



**PVKN GOVT. COLLEGE (A), CHITTOOR
DEPARTMENT OF MATHEMATICS**

Certificate course

2022-23

Title: Typing of Mathematical Expressions

**CERTIFICATE COURSE
CONDUCTED
BY THE
DEPARTMENT OF MATHEMATICS
ON**

Typing of Mathematical Expressions

**2022-23
(INSTITUTIONAL PERMISSION)**

S.No.	RESOURCE PERSONS	DESIGNATION
1	Smt. P. KAVITHA M.Sc., M.Phil,B.Ed.,SET	LECTURER IN MATHEMATICS
2	Mr.K.SAI PRATAP M.Sc.,	LECTURER IN MATHEMATICS

PVKN GOVT. COLLEGE (A), CHITTOOR

DEPARTMENT OF MATHEMATICS

The IQAC committee along with Chairperson and Coordinator, convened a meeting on _____ and resolved to conduct "Certificate Course in the month of _____ according to the feasibility of the departments.

It is also resolved to submit the details as per the checklist well in advance by the departments who had given their consents.

Check list:

- 1. IQAC Resolution**
- 2. Department wise Resolution**
- 3. Course structure and planning**
 - a. Date and timing schedule**
 - b. Course outcomes, Syllabus**
 - c. Testing procedure**
 - d. Model Certificate**
- 4. Students' enrolment list**
- 5. Attendance register for 30 hours and more (Online/ Offline)**
- 6. Audio visual Aids (if available), PPTs, Handouts/ Printed material**
- 7. Conduct Practical Exam & Certificate distribution**
- 8. Submission of Critical Analysis Report to IQAC**

Department Resolution Copy

Department of Mathematics

As per the circular issued by the IQAC dated _____ the department of _____ has conducted a meeting on _____ and unanimously resolved to conduct a Certificate course in the month of _____ with the duration of a minimum of 30 hours.

Notice Board

The Department of Mathematics is going to conduct a certificate course on "Typing of Mathematical Expressions" from _____ with min 30 working hours.

Interested candidates should come and register your names in the department on and before _____

Student Enrolment list:

S.No.	Name of the Student	Class/ Year	Signature of the Student
1	E Vamsi	II B.SC (M.E.CS)	
2	ERUVARAM CHARAN	II B.SC (M.E.CS)	
3	GOLLAPALLI PRABHU	II B.SC (M.E.CS)	
5	K VISHNUVARDHAN	II B.SC (M.E.CS)	
6	KOORIMI JAGADEESH	II B.SC (M.E.CS)	
7	MC VINODKUMAR	II B.SC (M.E.CS)	
8	MADASI JAYA KUMAR	II B.SC (M.E.CS)	
9	N VENKATESH	II B.SC (M.E.CS)	
10	P SAI PAVAN	II B.SC (M.E.CS)	
11	P VAMSI	II B.SC (M.E.CS)	
12	PALYAM SARAVANA	II B.SC (M.E.CS)	
13	PAMBALA GANESH	II B.SC (M.E.CS)	
14	PATOORU GUNASEK	II B.SC (M.E.CS)	
15	P ASHOK KUMAR	II B.SC (M.E.CS)	
16	S MANOJ KUMAR	II B.SC (M.E.CS)	
17	S SURYA	II B.SC (M.E.CS)	
18	S VISHNUVARDHAN	II B.SC (M.E.CS)	
19	T AMARNATH	II B.SC (M.E.CS)	
20	TIRUPATHI NAGARAJA	II B.SC (M.E.CS)	
21	V DIILI BABU	II B.SC (M.E.CS)	
22	R SESHADRI	II B.SC (M.E.CS)	
23	V HAREESH	II B.SC (M.E.CS)	

Details of the Course

1.Mode: Blended Mode

2.Title: **Typing of Mathematical Expressions (Mathematics Students)**

3.No of Credits: 4

4.Semester and Year Offered: Even semester

5.Course Coordinator and Team:

1. Smt P.Kavitha

Email : porumamillakavitha@gmail.com

2. K.Sai pratap

Email : ksaipratap10012000@gmail.com

3. A.S.Lavanya

EMail: lavanyaas20@gmail.com

Aim: The main objective of the course is to develop problem solving skills which will be useful in higher education.

Level:

- a. Introductory
- b. Estimated Effort: 12 hours/week
- c. Subject: Mathematics
- d. Institution: PVKN GDC(A)
- e. Languages: English
- f. Video Transcripts: English

2. **Brief description of modules/ Main modules:**

Duration of the course: 30 Hrs

Content of the course

- 1.Typing of Limits and Differentiation: Intermediate level
- 2.Typing of Integration: Intermediate level
- 3. Typing of Differential Equations: Formation of D.E, Variable separable method, Simple applications
- 4.Typing of Matrices: Problems and simple applications
- 5 .Typing of Coordinate Geometry: Straight line
- 6. Typing of Vector Algebra: Intermediate level

Learning Outcomes of the Course

1. Students will get problem solving skills in Typing of Mathematical Expressions
2. Acquired knowledge can apply in their own discipline.

Suggested Readings (Reference books):

1. Intermediate books
2. NCERT books of XI&XII classes

Signature of Course Coordinators

- 1.
- 2.

Signatures of Department In charge

Material

1. Distributive Property:

- The distributive property states that for any real numbers a , b , and c :
 $a \cdot (b + c) = a \cdot b + a \cdot c$.
- This property is often used to expand expressions with parentheses.

2. Common Algebraic Identities:

- $2(a + b)^2 = a^2 + 2ab + b^2$
 - This is known as the square of a binomial.
- $2(a - b)^2 = a^2 - 2ab + b^2$
 - Another square of a binomial identity.
- $2(a + b)(a - b) = a^2 - b^2$
 - This is the difference of squares.
- $3(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$
 - The cube of a binomial.

3. Special Cases:

- $(a + b)^n$
 - The expansion of this expression involves binomial coefficients and powers of a and b . For example, the expansion of $4(a + b)^4$ involves $3, a^4, a^3b, a^2b^2, ab^3$, and $4b^4$.

4. Factorization:

- Expansion can also be reversed through factorization. For example, if you have $2 + 5 + 6x^2 + 5x + 6$, you can factor it as $(+2)(+3)(x+2)(x+3)$.

5. Practice:

- The key to mastering expansion is practice. Try different expressions, apply the distributive property, and simplify the results.

Mathematical Expressions Question Paper

Question 1: Simplifying Expressions

Simplify the following expression:

$$4a - (2a + 3b) + 5b$$

Question 2: Expansion

Expand and simplify the expression:

$$2(x + 2)^2$$

Question 3: Factoring

Factorize the quadratic expression:

$$9x^2 + 6x + 9$$

Question 4: Solving Equations or x :

$$43x - 7 = 2x + 4$$

Question 5: Applications of Algebra

The area of a rectangle is given by $A=l \cdot w$. If the length is $33x$ and the width is $2-52x-5$, express the area in terms of x .

Attendance Sheet

[illegible]

DEPARTMENT OF MATHEMATICS-CERTIFICATE COURSE

FEED BACK FORM

1. Overall Satisfaction:

- How would you rate your overall satisfaction with the mathematical expressions certificate course?
 - Very Satisfied
 - Satisfied
 - Neutral
 - Dissatisfied
 - Very Dissatisfied

2. Course Content:

- Did you find the mathematical concepts covered in the course:
 - Highly Relevant
 - Relevant
 - Somewhat Relevant
 - Not Relevant

3. Instructor Feedback:

- How would you rate the effectiveness of the instructor's guidance and feedback?
 - Very Effective
 - Effective
 - Neutral
 - Ineffective
 - Very Ineffective

4. Materials and Resources:

- How would you rate the helpfulness of the course materials (lecture notes, exercises, etc.)?
 - Very Helpful
 - Helpful
 - Neutral
 - Unhelpful
 - Very Unhelpful
 -

5. Technological Aspects:

- How would you rate the usability of any online platforms or tools used during the course?
 - Excellent
 - Good
 - Average
 - Poor
 - Very Poor

6. Time Management:

- Was the pace of the course appropriate for your learning style and schedule?
 - Too Fast
 - Slightly Fast
 - Just Right
 - Slightly Slow

Signature of Student
(write name in Capital letters)



**PVKN Govt College(A), Chittoor.
Department of Mathematics**



Certificate of Participation

This is certify that Mr./Mrs. _____, has successfully completed the certificate course on “TYPING of MATHEMATICAL EXPRESSIONS” organized by the Department of Mathematics from 20.04.2023 to 8.05.2023.



P.V.K.N. Govt. College (A.P.)
Chittoor - 517002 (A.P.)

Co-ordinator

Dept. In charge

Principal

Critical Analysis Report:

The Department of Mathematics has been conducted a certificate course (Institutional Permission) on “TYPING OF MATHEMATICAL EXPRESSIONS” from 20/04/2023 to 08/05/2023 with the minimum duration of 30 hours. According to the IQAC and Principals instruction the course have been started the feasibility and convenient of the hours for this academic year. The total students 23 were registered for this course and completed as per the schedule. The objective of the course was fulfilled by acquiring of computing skills and typing of mathematical expressions.

Outcomes of the Course:

1. Accurate Typing:

- Students should be able to accurately type mathematical expressions using appropriate symbols and notation.

2. Symbol Recognition:

- Students should be proficient in recognizing and using a variety of mathematical symbols, such as operators, variables, Greek letters, etc.

3. Document Formatting:

- Students should be able to format mathematical documents properly, including aligning equations, using appropriate spacing, and creating clear and readable mathematical content.

4. Mathematical Notation:

- Understanding and correctly applying mathematical notation for different operations and concepts, including fractions, exponents, roots, matrices, and more.

Hence, the certificate course is very useful to B.Sc., Students on TYPING OF MATHEMATICAL EXPRESSIONS . The feedback from students were collected and analysed. All the students from Mathematics showed interest to do such type of Certificate course and to continue it for further years also.

Thankyou