

LAB SESSIONS



Demonstrating the Experiment

Demonstrating the Transistor experiment

ZENER DIODE Experiment

Characteristics of Transistor Experiment

Demonstration of Solar Cell Characteristics

Diffraction grating by using Spectrometer

Experiential Learning through Community Engagement

1. Introduction

- Community Service Project is an Experiential Learning Strategy that integrates meaningful community service with instruction, participation, Learning and Community development.
- Community Service Project involves Students in Community development and Service Activities and applies the experience to personal and Academic development.
- Community service Project is meant to link the Community with the college for mutual benefit.

2. Objectives

Community Service project should be an integral part of the curriculum. The Specific Objectives are:

- To sensitize the students to the leaving conditions of the people who are around them.
- To help Students to realize the Stark realities of the Society.
- To make Students Socially responsible Citizens who are sensitive to the needs of the disadvantaged sections.
- To help Students to initiate developmental activities in the Community in coordination with Public and Government authorities.
- To develop a Holistic life perspective among the students by making them study culture, tradition, lifestyles, resources utilization, wastages and its management, social problems, public administration system and the role and responsibilities of different persons across different social systems

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Submitted in accordance with the requirement for the Degree of **BACHELOR OF SCIENCE**

Submitted by
SOWPATI SANJANA

Reg. No : OAM202101166124
Hall Ticket No : Y213158138
PERIOD OF CSP : FROM 01-07-2022 To 31-08-2022
NAME OF THE VILLAGE : P.S. NAGAR
GUNTUR (Dt).

Under the Guidance of Mrs. I. ADI LAKSHMI
M.A (Telugu and Sanskrit) TPT

DEPARTMENT OF SANSKRIT

ST. ANN'S COLLEGE FOR WOMEN

(AFFILIATED TO ACHARYA NAGARJUNA UNIVERSITY)
GORANTLA, GUNTUR-34.
ANDHRA PRADESH.
2020 – 2021.

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION
(A STATUTORY BODY OF GOVERNMENT OF ANDHRAPRADESH).

PROGRAM BOOK
FOR
COMMUNITY SERVICE PROJECT

Submitted in accordance with the requirement for the Degree of **BACHELOR OF SCIENCE**

submitted by
KARRA RITHIKA
Reg: 0AM2022000265808
Hall Ticket No : Y223158076
PERIOD OF CSP : FROM 01-05-2023 To 30-06-2023
NAME OF THE VILLAGE :GORANTLA
GUNTUR(MANDAL)
GUNTUR (Dt).

Under the Guidance of
R.PHANI RAJYALAKSHMI
M.A,B.Ed

DEPARTMENT OF TELUGU

ST. ANN'S COLLEGE FOR WOMEN

(AFFILIATED TO ACHARYA NAGARJUNA UNIVERSITY)
GORANTLA, GUNTUR-34.
ANDHRA PRADESH.
2022 – 2023.

ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION
(A STATUTORY BODY OF GOVERNMENT OF ANDHRAPRADESH).

ST. ANN'S COLLEGE FOR WOMEN
GORANTLA, GUNTUR – 35.

STUDENT'S DECLARATION

I ***Sowpati Sanjana*** a student of ***B.Sc – M.P.Cs*** Program, Reg. No. ***Y213158138*** of the Department of Physics, ***St. Ann's College for Women***, do hereby declare that, I have completed the mandatory Community Service Project from ***01-07-2022*** *To* ***31-08-2022*** in ***P.S. Nagar*** Guntur (District) under the Faculty Guideship of ***Mrs. I. Adi Lakshmi****(M.A Telugu and Sanskrit, TPT)* , Head of the Department of Sanskrit in ***St. Ann's College for Women, Gorantla, Guntur.***

S. Sanjana
Signature and Date 15/11/22

Faculty Guide : I. Adilakshmi

Head of the Department : I. Adi Lak. 15/11/22
Head of the Department
Departmnet of Telugu & Sanskrit
St. Ann's College for Women
Gorantla, GUNTUR-522034.

Dod Fd
Principal
PRINCIPAL
St. Ann's College for Women
GORANTLA. Guntur-522 035

ST. ANN'S COLLEGE FOR WOMEN
GORANTLA, GUNTUR – 34.

STUDENT'S DECLARATION

I **KARRA.RITHIKA** a student of **B.Sc – M.P.CS** Program, Reg. No. Y223158076 of the Department of PHYSICS ,**St. Ann's College For Women**,do hereby declare that, I have completed the mandatory Community Service Project from 01-05-2023 To 30-06-2023Guntur (District) under the Faculty Guideshipof R.PHANI RAJYA LAKSHMI Head of the Department of TELUGU in **St. Ann's College for Women, Gorantla, Guntur.**

K. Rithika
Signature and Date

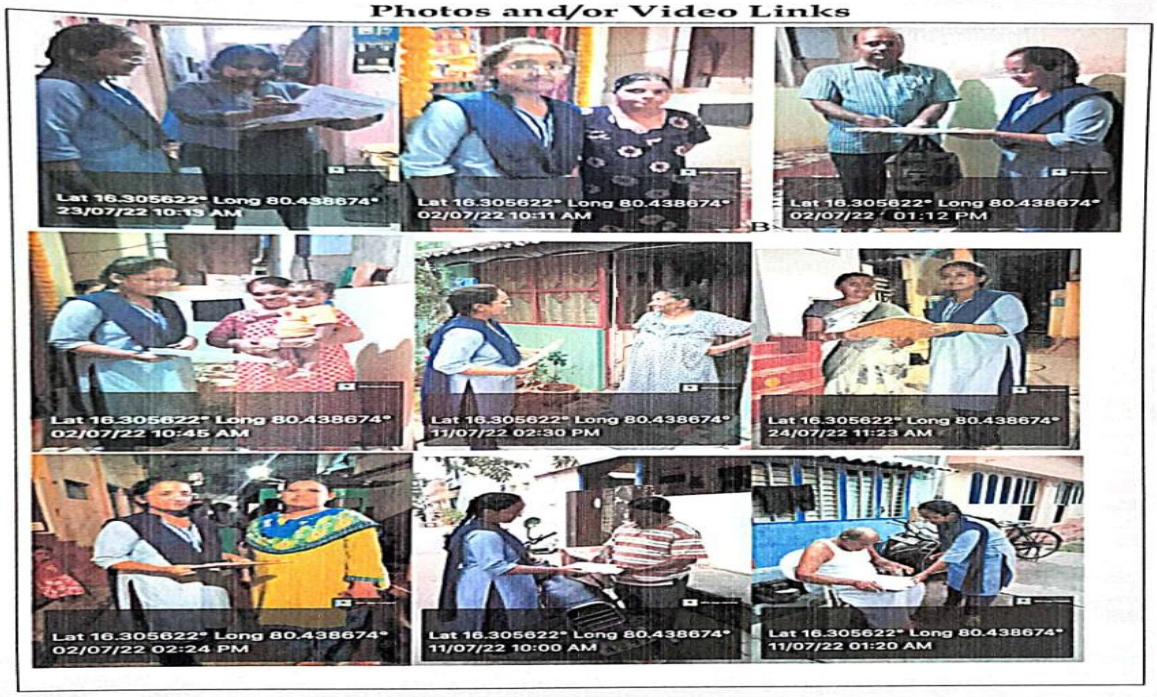
R. Phani Rajya Lakshmi
Lecturer Incharge
Departmnet of Telugu & Sanskrit
St. Ann's College for Women
Gorantla, GUNTUR-522034.

Faculty Guide :

Head of the Department : R. Phani Rajya Lakshmi
Head of the Department
Departmnet of Telugu & Sanskrit
St. Ann's College for Women
Gorantla, GUNTUR-522034.

Dob Fdt
Principal
PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR-522 034

Photos and/or Video Links



Photos and/or Video Links

Photos and/or Video Links

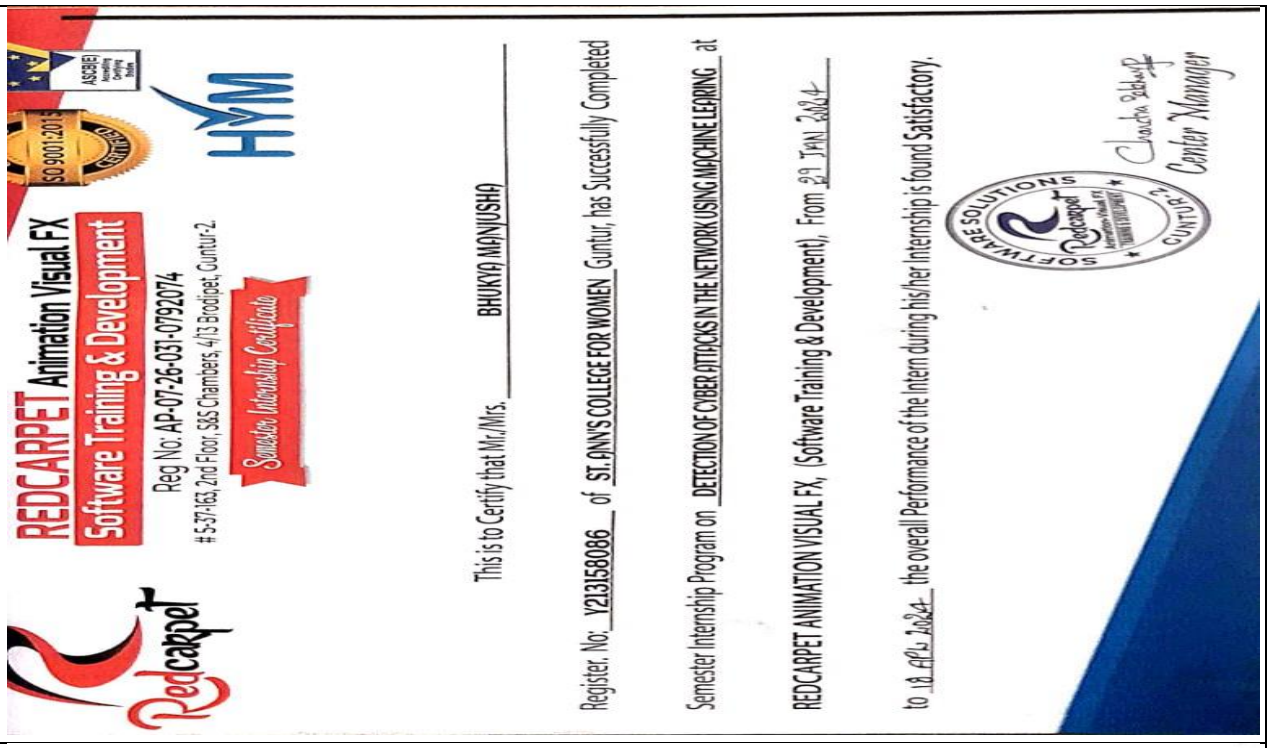







Learning Outcomes:

- To know the ways of Transforming the Society through systematic programme Implementation.
- To enable the students to engage in the development of Community.
- To plan activities based on the Focused groups.



ST. ANN'S COLLEGE FOR WOMEN

(Affiliated to Acharya Nagarjuna University,
Recognized Under Section 2(f) of UGC Act 1956-New Delhi)
Amaravathi Road, Gorantla, Guntur – 522034 (A.P)
Email: st_anns_coll@yahoo.co.in Website: www.stannscollegeforwomen.org

OFFICIAL CERTIFICATION

This is to certify that ***BHUKYA MANJUSHA*** Reg. No. **Y213158086** has completed her Semester Internship Program in ***RED CARPET Animation Visual FX Software Training & Development*** on **PYTHON** under my supervision as a part of partial fulfillment of the requirement for the Degree of ***BACHELOROF SCIENCE*** in the Department of **Physics**, St. Ann's College for Women, Gorantla, Guntur.

This is accepted for Evaluation.

Faculty Guide :
Lecturer Incharge
Department of Physics
St. Ann's College for Women
GORANTLA, GUNTUR-522034.

Head of the Department
Head of Dept. of Physics
St. Ann's College for Women
GORANTLA, GUNTUR-522034.

Principal
PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR

REDCARPET Animation Visual FX

Software Training & Development

Reg No: AP-07-26-031-0792074

5-37-163, 2nd Floor, S&S Chambers, 4/13 Brodipet, Guntur-2.

Semester Internship Certificate

This is to Certify that Mr./Mrs. CHIMATA KOMALI DIVYA

Register. No: Y213158094 of ST.ANN'S COLLEGE FOR WOMEN Guntur, has Successfully Completed Semester Internship Program on DETECTION OF CYBER ATTACKS IN THE NETWORK USING MACHINE LEARING at REDCARPET ANIMATION VISUAL FX, (Software Training & Development), From 29/01/2024 to 18/04/2024 the overall Performance of the Intern during his/her Internship is found Satisfactory.

SOFTWARE SOLUTIONS Redcarpet GUNTUR-2

Center Manager

ST. ANN'S COLLEGE FOR WOMEN

(Affiliated to Acharya Nagarjuna University,
Recognized Under Section 2(f) of UGC Act 1956-New Delhi)
Amaravathi Road, Gorantla, Guntur – 522034 (A.P)
Email: st_anns_coll@yahoo.co.in Website: www.stannscollegeforwomen.org

OFFICIAL CERTIFICATION

This is to certify that *CHIMATA KOMALI DIVYA* Reg. No. **Y213158094** has completed her Semester Internship Program in ***REDCARPET Animation Visual FX Software Training & Development*** on **PYTHON** under my supervision as a part of partial fulfillment of the requirement for the Degree of ***BACHELOR OF SCIENCE*** in the Department of **Physics**, St. Ann's College for Women, Gorantla, Guntur.

This is accepted for Evaluation.

Faculty Guide :
Lecturer Incharge
Department of Physics
St. Ann's College for Women
GORANTLA, GUNTUR-522034.

Head of the Department
Head of Dept. of Physics
St. Ann's College for Women
GORANTLA, GUNTUR-522034.

Principal
PRINCIPAL
St. Ann's College for Women
GORANTLA, GUNTUR

ESSAY WRITING ON INDIGENOUS TECHNOLOGIES FOR VIKISIT BHARAT

The essay is a written piece that is designed to present an idea, propose an argument, express the emotion or initiate debate. It is a tool that is used to present writer's ideas in a non-fictional way. Multiple applications of this type of writing go way beyond, providing political manifestos and art criticism as well as personal observations and reflections of the writer. The Students are given Indigenous Technologies for Vikisit Bharat. Above 20 Students have participated in Essay Writing Competition.

ESSAY WRITING BY STUDENTS ON INDIGENOUS TECHNOLOGIES FOR VIKASIT BHARAT

Winner: Shaik Jainabi

Runner: B. Sravanthi

DEPARTMENT OF STATISTICS
STUDENT CENTRIC METHODS 2023-24

Experiential Learning	Participative Learning	Problem-Solving
• Lab sessions • Project & Internship • Group Discussions • PPT Presentations	• Practical Demonstration • Student seminars • Competitions – Quiz	• Assignments • Question bankpreparation

2023-2024			
S.No	Name of the Event	Date	No. of Students Participated
1.	Group Discussion	23-11-2023	51
2.	PPT	11 - 12 -2023 to 21-12-2023	63
3.	Quiz	21-02-2024	68
4.	Student Seminars	28-02-2024 to 04-03-2024	12

Experiential Learning

GROUP DISCUSSION

DEPARTMENT OF STATISTICS
GROUP DISCUSSION
2023-2024

Class/Year :II &III B Sc -- MSCs
Name of the Activity :Group Discussion
Date :23-11-2023
No. of Students Attended : 51

The Department of Statistics conducted GROUP DICUSSION competition in the Academic year 2023-2024 on 23rdNovember2023 on the topic **"Social Media".** All the students of the Department of 2nd & final year BSc-MSCs of 51 students were attended. and 24 Students were participated in the competition. Four groups of six members each had actively participated to perform their comprehensive level. **The Group B of P.Lakshmi& Team** won the first prize and the **Group D of T.Devayani& Team** got the Second prize. There were presented with certificates.

PARTICIPANTS LIST IN GROUP DISCUSSION

S. No	Group-A	Group-B	Group-C	Group-D
1.	Sk.Reshu III BSc (MSCs)	P.Lakshmi III BSc (MSCs)	M.Sai Lakshmi III BSc (MSCs)	T.Devayani III BSc (MSCs)
2.	P.Ramya II BSc (MSCs)	I.Lavanya III BSc (MSCs)	N.HemaLatha III BSc (MSCs)	P.Harika III BSc (MSCs)
3.	I.Amani II BSc (MSCs)	P.Preethi III BSc (MSCs)	N.Naga Sindhu II BSc (MSCs)	G.Sravanthi III BSc (MSCs)
4.	N.Mounika II BSc (MSCs)	K.DivyaSnehitha III BSc (MSCs)	E.Renuka III BSc (MSCs)	B.Bhanu Chandrika III BSc (MSCs)
5.	K.HrudayaPani III BSc (MSCs)	M.Sai Reddy III BSc (MSCs)	M.L.Thirupatamma III BSc (MSCs)	M.Harika III BSc (MSCs)
6.	Md.RaisaKousar III BSc (MSCs)	Sr.S.Sucharitha II BSc (MSCs)	Ch.Sowmya III BSc (MSCs)	S,Sathvika II BSc (MSCs)


DEPARTMENT OF STATISTICS
SOCIAL MEDIA
GROUP DISCUSSION
GPS Map Camera
Guntur, Andhra Pradesh, India
10-109/2, Amaravathi Rd, Gorantla, Guntur, Andhra Pradesh 522034, India
Lat 16.347005°
Long 80.437435°
23/11/23 02:35 PM GMT +05:30
Google


GPS Map Camera
Guntur, Andhra Pradesh, India
10-109/2, Amaravathi Rd, Gorantla, Guntur, Andhra Pradesh 522034, India
Lat 16.347007°
Long 80.437391°
23/11/23 02:27 PM GMT +05:30
Google

PARTICIPANTS IN THEGROUP DISCUSSION COMPETITION

POWER POINT PRESENTATION

DEPARTMENT OF STATISTICS
POWER POINT PRESENTATION

2023-2024

Class/Year :IIIB Sc -- MSCs
Name of the Activity :Power Point Presentation
Date :11 - 12 -2023 to 21-12-2023
No. of Students Attended :63

The Department of Statistics conducted **POWER POINT PRESENTATION** in the academic year 2023-2024from 11-12-2023 to 21-12-2023 on the different topics of **OPERATIONS RESEARCH,**63 Students of III BSc (MSCs) were participated.


TOPIC: VOGEL'S
APPROXIMATION
METHOD SUMS
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PPT PRESENTATIONS BY III B Sc (MSCs) STUDENTS.

LAB SESSIONS

DEPARTMENT OF STATISTICS
LAB SESSIONS

2023-2024

The Department of Statistics conducted **LAB SESSIONS** on every week with two hours per paper for I,II& III BSc-MSCs students for the Semesters III,V & II,IV of the papers Major-I,Major-II.Minor& AI Major,III,IV,V,VI,VII in the Statistics lab i.e.

SEMESTERS – III& V					
S.No	**Year**	**Semester**	**Paper**	**Title**	**Incharge Lecturer**
01.	IIBSc MSCs	Semester-III	Paper-III	Statistical Inference	Mrs.G.Vijaya Lakshmi
02.	IIIBScMSCs	Semester-V	Paper-VI	Operation Research-I	Mrs.G.Vijaya Lakshmi
			Paper-VII	Operation Research-II	Dr.J.Pratap Reddy
SEMESTERS – II &IV					
03.	I BSc (Stat) Hons	Semester-II	Major-I	Descriptive Statistics	Mrs.G.Vijaya Lakshmi
04.	I BSc (Stat) Hons	Semester-II	Major-II	Random Variables & Mathematical Expectation	Mrs.G.Vijaya Lakshmi
05.	I BSc (Stat)	Semester-II	Minor	Descriptive Statistics	Dr.J.Pratap Reddy
06.	I BSc (AI) Hons	Semester-II	Major-II	Probability Theory & Distributions	Dr.J.Pratap Reddy
07.	IIBSc MSCs	Semester-IV	Paper-IV	Sampling Theory and Design of Experiments	Mrs.G.Vijaya Lakshmi
			Paper-V	Appiled Statistics	Dr.J.Pratap Reddy


LAB SESSION
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Powered by Triple Camera 2023.09.09 09:33


LAB SESSION
Shot on OnePlus
Powered by Triple Camera 2023.09.09 09:36

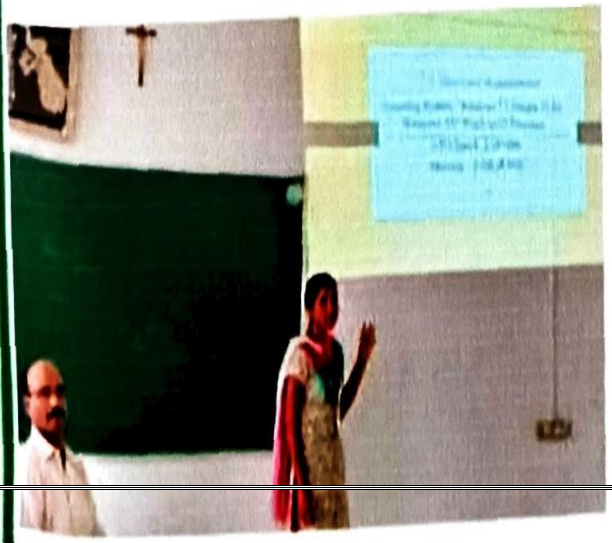
PROJECTS

DEPARTMENT OF STATISTICS

PROJECTS

2023 -2024

The Department of Statistics conducted Long term Internshipprojects in the academic year 2023-2024.for the students of Department of final year students of BSc-MSCs . The final BSc-MSCs students were completed their **Long Term Internship Program** in "**Red Carpet Software Training & Development Centre"** on **PYTHON**on different topics like Stock Market Analysis using Machine Learning, Driver Drowsiness etc the supervision of the mentors of different Departments of the faculty members. 53students were successfully completed their long term internship program.



Designed & Developed by

Participative Learning

PRACTICAL DEMONSTRATION

DEPARTMENT OF STATISTICS
PRACTICAL DEMONSTRATION

2023-2024

The Department of Statistics conducting practical classes regularly according to the time table. Practical demonstration is the performance of anactivity under the direct observation of a designated examiner for the purpose of establishing that the performer is sufficiently proficient in a practical skill to meet a specified standard of competence or other objective criterion.

Demonstrating Practical Problems

STUDENT SEMINARS

DEPARTMENT OF STATISTICS
STUDENT SEMINARS
2023-2024

The Department of Statistics conducted Seminars for II BScMSCs,IV Semester Students from 28-02-24 to 04-03-24 for the Academic Year 2023 -2024 on different IV Semester papers of Statistics With different topics. The list of Students as given below.

S.No	In charge Lecturer	Topic	No.of Students Presented
1.	Mrs.G.Vijaya Lakshmi	Systematic Sampling with advantages & disadvantages	12
		Stratified Sampling with advantages& disadvantages	
		Simple Ramdom Sampling methods	
		Systematic Sampling against Stratified Sampling	
		Systematic Sampling against Simple Sampling	

QUIZ COMPETITION

DEPARTMENT OF STATISTICS
QUIZ COMPETITION

2023-2024

Class/Year :I,II &III B Sc (MSCs)
Name of the Activity :Quiz Competition
Date :21-02-2024
No. of Students enrolled :68

The Department of Statistics conducted **QUIZ COMPETITION** in the academic year 2023-2024on 21st February 2024. All the students of the Department of 1st ,2nd & final year BSc-MSCs of 68 students were attended and 20 Students were participated in the competition. It was held in Three rounds of General Knowledge, Subject round & Visual round. Fourgroups of four members each had actively participated to perform their comprehensive level.**Ms.K.HrudayaPani& Team** won the first prize and the **Ms.S.Niharika& Team** got the Second prize. There were presented with certificates.

THE PARTICIPATES LIST IN QUIZ COMPETITION

S.No	Group A	Group B	Group C	Group D
01.	K.Kalyani II MSCs	Sk.Reshu IIIMSCs	B.BhanuChandrika III MSCs	B.Sujitha I BSc Stat-Minor
02.	N.Pavithra I BSc Stat-Hons	S.Niharika IIIMSCs	K.Mounika IIIMSCs	K.Hrudayapani IIIMSCs
03.	K.Neelima II MSCs	P.Prameela IIMSCs	A.Vigneswari IIMSCs	Md.RaisaKousar IIIMSCs
04.	I.Lavanya IIIMSCs	B.Sruthi IIMSCs	P.HimaBindu IIMSCs	S.Sathvika IIMSCs

Problem Solving

ASSIGNMENTS

DEPARTMENT OF STATISTICS
ASSIGNMENTS

2023-2024

ST. ANN'S COLLEGE FOR WOMEN

Gorantla , Guntur – 34

DEPARTMENT OF STATISTICS

II BSc-MSCs, Semester –IV, Paper - IV

Assignment, 2023-24

Paper Title : Sampling Theory and Design of Experiments.

Topics: 1.Define St RS & Sys RS with advantages & Disadvantages.

2. Selection of SRS.

3. Define Principles of Design of Experiments.

Submitted by:

Ms.T.Suvarna Rani,

Regd.No:Y223158135

Submitted to:

Mrs. G. Vijaya lakshmi mam

1. What are the methods of obtaining simple random Sampling?

Random Sample can be obtained by the following method.

1. Lottery system Method. The simplest method of selecting a random Sample is the lottery system.

Suppose we want to select 'r' items out of 'n'. We assign the numbers 1 to n & write these no. & on 'n' slips which are made as homogeneous as possible in shape, size, colors, etc. these slips are put in a bag & thraghly shuffled & then 'r' slips are drawn by 1. the 'r' item corresponding to no. & on the slips drawn will constitute random Sample.

Mechanical Randomisation (or) Random Number Method:

If the population is large the lottery system method is time consuming. Hence the most practical method of selecting a random Sample consists in the use of random no. & table which have been constructed with the digits 0, 1, 2 - - - 9. If we have to select a sample from a population of size ≤ 99 from the Pairs of 00 to 99 & if ≤ 999 from 000 to 999.

The method of drawing the random Sample consists in the following steps:

→ Identify the N-units in the population with the no. from 1 to N.

→ select at random any page of the random no. & in any row or column or diagonal at random.

The different sets of Random no. & are

(i) Tippet's Random no.'s table

(ii) fisher & yates tables

(iii) Kendall & babington smithy Random no. tables.

Advantage & Disadvantages of simple Random (or) Merits & De-Merits :-

Advantages:

1. selection of simple unit has an equal chance of being selected.
2. The personal bias is completely eliminated.
3. It's more representative of the population as compared to the judgement sampling.
4. It gives more efficient estimates to the population parameter.

Dis-Advantages:

1. In the selection of simple random sample required a population from which the samples are to be drawn, But it's impossible to identify the unit.
2. The cost of collecting data may be much in terms of time & Money.
3. Some times it gives most non-random result.

Simple Random Sampling:

Def: Simple Random sampling is a technique of drawing a sample in such a way that each & every unit of the population has an equal and independent chance of being included in the sample.

Define stratified & systematic random samplings with Merits & Demerits?

Def: Stratification means division into layer auxiollatary information i.e; past data (or) some other information related to the population. Characteristics under study may be used to derive the population into various groups such that.

Merits:

1. Units within each group are as homogeneous as possible.
2. The group mean are as heterogeneous as possible.
3. The possible consists of N units is divided into k relatively homogeneous and mutually disjoints subgroup are known as strata (or) group.

De-Merits:

1. The cost of collecting data from rural areas will be usually more because of travelling expensive than from urban areas.

Systematic Random Sampling:

Let's Consider N Sample units from 1 to N in order and a sample of size n is to drawn from the population such that $N = nk \Rightarrow k = \frac{N}{n}$ where k is an integral the systematic random Sampling Consists in drawing a random number i.e; $i \leq k$ & selecting the unit corresponding to the random No. Thus the sample of size n has the units of $i, i+k, i+2k, \ldots$. This called systematic random sampling. It requires complete upto date list of the Sampling units where random no 'i' is called random stork.

Merits:

1. The time & cost involved in this method is relatively much less than as Compared with Sample & stratified Sampling techniques.
2. It case of large population it can be used more conveniently.
3. It's more efficient than Sample Random.

De-Merits:

1. It doesnot provide a random Sample since the first unit is selected at and not the other units.
2. The Sample mean is not an unbiased estimator of population mean
3. The actual sample size is different from that is required.

What are the principles of designing Experiments.

According to R.A fisher the basic principles of design of experiments are

1. Replication
2. Randomisation
3. Local Control.

1. Replication: Replication means repetation of treatments more than once under investigation i.e; executing the experiment more than once.

Advantages:-

1. It is useful to reduce experimental error & to increase the precision of the experiment.
2. It provides an estimate to the experimental error.

Disadvantages:

1. The replication of treatments may be sometimes subject to bias.
2. Large no:of replications may lead to scarcity of the resources & it involves more cost.

2. Randomisation: A process of allocating the treatments to various experimental units has an equal chance of receiving any treatments is called randomisation. The main object of this pricipld is validating of the statistical test of significance.

Advantages:

1. It eliminates any kind of human bias.
2. It provides logical basis for conducting various statistical test of significance.

Dis-Advantages:

4. It is difficult to apply the large no:of experimental units.
3. Local control: The process of redesing the experimental error by dividing relatively heterogeneous experimental material into homogeneous blocks is known as local control.

Advantages:

1. It reduces the experimental error.
2. It ensures the design is more efficient.
3. By reducing the error we can detect even small difference between the treatments.

Dis-advantages:

1. If the experimental material is homogeneous there is no need to apply the local control principle.
2. The soil fertility doesn't follow any systematic pattern. Hence dividing into homogeneous block is an different task.

QUESTION BANK

DEPARTMENT OF STATISTICS
QUESTION BANK
2023-2024

II B Sc ,PAPER-III,SEMESTER-III
TITLE : STATISTICAL INFERENCE

UNIT – I – Exact Sampling Distributions
Short Questions – 5 Marks
1. Define Standard Error with properties.
2. Define χ^2 (Chi-Square) Distribution with properties and applications.
3. Define F Distribution with properties and applications.
4. Define t Distribution with properties and applications.

Essay Questions – 10 Marks
1. Derive the relation between t and F Distributions.
2. Derive the relation between F and χ^2 (Chi-Square) Distributions.

UNIT – II – Theory of Estimation
Short Questions – 5 Marks
1. Define Point Estimation?
2. Define Interval Estimation?
3. Statement of Fisher Neyman Criteria.
4. Statement of Neyman Factorization Theorem.
5. Explain the method of moments.
6. Explain Minimum Variance Unbiased Estimator (MVUE).
7. Define Invariance Property?

Essay Questions – 10 Marks
1. What is the Criteria of a Good Estimator?
2. Explain about Maximum Likelihood Estimator (MLE) with Properties?
3. Explain about Confidence Intervals?

UNIT – III –Testing of Hypothesis
Short Questions – 5 Marks
1. Define Null (H_o) and Alternative (H_1) Hypothesis?

2. Define Types of Errors?
3. Define Critical Region, Level of Significance, Degrees of Freedom?
4. Define Power of the test, Best Critical Region & Statistical Hypothesis?
5. what are the steps involved in the Hypothesis Problem?

Essay Questions – 10 Marks

1. State and Prove Neymann Pearson's Lemma.
2. Problems on Types of Errors.
3. Problems onNeymann Pearson's Lemma.

UNIT – IV – Large Sample Tests &Small Sample Tests

Short Questions – 5 Marks

1. Define Large Sample Test.
2. Explain about One and Two – Tailed Tests.
3. Explain about Test for Single Mean.
4. Explain about Test for Single Proportion.
5. Explain about Test for Single Variance.
6. Explain about Test for Single Standard Deviation.
7. Explain about Test for Single Correlation Coefficient.
8. Define Small Sample Test.
9. What are the assumptions of t-test.
10. What are the assumptions of χ^2-test.
11. Explain about t-test for Single Mean.
12. Explain about t-test forCorrelation Coefficient.
13. Explain about χ^2-test for Population Variance.
14. Explain about F-test for two Population Variances

Essay Questions – 10 Marks

1. Explain the procedure of testing Hypothesis Problem.
2. Explain about Test for difference of two Means.
3. Explain about Test for difference of two Proportions.
4. Explain about Test for difference of two Standard Deviations.
5. Explain about Test for difference of two Correlation Coefficients.
6. Explain about t-test for difference of two Means.
7. Explain about paired t-test for difference of two Means.
8. Explain about χ^2-test for goodness of fit.
9. Explain about χ^2-test for independence of attributes.

UNIT – V – Non Parametric Tests

Short Questions – 5 Marks

1. Define RUN and Explain about One Sample RUN test.
2. What are the assumptions of Non Parametric test.

Essay Questions – 10 Marks

1. What are the advantages and disadvantages of Non Parametric test.
2. What are the differences between and Parametric Non Parametric test.
3. Explain about Two Sample RUN test.
4. Explain about Median test.
5. Explain about Sign test.

ST.ANN'S COLLEGE FOR WOMEN
GORANTLA, GUNTUR-34

DEPARTMENT OF COMPUTER SCIENCE

2.3 TEACHING LEARNING AND EVALUATION

STUDENT CENTRIC METHODS

2023-24

Experiential Learning	Participative Learning	Problem Solving
- Lab sessions - Project & Internship - PPT Presentations - IT Quiz - Group Discussions	- Practical Demonstration - Student Seminars - Competitions - Workshops & Seminars on recent developments in IT - Soft Skill Training - Surveys - Internships	- Book Reviews - Project based Learning - Assignments - Question bank Preparation

ST.ANN'S COLLEGE FOR WOMEN
GORANTLA, GUNTUR-34

DEPARTMENT OF COMPUTER SCIENCE

Teaching–Learning Process

EXPERIENTIAL LEARNING:

LAB SESSIONS

STUDENT ASSIGNMENT ABSTARCT -2023-24

SEMESTERS – (I, II, III, IV, V)

S. NO	ACADEMIC YEAR	PROGRAMME	SEM	PAPER	FACULTY	TOPIC NAME
1	2023-24	BSC (I, II,III) Years MPCs MSCs	I	**Problem solving in C (C1)**	D.V.Ramana	Control Structures in C
2			II	**Data Structures (C2)**	D.V.Ramana	Single Linked list Operations
3			III	**Data Base Management System (C3)**	B. Usha Rani	Entity Relationship Model
4			IV	**Object Oriented Programming Through Java (C4)**	G. Vani	Life Cycle of Applets
				Operating System (C5)	D.V.Ramana D.Swarna Charani Rai	Types of System Calls Scheduling Algorithms

5				**Web Interface Designing Technolo**	G. Vani	Tags in HTML
			V	**Web Applicati on Developm ent Using PHP&M YSQL(C7)**	P. Anitha	Control Structures

I BSC / I SEM

COURSE : PROBLEM SOLVING IN C(C1)

UNIT I :

SHORT ANSWERS:

1. **Define computer**
2. **Define Algorithm**
3. **Characteristics of computers**
4. **Explain about computer Generations**
5. **Limitations of computer**
6. **Applications of computer**

ESSAY QUESTIONS :

1. **Explain about Block Diagram of computers**
2. **Define computer & Explain its Types**
3. **Explain about Programming Languages**
4. **Write about Key features of Algorithm & Flow charts**

UNIT II :

SHORT ANSWERS:

1. Explain about Structure of C Program
2. Explain Keywords &Identifiers
3. Write about Data Types in C language
4. Define Variable
5. Write a note on Constants
6. Explain about Operators in C

ESSAY QUESTIONS :

1. Explain about Decision Control Statements in C Language
2. Explain about looping statements with example program
3. Write a program on switch statement
4. Write a note on GOTO Statement with an Example

UNIT III :

SHORT ANSWERS:

1. Define Arrays
2. Explain Multi-Dimensional Array

ESSAY QUESTIONS :

1. Explain One-Dimensional Array & Write a program whether given number is Armstrong or not
2. Explain Two-Dimensional Array & Write a program on Matrix Addition
3. Write a program on String Operations

UNIT IV :

SHORT ANSWERS:

1. Define a Function

STUDENT SEMINARS

TECHNICAL TEST


IT QUIZ
PREVIOUS
QUESTIONS
& ANSWERS
BioVision

GROUP DISCUSSION

ST. ANN'S COLLEGE FOR WOMEN

GORANTLA, GUNTUR

DEPARTMENT OF BCA

STUDENT CENTRIC METHODS

2023-2024

ST ANN'S COLLEGE FOR WOMEN

GORANTLA ,GUNTUR

DEPARTMENT OF BCA

CRITERIA II--TEACHING AND LEARNING PROCESS

Department	Experiential Learning	Participative Learning	Problem Solving
BCA	❖ PPT Presentations	❖ Student Seminars	❖ Assignments
	❖ IT Quiz	❖ Work Shops, Guest Lectures & Seminars	❖ Question Bank Preparation
	❖ Group Discussions	❖ Soft Skill Training	
	❖ Lab Sessions		
	❖ Projects & Internships		

SEMINARS

Student Seminars was conducted on 23rd September 2023 for II BCA / III SEM Students

POWER POINT PRESENTATION

Power Point Presentation was conducted on 27th October 2023 for III BCA / II BCA Students

PPT PRESENTATION BY –III BCA STUDENTS

PPT PRESENTATION BY –IIBCA STUDENTS

QUIZ COMPETITION

The Department of BCA conducted **QUIZ COMPETITION** 27th October 2023 . The students of III &II BCA were attended for the competition . It was held in three rounds of Subject & IT related Bits

Technical test

Technical Test was conducted for I BCA students on **"programming in c language & Ms-office"**

GROUP DISCUSSIONS

Group Discussions was conducted on 15th March2024 III BCA / VI SEM Student

LAB SESSIONS

III BCA/II BCA/I BCA STUDENTS ATTEND REGULARLY PRACTICAL SESSIONS

PROJECTS & INTERNSHIPS

The Department of BCA final year students were completed their **Semester End Internship** under the Guidance of **Mrs. B.Usha Rani , HOD of BCA.** 36 students were successfully completed their Projects.

SNO	REGD.NO.	NAME OF THE STUDENT	TITLE OF THE PROJECT	PROJECT GUIDE
1.	Y215158001	A. AMULYA	Digital Marketing /REDCARPET Animation Visual FX	Mrs.B.USHA RANI
2.	Y215158002	B.SAI	Digital Marketing /REDCARPET Animation Visual FX	
3.	Y215158003	B.SRAVANI	Digital Marketing /REDCARPET Animation Visual FX	
4.	Y215158004	CH. NIHARIKA	Digital Marketing /REDCARPET Animation Visual FX	
5.	Y215158005	CH. MEENA AMRUTHA	Digital Marketing /REDCARPET Animation Visual FX	
6.	Y215158006	CH. SRUTHI	Digital Marketing /REDCARPET Animation Visual FX	
7.	Y215158007	D. HEMA LATHA	Digital Marketing /REDCARPET Animation Visual FX	
8.	Y215158008	D. DURGA MALLESWARI	Digital Marketing /REDCARPET Animation Visual FX	
9.	Y215158009	D.VAISHNAVI	Digital Marketing /REDCARPET Animation Visual FX	
10	Y215158010	D. SINDHU PRIYA	Digital Marketing /REDCARPET Animation Visual FX	
11	Y215158011	G. EMILI RUTH FYANEE	Digital Marketing /REDCARPET Animation Visual FX	
12	Y215158012	G. MOUNIKA	Digital Marketing /REDCARPET Animation Visual FX	
13	Y215158014	G. SRAVANI	Digital Marketing /REDCARPET Animation Visual FX	
14	Y215158015	G. LAKSHMI PRIYA	Digital Marketing /REDCARPET Animation Visual FX	
15	Y215158016	I. RESHMA	Digital Marketing /REDCARPET Animation Visual FX	
16	Y215158020	M.KIRANMAI	Digital Marketing /REDCARPET Animation Visual FX	
17	Y215158021	K. APARANJITHA	Digital Marketing /REDCARPET Animation Visual FX	
18	Y215158022	K.RAJANI	Digital Marketing /REDCARPET Animation Visual FX	
19	Y215158023	KOTHURI YAMUNA	Digital Marketing /REDCARPET Animation Visual FX	
20	Y215158024	KUMBHA YAMUNA	Digital Marketing /REDCARPET Animation Visual FX	
21	Y215158025	M. ANUSHA	Digital Marketing /REDCARPET Animation Visual FX	
22	Y215158026	M. ANITHA BAI	Digital Marketing /REDCARPET Animation Visual FX	
23	Y215158027	M. MOUNIKA	Digital Marketing /REDCARPET Animation Visual FX	

24	Y215158028	M. UMAMAHESWARI	Digital Marketing /REDCARPET Animation Visual FX	Mrs.B.USHA RANI
25	Y215158029	M. S.ACHSAH FLORANCEEVANGILIN	Digital Marketing /REDCARPET Animation Visual FX	
26	Y215158030	N. CHANDRA RAJESWARI	Digital Marketing /REDCARPET Animation Visual FX	
27	Y215158031	P. DIVYA SREE	Digital Marketing /REDCARPET Animation Visual FX	
28	Y215158032	A.PAVITHRA LALITHA	Digital Marketing /REDCARPET Animation Visual FX	
29	Y215158033	P. VENKATA KEERTHANA	Digital Marketing /REDCARPET Animation Visual FX	
30	Y215158034	SHAIK. FASIHA	Digital Marketing /REDCARPET Animation Visual FX	
31	Y215158035	SHAIK HASINA	Digital Marketing /REDCARPET Animation Visual FX	
32	Y215158036	SHAIK SHABANA AZMI	Digital Marketing /REDCARPET Animation Visual FX	
33	Y215158037	SHAIK SHAHINAZ	Digital Marketing /REDCARPET Animation Visual FX	
34	Y215158038	T.DHARANI	Digital Marketing /REDCARPET Animation Visual FX	
35	Y215158039	T. SRI LAKSHMI	Digital Marketing /REDCARPET Animation Visual FX	
36	Y215158040	T. NANDINI	Digital Marketing /REDCARPET Animation Visual FX	

DEPARTMENTAL EXTRA-CURRICULAR ACTIVITIES:: 2023-2024

BCA students are encouraged to participate in various extra-curricular activities extending beyond the rigid realm of the classroom, encompassing art and culture, science and sports.

INTER-COLLEGIATE COMPETITION

2023-2024

T.J.P.S COLLEGE,GUNTUR 15/02/2024

IT QUIZ-2024		
FIRST PRIZE	M. S.ACHSAH FLORANCEEVANGILIN- III BCA SHAIK SHABANA AZMI- III BCA	CERTIFICATES & CASH PRIZE- 2000/-
SECOND PRIZE	GUDEPU KEERTHI- IIBCA DEVARAKONDA PRANATHI- II BCA	CERTIFICATES & CASH PRIZE-1500/-
THIRD PRIZE	CH. NIHARIKA- IIIBCA SHAIK FATHIMA ZAHERA- IIBCA	CERTIFICATES

ASSIGNMENTS

The Department of BCA given Assignments for I,II & III BCA Students for the I,II,III,IV,V& VI Semesters . The Assignments were conducted in December 2023 for III Semester & I Semester and for V, IV& II Semesters in March 2024 for the Academic Year 2023-2024 on different Semester papers of BCA with Batch wise for the different topics. The list of Students as given below.

II BCA / VI SEMESTER

Paper : Machine Learning Using Python

Batch No : I		
Topic : Types of Machine Learning		
S. No	**Register No.**	**Name of the student**
1.	Y215158001	A. AMULYA
2.	Y215158002	B.SAI
3.	Y215158003	B.SRAVANI
4.	Y215158004	CH. NIHARIKA
5.	Y215158005	CH. MEENA AMRUTHA
6.	Y215158006	CH. SRUTHI
7.	Y215158007	D. HEMA LATHA
8.	Y215158008	D. DURGA MALLESWARI
9.	Y215158009	D.VAISHNAVI
10.	Y215158010	D. SINDHU PRIYA
Batch No : II		
Topic : Bayes Therom		
S. No	**Register No.**	**Name of the student**
11.	Y215158011	G. EMILI RUTH FYANEE
12.	Y215158012	G. MOUNIKA
13.	Y215158013	G. SRITEJASWINI
14.	Y215158014	G. SRAVANI
15.	Y215158015	G. LAKSHMI PRIYA
16.	Y215158016	I. RESHMA
17.	Y215158017	J.NIRMALA DEVI
18.	Y215158018	K.VIJAYALAKSHMI

19.	Y215158019	K. KALYANI BAI
20.	Y215158020	M.KIRANMAI
Batch No : III		
Topic : Basic Types of Data in Machine Leaming		
S. No	**Register No.**	**Name of the student**
21.	Y215158021	K. APARANJITHA
22.	Y215158022	K.RAJANI
23.	Y215158023	KOTHURI YAMUNA
24.	Y215158024	KUMBHA YAMUNA
25.	Y215158025	M. ANUSHA
26.	Y215158026	M. ANITHA BAI
27.	Y215158027	M. MOUNIKA
28.	Y215158028	M. UMAMAHESWARI
29.	Y215158029	M. S.ACHSAH FLORANCEEVANGILIN
30.	Y215158030	N. CHANDRA RAJESWARI
Batch No : IV		
Topic : Basics Of Feature Engineering		
31	Y215158031	P. DIVYA SREE
32	Y215158032	A.PAVITHRA LALITHA
33	Y215158033	P. VENKATA KEERTHANA
34	Y215158034	SHAIK. FASIHA
35	Y215158035	SHAIK HASINA
36	Y215158036	SHAIK SHABANA AZMI
37	Y215158037	SHAIK SHAHINAZ
38	Y215158038	T.DHARANI
39	Y215158039	T. SRI LAKSHMI
40	Y215158040	T. NANDINI

II BCA / IV SEMESTER

Paper : Cyber Laws

Batch No : I		
Topic : Need for Cyber Law		
S. No	**Register No.**	**Name of the student**
1.	**Y225158001**	**Bellamkonda Sri Lakshmi**
2.	**Y225158002**	**Chinka Yamuna**
3.	**Y225158003**	**Danda Pushpa Sowmya**
4.	**Y225158004**	**Devabattini Poojitha**
5.	**Y225158005**	**Devarakonda Pranathi**
6.	**Y225082026**	**Midimelapu.Renu Sri**
7.	**Y225158007**	**Gangisetty Sneha**
8.	**Y225158008**	**Gude Madhu sri**
9.	**Y225158009**	**Gudepu keerthi**
10.	**Y225158010**	**Jampani phaniswari Asa priyanka**
11	**Y225158011**	**Kanta Mary Chandrika**
Batch No : II		
Topic : Right to Access Cyberspace		
S. No	**Register No.**	**Name of the student**
12.	**Y225158012**	**Kolavini Sai Sankeerthana**
13.	**Y225158013**	**Korabandi Alekhya**
14.	**Y225158014**	**Kota Bhargavi**
15.	**Y225158015**	**Kottamasu Sai Lakshmi Gowthami**
16.	**Y225158016**	**Kunduru Yakshitha**
17.	**Y225158017**	**Kurri Sri latha**
18.	**Y225158018**	**Madasu Sravani**
19.	**Y225158019**	**Madira Harshitha**
20.	**Y225158020**	**Mamidala Mohanthi Manasa**
21	**Y225158021**	**Mangalapuri Naga varalakshmi**
22	**Y225158022**	**Marri Anitha**
Batch No : III		
Topic : Human Rights Issues in Cyberspace		

S. No	Register No.	Name of the student
23	**Y225158023**	**Meda Manasa**
24	**Y225158024**	**Munnagi Nikhitha Reddy**
25	**Y225158025**	**Nallapu Lavanya**
26	**Y225158026**	**Nenavath Yashaswini**
27	**Y225158027**	**Orsu Srilatha**
28	**Y225158028**	**Pamulapati Sai Triveni**
29	**Y225158029**	**Pathlavathu Sravani Bai**
30	**Y225158030**	**Perikala Chandana**
31	**Y225158031**	**Pidaparthi Jyoshna**
32	**Y225158032**	**Sadam Sirisha**
33	**Y225158033**	**Sale shiny Glory**
Batch No : IV		
Topic : Overview of Computer and Web Technology		
34	**Y225158034**	**Shaik Fathima Zahera**
35	**Y225158035**	**Shaik Husna Jasmine**
36	**Y225158036**	**Shaik Nashitha Hameed**
37	**Y225158037**	**Shaik Rizwana**
38	**Y225158038**	**Shaik Sailu Bhanu**
39	**Y225158039**	**Shaik Tasleem**
40	**Y225158040**	**Tanneru Godadevi**
41	**Y225158041**	**Tekkem Sumithra**
42	**Y225158042**	**Tirupathi Shauna Ruth Sophia**
43	**Y225158043**	**Vipparla Sruthi**
44	**Y225158044**	**Yakasiri Lakshmi Saranya**

I BCA / II SEMESTER

Paper : PROGRAMMING IN C

TOPIC: Decision Control and Looping Statements

S.NO	REG .NO	NAME OF THE STUDENT
1.	Y23518001	A.AHAMED LAILA
2.	Y23518002	ADUSU MALLI SUNEETHA
3.	Y23518003	BAKI GLORY
4.	Y23518004	BANAVATH LIKITHA BAI
5.	Y23518005	BANAVATH RAJESWARI BAI
6.	Y23518006	BANDLMUDI SAILAJA
7.	Y23518007	BATHULA SIVA PARVATHI
8.	Y23518008	BAVANAM VARSHA
9.	Y23518009	BAYANABOINA PUJITHA
10.	Y23518010	HEMA JYOTHI
11.	Y23518011	BOMMIDI MADHUMATHI
12.	Y23518012	BONTHU AKHILA
13.	Y23518013	CHALLA NAVYA
14.	Y23518014	CHINTHAPALLI KEERTHI
15.	Y23518015	DADIPAGU SWETHA
16.	Y23518016	DANAVATHI NEELIMA
17.	Y23518017	DORA MANI
18.	Y23518018	EDA SOWMYA
19.	Y23518019	EMMELA LAKSHMI
20.	Y23518020	GANJI MARY SHALINI
21.	Y23518021	GARIKA HASINI
22.	Y23518022	GOLLAPALLI VENKATA RANGA POOJITHA
23.	Y23518023	GUDE MANASA
24.	Y23518024	IMADABATHUNI SRI LAKSHMI
25.	Y23518025	ISTHARALA VIJAYA LAKSHMI
26.	Y23518026	JADA SAILAJA
27.	Y23518027	JALAPPATI PADMAJA
28.	Y23518028	JALDI MADHUSRI
29.	Y23518029	KASUKURTHI PAVANI
30.	Y23518030	KAVALA NISSY JEEVANA ASHRITHA
31.	Y23518031	KODIVEKKA PAVANI
32.	Y23518032	KOLIKAPUDI JYOTHI
33.	Y23518033	KONDEPOGU SANDHYA
34.	Y23518034	KOPPULA HARSHITHA

35.	Y23518035	KUMMASANI SAI NIKHILA
36.	Y23518036	LIMGAMPALLI SWATHI
37.	Y23518037	LINGAREDDY TEJASWINI
38.	Y23518038	MADDU SIREESHA
39.	Y23518039	MOHAMMAD SHABANA
40.	Y23518040	MANGISETTY RAVALI
41.	Y23518041	MANNAVA MANASA
42.	Y23518042	MARUPUDI DEEKSHITHA
43.	Y23518043	MEKA SRIJA
44.	Y23518044	MEKALA DIANA PRAKASH
45.	Y23518045	MITNALA GAYATHRI PRIYA
46.	Y23518046	NALLAMOTHU NAGA VENNELA
47.	Y23518047	NANADUPU SUNEETHA
48.	Y23518048	NIMMAGADDA KEERTHI
49.	Y23518049	PADIDALA KAVYA
50.	Y23518050	PARISPOGU KAVYA
51.	Y23518051	PATHAN SHAHEEN
52.	Y23518052	RAMANABOINA ALEKHYA
53.	Y23518053	RAVURI JYOTHIKA
54.	Y23518054	SAMPATHI CHAITNYA LAKSHMI
55.	Y23518055	SANAGA PRAVEENA
56.	Y23518056	SANGU PUJA
57.	Y23518057	SHAIK ROSHINI
58.	Y23518058	SHAIK THAJARIYA FIRDOZ
59.	Y23518059	SRI VARSHINI NISSON KARARAO
60.	Y23518060	SYED SHABANA
61.	Y23518061	THINNALURI SAI NAVYA
62.	Y23518062	THOGATI BHARGAVI LATHA
63.	Y23518063	THOKALA JHANSI LAKSHMI
64.	Y23518064	THUMMATI KIRANMAI
65.	Y23518065	THUMMALA TEJASWINI
66.	Y23518066	VADDI TANMAI
67.	Y23518067	VASA DEEPIKA
68.	Y23518068	YAMARTIN SRAVANI
69.	Y23518069	YAMPARLA MADHURI
70.	Y23518070	YEDLURI RANI
71.	Y23518071	NYLO SHAIK SADIKA

QUESTION BANK

BCA , PAPER-I, SEMESTER-I

TITLE: COMPUTER FUNDAMENTALS AND MS-OFFICE

UNIT – I - Introduction to Algorithms and Programming Language

Short Questions – 5 Marks

1. Explain types of computers.
2. Write any five input devices.
3. Explain about the diagram of the computer?
4. Define Computer. Write about computer limitations.

Essay Questions – 10 Marks

1. Explain block diagram of computers.
2. Explain output devices.
3. Writeany three Input and Output devices?

UNIT – II –C Fundamentals

Short Questions – 5 Marks

1. Explain open source software and domain software.
2. Define operating system? Write its functions.
3. Write a Short note on cache memory?
4. Explain Computer Generations in detail?

Essay Questions – 10 Marks

1. Explain computer memories in detail.
2. Explain generations of programming language.
3. Briefly Explain Input devices?

UNIT – III – Control Statements

Short Questions – 5 Marks

1. Explain features of MS-Word.
2. Explain header and footer in MS-Word.
3. Explain paragraph formatting and changing cases in MS word document?

Essay Questions – 10 Marks

1. Briefly explain MS-Word components
2. Explain
   a) Working with tables
   b) Find and replace
c) Inserting pictures
3. Explain various types of Software?

UNIT – IV – Functions

Short Questions – 5 Marks

1. Explain logical functions in excel.
2. What is work book? Explain creating, opening and saving work book.
3. Explain about the Storage Structure?
4. Define Function .How to insert a function in Excel?

Essay Questions – 10 Marks

1. Explain mathematical and statistical functions with example in Excel.
2. (a) Explain different types of charts
 (b) Explain excel features
3. Explain about cell referencing in MS Excel?

UNIT – V – Microsoft Power Point

Short Questions – 5 Marks

1. How to apply transaction and animations to the slides? Explain.
2.Explain features of power point?

Essay Questions – 10 Marks

1. Explain working with slides in MS-Power Point

2. (a) Write the steps for creating a sample presentation with one example.
 (b) How to applying transition an animation to the slides? Explain.
3. Explain about the Characteristics of a Compute
4. Brieflyexplain about components of MS Power point?

I BCA(HONOURS), PAPER-IV, SEMESTER-II
TITLE: PROGRAMMING IN C

UNIT – I Introduction to Algorithms and Programming Language

Short Questions – 5 Marks

1.Explain flowchart with examples?
2.Write the structure of C program?
3.Explain about Data Types in C?
4.Write about Algorithm?

Essay Questions – 10 Marks

1. Define Algorithm. Explain the key features of algorithms?
2. Explain generations of programming language?
3. Explain about Flow Control Statements in C Language?

UNIT – II – Control Structures and Functions

Short Questions – 5 Marks

1. Explain I/O statements with examples?
2. Explain switch statements with syntax and example?
3. Explain about Structure of C Program?
4. Explain Data types in C?

Essay Questions – 10 Marks

1. Explain basic data types in C?
2. Explain
   a) Variables
   b) Simple if, if…..else statements.
3. Explain about Operators in C language?

UNIT – III – Arrays

Short Questions – 5 Marks

1. Define an Array??
2. Write a note on Searching?
3. Define Binary search?
4. What is sorting?

Essay Questions – 10 Marks

1. Explain the array programs with examples?
2. Write a program to print array multiplication with example?
3. What is an array? Discuss how to initialize a one dimensional and two dimensional arrays with suitable examples?
4. Write a C program to search an element in a give array using linear and binary search?
5. Write a C program for sorting an array of numbers using selection sort?

UNIT – IV – Pointers, Structures and Unions:

Short Questions – 5 Marks

1. Define Pointer?
2. Explain about structure of union?
3. What is Null pointer?

Essay Questions – 10 Marks

1. What are the differences between pointer and union?
2. Explain the structure of C with example program?
3. Differentiate between structure and union?
4. Explain Command line argument?
5. Explain about storage structures in c language?

UNIT – V –File Handling:

Short Questions – 5 Marks

1. Explain about files?
2. Explain About Handling errors in Files?

Essay Questions – 10 Marks

1.Explain Reading data from files?
2. Explain Writing data to the files?

Department of Microbiology

2023-2024

LAB SESSIONS

Experiential Learning

- To Develop understanding ability of concepts to work together
- To Enhance Research skills among the students

Department of Microbiology

2023-2024

EXHIBITION

Experiential Learning

On 13 December 2023 staff & student of III BSC-MBC were participated In **Exhibition on Nutritive values of millets** at Hindu college Guntur. Students know their importance & Nutritive values of millets of different types like Ragi, Finger millet, Fonio Millet etc. They Demonstrate the requirements and Preparation of different Dishes. In this Event 26 students are attended

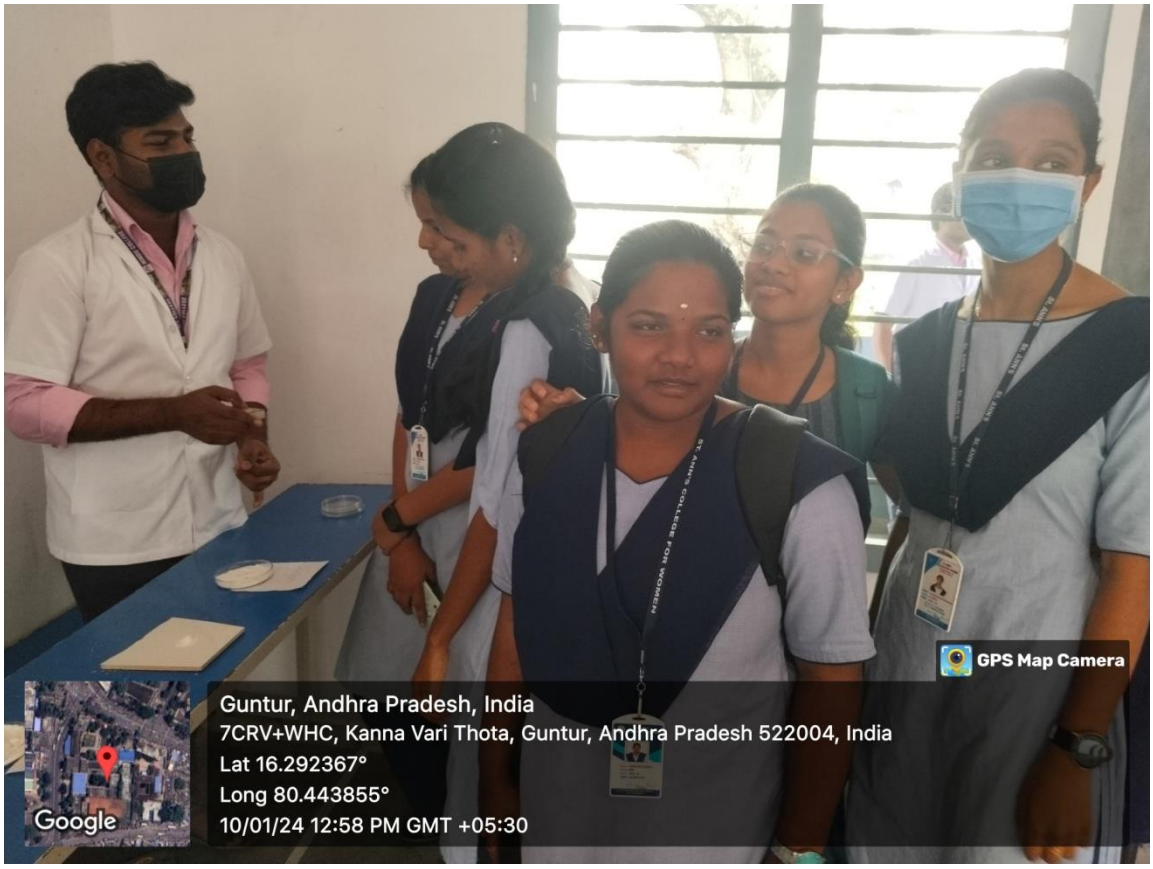
Department of Microbiology

2023-2024

WORK SHOP

Experiential Learning

On **10 & 11th January 2024 students**, faculty of Department of Microbiology III BSC-MBC Students were visited **Work shop on emerging techniques in biological tools** at Hindu College, Guntur. In this Workshop Dr.A. Amrutha valli Associate professor, Dept. of Microbiology ANU, Guntur attend as the Chief Guest. Students learn the Innovative methods such as Medical Diagnostic, Novel Imaging technique etc.In this session provide hands on experience to the participants & to the understanding the potential impact on Research & Industry. Students got the Certificates



HINDU COLLEGE ,GUNTUR

DEPARTMENT OF MICROBIOLOGY, BIOTECHNOLOGY, BIOMEDICAL SCIENCE AND MLT

CERTIFICATE OF PARTICIPATION

This awarded certify that

Ch.bhagyalakshmi St.anns college for wome

Participated in Two day National Workshop on EMERGING TRENDS ON BIOLOGICAL TOOLS conducted by Hindu college, Guntur in collaboration with PEARL on 10/01/2024 & 11/01/2024.

Dr.J.Umamaheswara Rao	**Dr. M. Guraviah**	**G. Swarna Latha**
Director	CEO	Convenor
Hindu college	PEARL	Hindu college

Certificate ID: HLPIA4-CE000368

Made for free with Certify'em

Department of Microbiology

2023-2024

SKILL ORIENTED PROGRAMME

Problem Solving Learning

On 19 to 24 February 2024 III Year MBC students were participated in "**Emploability skill training Programme for Women"** Conducted **by Naandi Foundation Mahindra** provide classroom under the Mentorship of D. Bhavani and S. Sai Ganesh Kumar.T his programme Initially involves Nurturing Skills in teamwork, Leadership, Communication, Goal Setting, Time management, Group Discussion, PPT Presentations to enhance Enterprenual Qualities


5 W's + 1 H
P - opening point
R - Reason
E - Example
P - closing point


Certificate
5 W's + 1 H
P - opening point
R - Reason
E - Example
P - closing point

Department of Microbiology

2023-2024

Participative Learning

NATIONAL SCIENCE DAY-MICRO RANGOLI

On 27th February 2024 The Department of Microbiology were conduct the **Micro Rangoli on National science day** .In this event III,II,& I BSC MBC Students were Participated. All the Staff & students actively visited and Appreciated the work done by the students.

Department of Microbiology

2022-2023

STUDENT SEMINARS

Participative Learning

The **Student Seminars** were held for the II & III BSC-MBC Students. All the final year students of Microbiology took part in Seminars.The overall aim of the seminar series is to help the students to develop their communication abilities. Conduction of Seminars will help the students to their promote skills, positive attitude , enhanced their confidential levels and knowledge seeking


DEPARTMENT OF MICROBIOLOGY
SEMINAR
Introduction
Tuberculosis
TUBERCULOSIS


DEPARTMENT OF MICROBIOLOGY
HEPATITIS - B
Introduction
SYMPTOMS - Jaundice, Fever, Nausea and Vomiting
DIAGNOSIS - HB surface antigen and antibody
TREATMENT - Liver ultrasound, Liver biopsy, antiViral medications - lamivirdr, lamivudine
Liver transplantation
HEPATITIS


DEPARTMENT OF MICROBIOLOGY

Department of Biotechnology

2023-2024

WORKSHOP

Participative Learning

Our students participated in workshop on the topic Nutritional value of Millets which was held on 13-02-2023 in Hindu College, Guntur, by department of Food Technology. Importance and uses of millets of different types like Ragi, Foxtail, finger millet, fonio millet and they demonstrated the requirements and preparation of different dishes like Raggi Laddu [Ragi floor, Jaggery, water, Ghee] and knowing benefits of each dish for example Ragi cake contains (365 gm of calories, Carbohydrates-80.5 Proteins-5.86, Sugar 27.94, Fat – 2.38]. these are also rich in antioxidants and they fight against free radicals.


Millet Nutrition

Department of Biotechnology

2023-2024

Problem Solving

EMPLOYABILITY SKILL TRAINING PROGRAM FOR WOMEN – 2024

NAANDI FOUNDATION MAHINDRA PRUDE CLASSROOM:

This training program has a huge impact on the students. It is a 6 days training program. Especially for the women shaping a framework, leadership and communication, moulding these capabilities into interpersonal qualities. This program has held from 19th February 2024 to 24th February 2024.


Source: HDMI
No Signal
To display Help, press the
P - Point
R - Reason
E - Example
P - Closing point
past → present → Future

Department of Biotechnology

2023-2024

Experiential Learning

NATIONAL SCIENCE DAY – BOOK EXHIBITION- 28TH FEBRUARY:

Department of Biotechnology organised a Book Exhibition for all the students, they expose them to different concepts and develop their interest in reading and motivation and increase the knowledge of the students improve their intellect makes students aware of the various concepts.

Department of Biotechnology

2023-2024

Participative Learning

STATE LEVEL SCIENCE QUIZ COMPETITION

Biotechnology students had participated State Science Level Quiz Competition at JKC College, Guntur on 07-03-2024 and got the First prize. The participants are K. Sindhura, T. Mounika, Ch. Likitha, U. Eunice and P. Jyotsna.


JKC COLLEGE GUNTUR
Department of Microbiology
JAGARLAMUDI KUPPUSWAMI CHOUDARY
AUTONOMOUS COLLEGE
GPS Map Camera
Guntur, Andhra Pradesh, India
3-6-439, Sri Venkateswara Colony, Netaji Nagar, Guntur, Andhra Pradesh 522004, India
Lat 16.322892°
Long 80.415737°
07/03/24 01:40 PM GMT +05:30
Google

Department of Biotechnology

2023-2024

Orientation Programme

Participative Learning

The Department of Biotechnology organized a "Orientation Programme on carrier guidance" by Dr. M. Guravaiah, JKC College, Guntur.

Department of Biotechnology

2023-2024

Experiential Learning

STUDENT SEMINARS/ PROJECTS:

To inculcate the subject skills & competitive spirit among the students Department of Biotechnology conducted internal seminars on different branches of Biotechnology& audio-video visualized lectures. This is the activity have been conducted for III-year students

Department of Biotechnology

2023-2024

LAB SESSIONS

Experiential Learning

- Learn to use scientific equipment
- To develop the understanding of procedure
- To develop an ability to handle the apparatus carefully.


vivo Y16 • -ammulu

ST. ANN'S COLLEGE FOR WOMEN

GORANTLA- GUNTUR.

DEPARTMENT OF BOTANY

ACADEMIC ACTIVITIESREPORT 2023-2024

2.3 TEACHING –LEARNING PROCESS

STUDENT CENTRIC METHODS

Experiential Learning		
S.NO	**ACTIVITY**	**DATE**
1.	A Two days student centric national webinar (K.R.K Government Degree college)	**9th&10thJANUARY 2024**
2.	Satellite images for forestry, environment& agricltural application, (National seminor at A.C college)	**30th JANUARY 2024**
3.	Role of Ethno botanical Medicine in human life	**2ndMARCH 2024**
Participative Learning		
4	Quiz &elocution(National Science Day Celebrations)	**28THFEBRUARY2024**

Experiential Learning

National webinar

National webinar: The Final and second year students of BBC&MBC had Attended for A Two days student centric national webinar named "PRERANA" organized by K.R.K Government Degree college on 9th&10thJANUARY 2024 . Three of our students from II BBC and MBC had participated and got participation certificates .one of our student was awarded with prize money by winning third Prize. All the participants got participation certificates.

PRERANA (National webinar) Participants with Principal and Faculty

Cash prize winner T.SUMUKHI with Principal Rev .Dr .Sr.Fatima Rani.P

National seminar

National seminar : The Final and year students of BBC&MBC had Attended for a national Seminar organized on' Satellite images for forestry environment& Agricultural application' at A.C college on **30th JANUARY 2024.**Dr.K.E.Mothi Kumar as a Resource person has presented PPT. All the students were benefited by attending the seminar

Faculty of A.C college and ST.ANN'S collegewith Resource Person Dr.K.E.Mothi Kumar

Faculty of A.C college and ST.ANN'S collegewith Resource Person Dr.K.E.Mothi Kumar

Faculty and Students with Resource Person Dr.K.E.Mothi Kumar

National Level Symposium

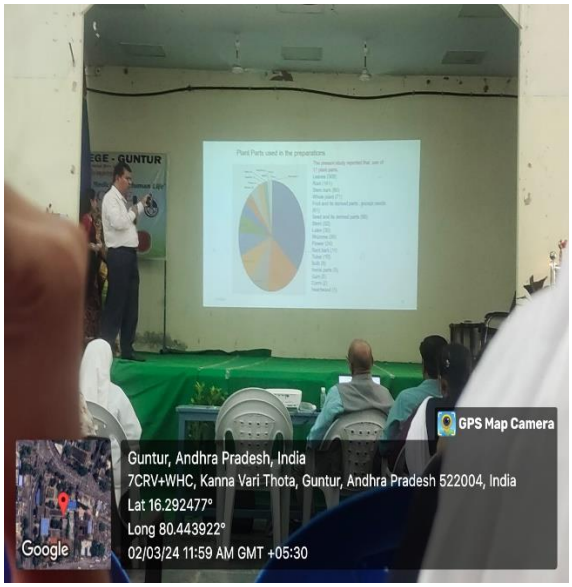
The Final and second year students of BBC&MBC had Attended for National Symposium named ‘Role of Ethno botanical Medicine in human life ‘On 2nd MARCH 2024 and learnt about the use of plants in day to day life . The main theme of the National Symposium is to bring awareness to students and public about the importance of medicinal plants and their utility to the mankind .In the present scenario, the Ayurvedic medicine is playing a major role in curing several diseases without causing any side effects .All the students got participation certificates and learnt about the use of plants in day to day life

Students at Hindu college Symposium


DANDAYA PANI HALL
WELCOME
GPS Map Camera
Guntur, Andhra Pradesh, India
7CVV+3P5, Kanna Vari Thota, Guntur, Andhra Pradesh 522004, India
Lat 16.292654°
Long 80.444228°
02/03/24 01:55 PM GMT +05:30
Google


DANDAYA PANI HALL
WELCOME
GPS Map Camera
Guntur, Andhra Pradesh, India
7CVV+3P5, Kanna Vari Thota, Guntur, Andhra Pradesh 522004, India
Lat 16.292654°
Long 80.444228°
02/03/24 01:55 PM GMT +05:30
Google

Students at Hindu college



Dr .M.Ramaiah Explaining about Ethnobotanical Medicine development

Faculty receiving certificates

Participative Learning

Quiz &elocution: On the occasion of National Science Day Department of Botany conducted Quiz &Elocution competition on 28TH February2024 in the Department .Interested candidates from all the I,II &III Year Participated in two competitions

Elocution Competition at Botany Lab

Quiz Competition

Quiz Competition

DEPARTMENT OF CHEMISTRY

Department Activities were conducted under Guidelines of UGC, CBCS, OBE and NEP 2020, and Student Centric Methods are implemented as follows for the Academic Year 2023-24.

Student Centric Methods

Department	Experiential Learning	Participative Learning	Problem Solving
Chemistry	1.Bridge Classes 2. Guest Lectures 3. PPT Presentations 4. Project & Internship 5. Lab sessions Volumetric analysis, determinations	1. Student seminars – Oral & PPT presentations 2. Group Discussions 3. Observation of National & International Days- National Science Day 4. Expo & Work- shops (Inter and Intra) ,	Identification of organic compounds and Mixture analysis, Quizzes Question banks book writing, Assignments, Mini projects

Experiential Learning :

1. BRIDGE CLASSES

10 Bridge Classes on "Spectroscopy" were organized for II Chemistry Major & Minor Students from 10th to 13th August 2023 by the Faculty of Chemistry in LCD Room (Botany lab).

2. GUEST LECTURES

On 7th November 2023, a Guest Lecture on “”Molecular Spectroscopy” was organized by the Department of Chemistry to all the second year students of BBC & MBC. Dr. Ch. N. S. Sai Pavan Kumar, M..Sc; Ph. D, Associate Professor & HOD of Chemistry, Vignan College, Pedapalakaluru, Guntur was invited as Resource person. He taught the lesson by using dual method of PPT and Black board teaching.

A series of Guest Lectures on “Green Synthesis of Organic compounds and Nanotechnology” organized by the Department of Chemistry were conducted from 20th to 2th October 2023 for III BBC, MBC & MPC students by inviting Dr. N. Jaya Lakshmi, M. Sc Ph.D, Associate Professor, Department of Chemistry, Vignan College, Guntur.

3. PPT PRESENTATIONS—USE OF ICT TOOLS

Faculty of Chemistry used LCD and Laptops to teach lessons with PPT presentations for effective Teaching- Learning process. The topics in regular syllabus, Add- on

courses were covered in this method. The students were benefitted by visual explanation of the slides. Mrs. B. Joyce N J Kumari, HOD explaining the Molecular spectroscopy to III MPC students by using the Laptop on 22-01-2024.
Mrs. G. Anitha Bhanu giving a PPT Presentation on 12-02-2024 to III BBC , MBC & MPC Students on the topic "Amines. "


4. ADD- ON AND CERTIFICATE COURSES::

Certificate course on Medical coding of drugs design and delivery was conducted to III MPC students The sessions were conducted by Mr. K. Satya Narayan of SR Technologies, Vijayawada from 22nd to 30th June 2023and certificates were awarded to students in the presence of Principal. Add-on course on water resources and treatment was organized by the department of Chemistry from 19th to 24th July 2023 for III MPC Students.

Add-on Course- Water resources **Certificate course- Medical coding**

5. PROJECT & INTERNSHIP

Chemistry Students of 2020-23 batch doing their Internship project on "Green Isolation process of Cu+2 ions from green plants at PEARL Labs under the Guide- ship of Dr. Guravaiah. All the practical work was done at Pearl Labs. The students were fully satisfied to achieve awareness on the new techniques of preparing Nanoparticles with Hands-on experience.

6. **LAB SESSIONS** ::

Volumetric analysis, Physical chemistry determinations were conducted to II & III year Chemistry Students in Chemistry lab by the Faculty of Dept. of Chemistry as a part of Experiential Learning

PARTICIPATIVE LEARNING

1. Group Discussions

On 28th February 2024, II BBC & MBC Students of four groups participated in Group Discussion activity on the topic of "Spectroscopic Techniques" in the field of Industry, Medicine and Nuclear Chemistry. Miss. Yeshaswini, Miss, Thanu of II BBC & Miss. Sushmitha, Miss. Ludya of II MBC of Team A secured 1st place.

2. Oral & PPT Presentations::

As a part of Participative learning, Department of Chemistry conducted Oral paper and PPT presentations on the topics of "Green Chemistry" of Course code Chemistry 7D to all final year students of BBC & MBC groups of Semester V on 6th September 2023 and 2nd July 2024 and total ofsix students participated init..


On 14th February 2024, 3 students of II BBC & MBC of IV semester gave Oral & Black board presentations on "Theories of Coordination in complexes".

3. NATIONAL & INTERNATIONAL DAYS- NATIONAL SCIENCE DAY

Commemorating the "National Science Day" Group Discussion on "Innovations in Today's Science" were conducted to II BBC & MBC students of IV Semester on 28th February 2024. Group 2 secured the winner's position. On 29th February 2024, Elocution competition was organized on "Importance of Green Chemistry" and Six students of III BBC & MBC of VI Semester. Problem solving method was applied to test the aptitude and communication skills of students

4. WORKSHOPS AND EXHIBITIONS

Selected number of III MPC & MBBT Students were accompanied by Mrs. G. Anitha Bhanu, Lecturer in Dept. of Chemistry to Hindu College for a Science Expo and Mrs. B. Joyce, HOD of Chemistry to ANU visiting the stalls at ANU. The Students availed this opportunity to learn many concepts in Sciences in outside room atmosphere as a part of experiential learning.

Problem Solving Method:

Department of Chemistry utilized this method to test the understanding levels and memory of the students. Assignments in the concerned topics of the papers of 3rd, 2nd and 1st years of UG Chemistry are allotted to students in all the papers. Completed work was submitted to concern Faculty in the stipulated time for verification.

Slip tests are also conducted under the supervision of Faculty and valuated to give proper revision that resulted in satisfactory outcome of the results in the University Semester End examinations.

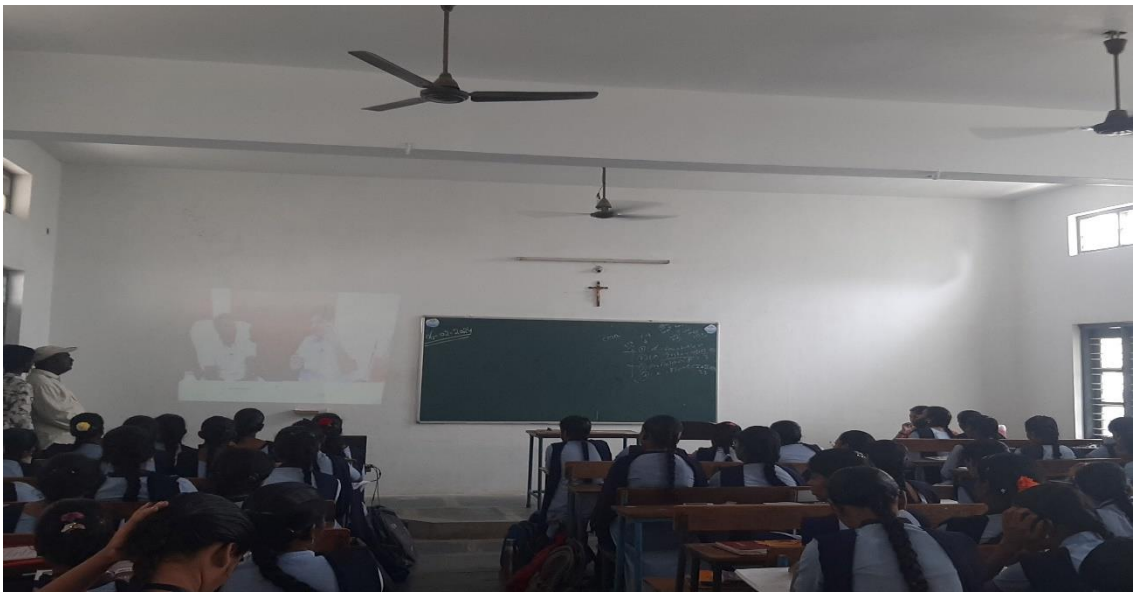

Slip tests conducted

DEPARTMENT OF COMMERCE

SEMINARS:

Student Seminars were conducted to all the I, II &III B.Com students in Various subjects as a part of curriculum , to bring out the hidden talents and to make them bold enough to face the crew of speaking skills.

AWARENESS PROGRAMME : On 6th Feb, 2024**, t**he department was conducted awareness programme on CA & CMA courses conducted by Master Minds Institution, Guntur.

FACULTY EXCHANGE PROGRAMME

As per the MOU signed in between St. Ann's College, Gorantla, Guntur , and Department of Commerce, AC College, Guntur ,the faculty exchange programme was organized by the department on26th March, 2024 very helpful for students and the faculty members as it provided a novel teaching-learning experience to the students and the faculties involved.

The faculty exchange programme was very informative for the students of B. Com III Semester.

Faculty from AC College: Mr. T. Venu Prakash, Lecturer, Department of Commerce, AC College, Guntur
Date Of the Programme:26-03-2024
Name of the Class for which Exchange is done: B. Com III Semester
Total Number of Student Present: 47
Venue of the Class: II B.COM
Name of the Faculty Members Present : Mr. SK. M. Subhani

TRAINING PROGRAMME

Training Programme on **"Tally, IT, & GST"** wasconducted by Mahindra Pride Classroom, and implemented by Naandi Foundation from 2023to 2024 for III B. Com Gen & CA students.


DEPARTMENT OF STATISTICS

Scanned with CamScanner

Certificate

OF COMPLETION

This Certificate is awarded to

Y. LAVANYA

from ST. ANN'S COLLEGE FOR WOMEN, GORANTLA, GUNTUR

of III. B. Com - COMPUTER APPLICATIONS on successful completion of

" Tally, IT & GST Training Programme" conducted by Mahindra Pride Classroom,

and implemented by Naandi Foundation from 2023 to 2024

Chief Skills Officer

Mahindra PRIDE CLASSROOM

Naandi

10-02-2024
Date

QUIZ :A Quiz programme was conducted by Mr. Sk. M. Subhani for the I B. Com & B CA students on 20th Nov 2023 in BOM Subject. Students were actively participated in the quiz .

QUIZ

ST.ANN'S COLLEGE FOR WOMEN

Gorantla, Guntur.

DEPARTMENT OF MCA

Departmental Activities 2023-2024

GROUP DISCUSSION

The Department of MCA conducted **GROUP DISCUSSION** in the Academic year 2023-2024 on 21-03-2024 on the topic **“ Internet of things ”.**

All the students of the Department of MCA of 42 students were attended and 15 Students were participated in the Group Discussion. 3 groups of five members each had actively participated to perform their comprehensive level.

Students Participating in the Group Discussion

IT -Quiz

The Department of MCA conducted **IT -Quiz** in the Academic Year 2023-2024 on 21-03-2024 on the topic **"G.K AND IT RELATED QUESTIONS".** 42 Students of the Department were attended out of 42, 15 Students of the MCA Department were participated in the Quiz**.** 3 groups of five members each had actively participated to perform their comprehensive level.

Students Participating in the Quiz Competition

Debate Competition

The Department of MCA conducted **Debate Competition** in the Academic Year 2023-2024 on 21-03-2024 on the topic **" Value of the Voting ".** 42 Students of the Department were attended out of 42,10 Students of the MCA Department were participated in the Debate Competition**.** 2 groups of five members each had actively participated to perform their comprehensive level.

Students Participating in the Debate Competition

PowerPoint Presentation – PPT

The Department of MCA conducted **PowerPoint Presentation – PPT** in the Academic Year 2023-2024 on 22-03-2024 on the topic **" Cyber Security ".** 42 Students of the Department were attended out of 42,8 Students of the MCA Department were participated in the PowerPoint Presentation.

Seminars and Assignments

Seminars and assignments are essential to inculcate resources, research skills in the students to gather advance information regarding modern concepts in Computer and their applications in the society, business, industry, research work etc. seminars improve confidence levels in the students. MCA students had actively involved in this task. These programs definitely help for the development and progress of the students in a multi-dimensional way to become multi-faceted personality.

Student Seminars

S. No	REGD.NO	STUDENT NAME	SIGNATURE
1	Y24MC58001	A.Hema Swapna	
2	Y24MC58002	A.Sarala	
3	Y24MC58003	A.Divya	
4	Y24MC58004	B.Reethika Sagar Prathyusha	
5	Y24MC58005	B.Nandini	
6	Y24MC58006	Ch.Lakshmi Bindu Priya	
7	Y24MC58007	D. Kezia	
8	Y24MC58008	G. Krishna Priya	
9	Y24MC58009	G. Chandana	
10	Y24MC58010	G. Lakshmi Devamma	
11	Y24MC58011	G.Kusuma	
12	Y24MC58012	G. Lavanya	
13	Y24MC58013	G. Mounica	
14	Y24MC58014	I. Navya	
15	Y24MC58015	J. Karuna	
16	Y24MC58016	J. Bhavana	
17	Y24MC58017	K. Anitha	
18	Y24MC58018	K. Swathi	
19	Y24MC58019	K. Tejaswini	
20	Y24MC58020	K. Revathi	
21	Y24MC58021	K.Nirmalamary	

22	Y24MC58022	K. Kavitha	
23	Y24MC58023	K. Gayatri	
24	Y24MC58024	K. Sravani	
25	Y24MC58025	M. Komali	
26	Y24MC58026	M. Chinnamma	
27	Y24MC58027	M.Umamaheswari	
28	Y24MC58028	M. Divya Darshini	
29	Y24MC58029	N. Sravani	
30	Y24MC58030	P. Nagamani	
31	Y24MC58031	P. Neelima	
32	Y24MC58032	P.Siva Parvathi	
33	Y24MC58033	P. Chandra kiran	
34	Y24MC58034	P. Swathi	
35	Y24MC58035	Sayyad Momina	
36	Y24MC58036	Shaik Asma Sulthana	
37	Y24MC58037	Syed Habeeba Apsana	
38	Y24MC58038	T. Akhila	
39	Y24MC58039	T. Thirupathamma	
40	Y24MC58040	T. Aksa	
41	Y24MC58041	U.Vijaya Lakshmi	
42	Y24MC58042	V. Deepika	

S. No	REGD.NO	STUDENT NAME	SIGNATURE
1	Y24MC58001	A.Hema Swapna	
2	Y24MC58002	A.Sarala	
3	Y24MC58003	A.Divya	
4	Y24MC58004	B.Reethika Sagar Prathyusha	
5	Y24MC58005	B.Nandini	
6	Y24MC58006	Ch.Lakshmi Bindu Priya	
7	Y24MC58007	D. Kezia	
8	Y24MC58008	G. Krishna Priya	
9	Y24MC58009	G. Chandana	
10	Y24MC58010	G. Lakshmi Devamma	
11	Y24MC58011	G.Kusuma	
12	Y24MC58012	G. Lavanya	
13	Y24MC58013	G. Mounica	
14	Y24MC58014	I. Navya	
15	Y24MC58015	J. Karuna	
16	Y24MC58016	J. Bhavana	
17	Y24MC58017	K. Anitha	
18	Y24MC58018	K. Swathi	
19	Y24MC58019	K. Tejaswini	
20	Y24MC58020	K. Revathi	
21	Y24MC58021	K.Nirmalamary	

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23	Y24MC58023	K. Gayatri	
24	Y24MC58024	K. Sravani	
25	Y24MC58025	M. Komali	
26	Y24MC58026	M. Chinnamma	
27	Y24MC58027	M.Umamaheswari	
28	Y24MC58028	M. Divya Darshini	
29	Y24MC58029	N. Sravani	
30	Y24MC58030	P. Nagamani	
31	Y24MC58031	P. Neelima	
32	Y24MC58032	P.Siva Parvathi	
33	Y24MC58033	P. Chandra kiran	
34	Y24MC58034	P. Swathi	
35	Y24MC58035	Sayyad Momina	
36	Y24MC58036	Shaik Asma Sulthana	
37	Y24MC58037	Syed Habeeba Apsana	
38	Y24MC58038	T. Akhila	
39	Y24MC58039	T. Thirupathamma	
40	Y24MC58040	T. Aksa	
41	Y24MC58041	U.Vijaya Lakshmi	
42	Y24MC58042	V. Deepika	

THALUKULA JALAYYA POLISETTY SOMASUNDARAM COLLEGE

(PG - COURSES)

(Affiliated to Acharya Nagarjuna University)

GUNTUR -522006, Andhra Pradesh, ph.0863-2233188

email:esoterictjps@gmail.com

CODE ‘O’ FIESTA - 2024

CODE ‘O’ FIESTA - 2024 is a programming contest which will be conducted in two stages

STAGE -1 SCREENING TEST

Programming test was conducted and the best performed teams were selected for the final round.

This round includes the following.

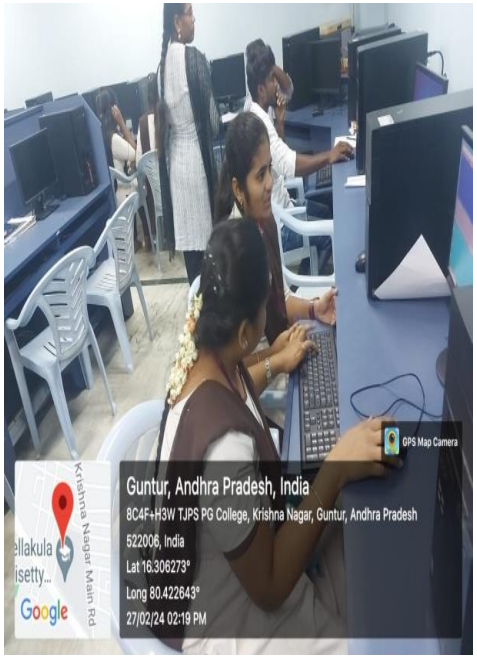
- **MCQ’S on basics and Debugging**

The students from department of MCA,St. Ann’s College for Women participated in the first round screening test competition related to the computer languages such as c, java and python conducted by the Thalukula Jalayya Polisetty Somasundaram college(T.J.P.S)in “ **Code ‘O’ Fiesta-2024**” and qualified to the final round.

STAGE -2 FINAL ROUND ON CODING

This stage includes following rounds.

- **Patterns**
- **Problem Sloving**



Students Participating in " Code 'O' Fiesta-2024 "

The students from department of MCA ,St.Ann's College for Women participated in the final round coding related to the computer languages such as c, java and python programming conducted by the Thalukula Jalayya Polisetty Somasundaram college (T.J.P.S) in " **Code 'O' Fiesta-2024**".

Awarded with the Certificates of Participation

ST.ANN'S COLLEGE FOR WOMEN

Gorantla, Guntur.

Intercollegiate Competitions

at

Chalapathi Institute of Technology, Mothadaka, Guntur

&

Tellakula Jalayya Polisetty Samasundaram College (T.J.P.S),Guntur

PREMIER NATIONAL LEVEL SYMPOSIUM

Udghosh 2K24

23rd, 24th Feb 2024

EVENTS

TECHNICAL

Slide Deck
Prove the power in your point

Model Expo
The Blueprint of your invention

Quizzard
A quiz to prove your knowledge

Chart Innovation
It's about Poster

CULTURAL

Dance (Solo) - Western, Folk & Classical
Dance (Group) - Western, Folk & Classical
Short Film
Music (Vocal, Instrumental & Bands)
Singing - Solo & Group
Skit
Insta pic
Spot Events...

SPORTS & GAMES

BOYS	GIRLS
Volleyball	Throwball
Basketball	Tennikoit
Kabaddi	Kabaddi
Kho-Kho	Kho-Kho
Chess	Chess

Registration Fees: ₹250

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Sri Y.V.Anjaneyulu
President
Chalapathi Educational Society

Patrons
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Secretary & Correspondent
Dr. K. Naga Srinivasa Rao
Vice- Principal & HOD - Civil
Dr. K. Kiran Kumar
Principal
Dr. J. Jaya Krishna
Principal-Diploma

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Prof. V. Sai Srinivas, HOD-CSE (DS)
Co-Convenor
Dr. D. Naga Ravi Kiran, HOD-ECE

Advisory Committee:

Prof. G.Ramachandra Rao
HOD-CSE
Prof. S. Santhi Priya
HOD - AI & AIML
Dr. D. Kalyan Kumar
HOD - CSE(CS)
Dr. V. V. Subba Rao
HOD - BS & H
Prof. P. Gandhi
HOD - MECH
Prof. A. Dharma Teja
TPO
Dr. P. Balamurali Krishna
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Dr. B. Tulasi Rani
Cultural Committee Co-ordinator
Prof. D. Sankara Rao
NSS Co-ordinator
Prof. D. Ramu
Physical Director

CITY **CHALAPATHI**
Institute of Technology

AUTONOMOUS | NBA CSE ECE CIVIL | NAAC GRADE A | Recognised under 2(f) & 12(B) of UGC ACT 1956

A.R. NAGAR, MOTHADAKA, GUNTUR-522016

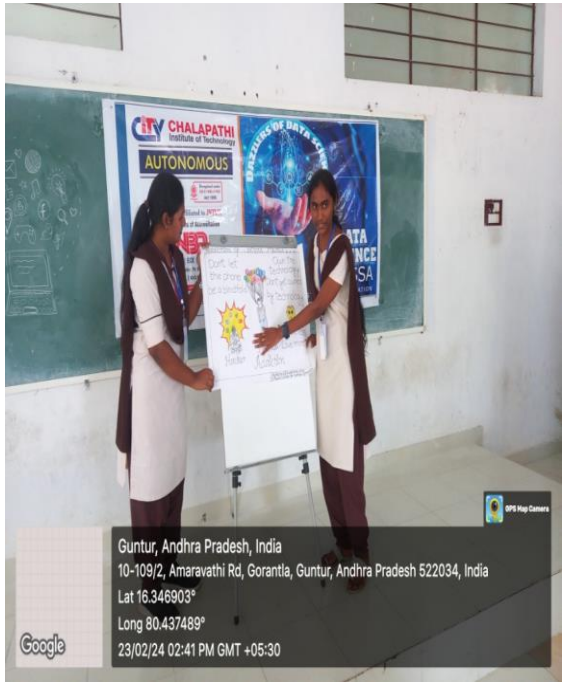
Technical - Quizzard

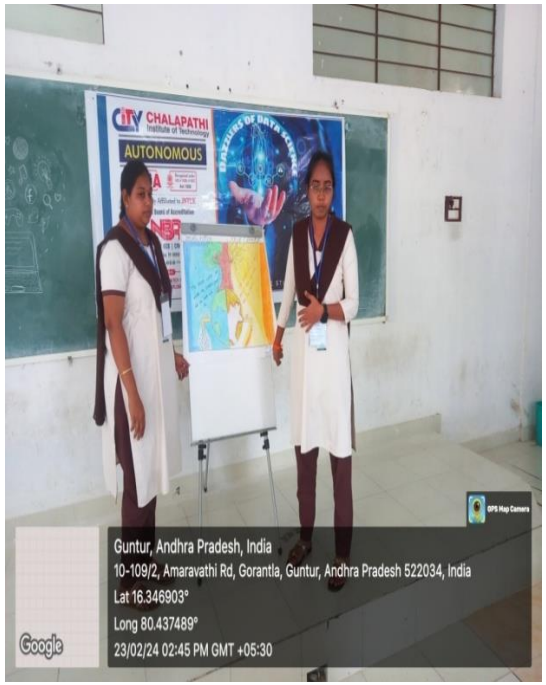
The students from **Department of MCA, St. Ann's College for Women** participated in the **Quiz Competition** related to General Knowledge, Computers and General Science conducted by the "**Chalapathi Institute of Technology in "Udghosh 2K24 Fest"** and were awarded with the certificates of participation.

Students Participating in Quiz Competition

Chart Innovation – Poster Presentation

The students from Department of MCA, St. Ann's College for Women participated in "**Chalapathi Institute of Technology in "Udghosh 2K24 Fest",** few students of them presented charts in related to in different topics such as mobile addiction, farming and agriculture, women empowerment and save water in poster presentation event and were awarded with the certificates of participation.





Poster presentation on mobile addiction, farming and agriculture, women empowerment and save water

Cultural Activities – Short Film

The students from Department of MCA ,St. Ann's College for Women participated in the **Short Film Competition** related to **Cleanliness and Cyber Crimes** conducted by the "**Chalapathi Institute of Technology in "Udghosh 2K24 Fest**" and **G.Kusuma, MCA won 2nd prize** , was awarded with a certificate of achievement, cash prize and shield.

Presenting the Short Film by our students in Chalapathi College

G. Kusuma Won 2nd Prize in Short Film

G. Lakshmi - Runner in Short Film

Principal Sister, Rev. Dr. Sr. Fatima Rani. P Appreciated Our Students for Active Participation in all Competitions Held by Chalapathi Institute of Technology.

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Department of Master of Business Administration Activity Report

Faculty in the Department:

For the Academic Year 2023-24 the Department of MBA working with the following Faculty Members.

S.No	Name of the Faculty	Qualification	Designation
1.	Dr. J. Pratapa Reddy	M.Sc, ME, M Phil, Ph.D	Director P.G. Courses
2.	Dr.P.L. Narasimha Rao	M.com, M.Phil, PhD	Professor
3.	Dr. G. Radhika	M.com, MBA, MPhil., Ph.D	HOD/Associate Professor
4.	Dr. V.Vani	MBA,MHRM, MScPsy, Ph.D	Associate Professor
5.	Mrs.J.Sirisha	MBA,M.Com.,	Assistant Professor
6.	Mrs.D.Swarna Charani Rai	MCA	Associate Professor
7.	Ms.P.Anitha	MCA	Assistant Professor

Academic Excellence:-

For the Academic Year 2023-24 the department of MBA Achieved 100% Result for the XVI Batch (Passed out) Students & Present Final Year Students achieved Result with 100% in their I MBA University Examinations.

Student Centric Activities
For the Academic Year 2023-24

Experiential Learning	Participative Learning	Problem Solving
• Plant visit • Guest Lectures • Lab sessions	• Debate • Group Discussion • Presentation • Student Seminars	• Project Based Learning • Designing of Mini Projects • Case studies • Assignments

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S.No.	Name of the Activity	Name of the Topic	Date of event	No. of students participated
1.	National Seminar	Emerging Issues in Global Economy	16-12-2023 to 17-12-2023	16
2.	Skill Development Program	Employability Skill program by Naandi Foundation	02-01-24 to 08-01-2024	
3.	Plant Visit	Coca cola Beverages Pvt.Ltd	10-02-2024	45
4.	Debate	"The Pride of Voting for the first time"	14-03-2024	20
5.	Group Discussion	"Impact of Social Media on Students"	18-03-2024	10
6.	Plant Visit	Sri Srinivasa Oil Mills, Pedanandipadu	20-03-2024	45
7.	Seminar /Guest Lecture	"Importance of Marketing Skills" by Mrs.G.Sagar Rani, Sales Manager, HDFC Life Insurance Pvt Ltd	21-03-2024	56
8.	Student Seminars	Subject related topics for II MBA students	01-04-2024 to 04-04-2024	31
9.	Seminar/ Guest Lecture	" Artificial Intelligence" by Dr. A. Kanaka Durga , Assistant Professor, Department of Commerce and Business Administration, ANU	15-04-2024	57
10.	Lab session	MS office& C programming	I semester	23
11.	Projects	Finance , HR, Marketing	IV semester	31
	Poster Presentations	FMCG Companies	12-08-2024	12 (3 groups)
	Student Seminars	Subject related topics for I MBA students	21-08-2024 to 23-08-2024	23

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National Seminar – EIGECM-2023-24

On 16th & 17th of December 2023 16 of students are participated in Two Day National Seminar on "Emerging issues in Global Economy, Commerce & Management –EIGECM-2023, organized by Department of Commerce & Business Administration Acharya Nagarjuna University.

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Employability Skill Programme by Naandi Foundation -2023-24

The Training and Placement Cell is conducted a Training on "Employability Skills for Women" (Mahindra Pride Classroom Programme) with the Collaboration of Naandi Foundation from 02-01-2024 to 08-01-2024 (6days, 6 Hours Per day) In this Programme 29 MBA students were attended.

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Plant Visit- Coca-cola Beverages -2023-24

An Industrial Visit to Hindusthan Coca-cola Beverages Pvt. Ltd., Atmakuru was organized on 10th February 2024, with 45 MBA students, to know the process of making Different Varieties of Soft drinks that they are making , they give awareness about the ingredients they are using to make Soft Drinks which are not harmful to health & what are the channels of distribution they are following to distribute their products in the markets.

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Debate

On 14-03-2024 as per AICTE instructions "The Pride of Voting for the first time" Debate, Group Discussion & Rally were conducted for PG students, in this event 45 of our MBA students participated.

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Group Discussion -2023-24

To enhance the Entrepreneurial Capabilities of the students of MBA , *Group Discussion* activity were organized by the Department on 18th March 2024.

Event Name : Group Discussion

No.of participants:12

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Plant Visit- Mahadeva Dal Industries Pvt.Ltd., -2023-24

An Industrial Visit to Mahadeva Dal Industries (Tenali Double Horse) , Nandivelugu Road, Tenali, was organized on 20th March 2024, with 45 MBA students, to know the process of making Dal's in a Fully Automated Machinery and also visit Cashews making factory which is going to open soon. They Motivate the students not to become an employee's make yourself as an entrepreneur and also discuss their strategies to market the branded Dal's and channels of distribution they adopt to fulfill the needs of the Market.

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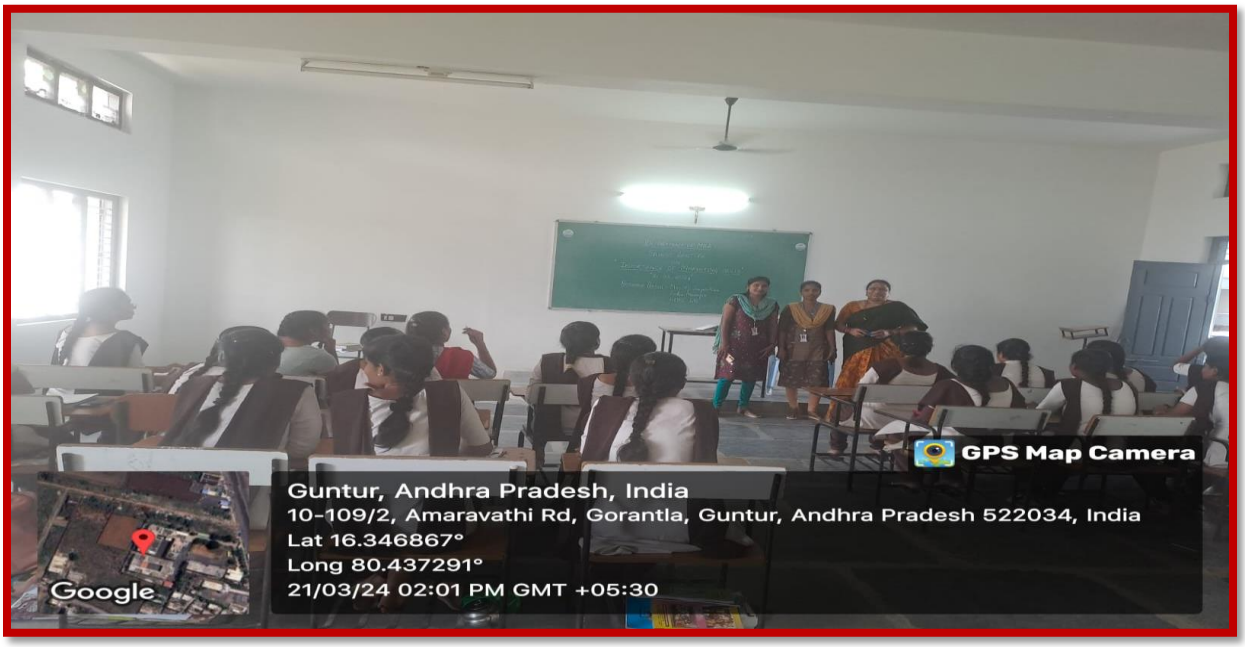
Guest Lecture on Importance of Marketing Skills -2023-24

A Guest Lecture was organized on 21st March 2024 by Dept. Of MBA on the topic "Importance of Marketing Skills" by Resource Person Mrs. G.Sagar Rani Sales Manager , HDFC Life Insurance Arundelpet, Guntur, enlightened the students regarding Importance of Marketing skills in Present Scenario and also explain about the requirements of the Industry and how to promote yourself and your work .



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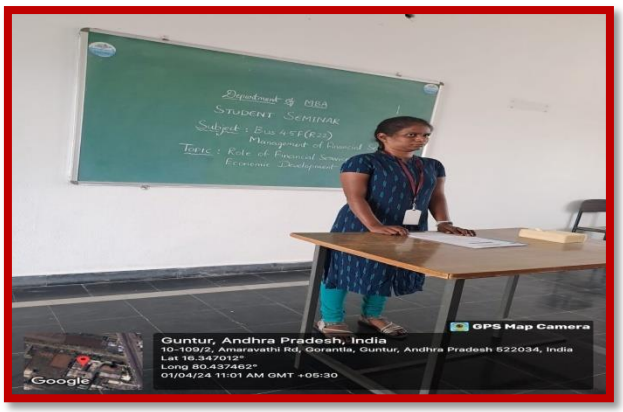
Student Seminars for IV semester Students from 01-04-2024 to 04-04 2024



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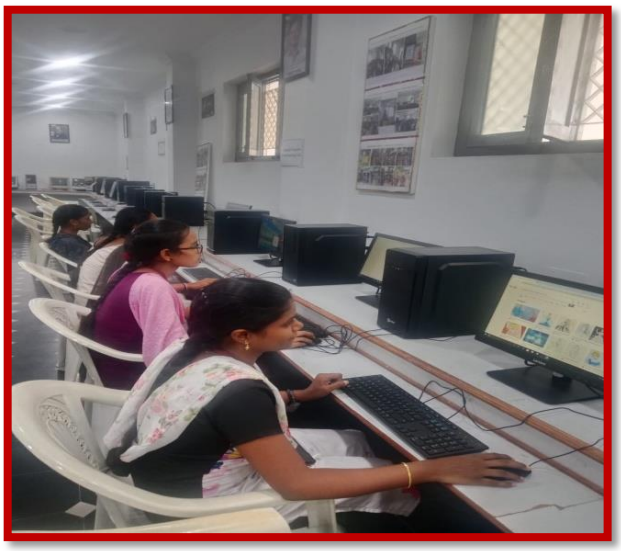
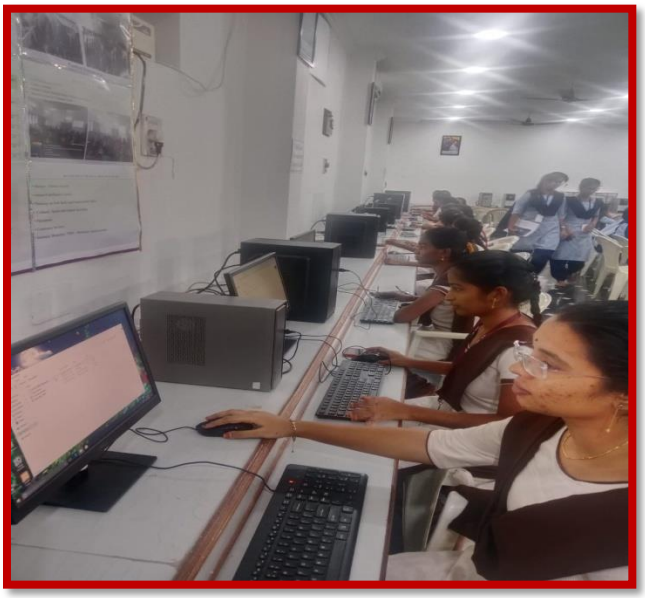
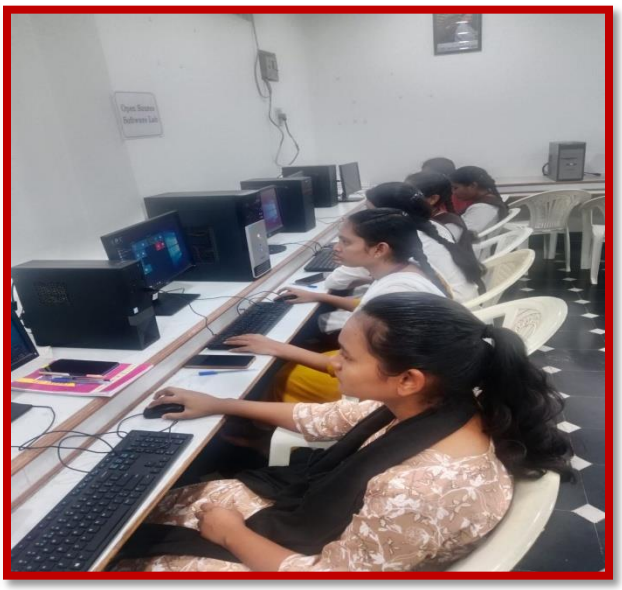
Lab session

Lab session for I semester 23 students on the subject of IT for Managers the Topics practice in the Lab were Ms.Word, Power Point Presentations & C programming







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A Seminar on " Artificial Intelligence" - 2023-24

A Seminar was organized on 15th April 2024 by Dept. Of MBA on the topic "Artificial Intelligence" by Dr.A Kanaka Durga, Assistant Professor, Department of Commerce & Business Administration , Acharya Nagarjuna University. She explains How AI is expected to improve industries like healthcare, manufacturing and customer service, leading to higher-quality experiences for both workers and customers and also explains the steps to overcome the challenges of AI.

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Poster presentation

To enhance the Entrepreneurial Capabilities of the students of MBA , *Poster Presentations* activity was organized by the Department on 12th August 2024.

Event Name : Poster Presentation

No.of participants:08 (2 groups)

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Student Seminars for II semester students from 21-08-2024 to 23-08 2024