

# SRI MAHAYOGI LAKSHMAMMA GOVERNMENT DEGREE COLLEGE

(Affiliated to Rayalaseema University, Kurnool.)

Near Hanumapuram, Adoni Road, YEMMIGANUR-518 360  
Kurnool District, Andhra Pradesh.

e-mail: yemmiganur.gdc@gmail.com website: www.gdcyemmiganur.ac.in



## CERTIFICATE COURSE

ON

CRITICAL THINKING & PROBLEM SOLVING

BY

DEPARTMENT OF MATHEMATICS

2021-2022

*Dr. B. Devika Rani*  
Dr B DEVIKA RANI  
LECTURER IN MATHEMATICS  
MATHEMATICS

*Mehar*  
KUM S L KHAMAR  
LECTURER IN

*Dr. J. Mahabob Basha*  
PRINCIPAL  
Dr. J. Mahabob Basha  
YEMMIGANUR, Kurnool (Dt.)  
Principal

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*K. Babalode Babha*

**PRINCIPAL**

**SML. Govt. Degree College  
YEMMIGANUR, Kurnool (Dt.)**

*B. Devesh Reddy*

## The extract from department minutes Register

June - 2022

20.06.2022

The Department meeting held on 20.06.2022 at 4:00 pm about project work and regarding certificate course.

\* It is resolved to give project work to the students

\* It is resolved to start a certificate course on "Critical Thinking and problem solving" from 27.06.2022 to 05.08.2022.

1. Dr. B Devika Rani

2. Maheshwari

X. Mahaladevi Basha  
PRINCIPAL  
SML. Govt. Degree College  
YEMMIGANUR, Kurnool (Dt.)

B Devika Rani

## PERMISSION LETTER

Yemmiganur,  
20-06-2022.

From  
Dr B Devika Rani,  
Lecturer in Mathematics,  
SML Govt Degree College,  
Yemmiganur.

To  
The Principal,  
SML Govt Degree College  
Yemmiganur.

Respected Sir,

Sub: The Department of Mathematics- Request for permission - Certificate Course - "Critical Thinking and Problem Solving" - Reg.

\*\*\*\*\*

This is for your kind notice that the Department of Mathematics needs to start a Certificate Course on "Critical Thinking and Problem Solving" with the duration of 30 days for 30 hours in the month of June 2022 without affecting the regular class work. In this regard, permission may be accorded to start the mentioned course.

Thanking you

*D. Mahadevi Reddy*  
PRINCIPAL  
S.M.L. Govt. Degree College  
YEMMIGANUR Kurnool (Dist.)



Yours sincerely,

*B. Devika Rani*  
Incharge  
Dept. of Mathematics  
Sri Mahayogi Lakshminamma  
Govt. Degree College  
Yemmiganur - 511 420

# CIRCULAR

SML GOVERNMENT DEGREE COLLEGE, YEMMIGANUR  
DEPARTMENT OF MATHEMATICS

All II year MPCs students are hereby informed that the Department of Mathematics will start a certificate course on **Critical Thinking and Problem Solving** on 27<sup>th</sup> June 2022. Those who are interested to join the course, they have to enroll their names with Sri S L Khamar Lecturer in Mathematics and certificate will be given after the completion of the course.

Name of the Course: **Critical Thinking and Problem Solving**

Duration of the course: 30 Hours

Commencement of the Course: 27-6-2022 to 5-8-2022,

Time schedule of the classes: 9 AM to 10 AM

*S. L. Khamar*  
PRINCIPAL  
S.M.L. Govt. Degree College  
YEMMIGANUR Kurnool (Dist.)



*B. Devika Rani*  
Incharge  
Dept. of Mathematics  
Sri Mahayogi Lakshmanma  
Govt. Degree College  
Yemmiganur - 519 360.

**SML GOVT DEGREE COLLEGE, YEMMIGANUR**  
**DEPARTMENT OF MATHEMATICS**  
**WILLINGNESS OF THE STUDENTS FOR THE CERTIFICATE COURSE**  
**"CRITICAL THINKING AND PROBLEM SOLVING"**  
**Group : Second Year MPCS**  
**List of Students participated in certificate course**

S.No	Hall Ticket Number	Name of the Students	Mobile Number	Signature of the Students
1.	21360049001	A Raju	9573657985	A. Raju
2.	21360049002	A Anitha	9390123083	A. Anitha
3.	21360049003	B Lalitha	6281480599	B. Lalitha
4.	21360049004	B Leelavathi	7989055319	B. Leelavathi
5.	21360049016	K. Veerakrishna	9014101282	K. Veerakrishna
6.	21360049018	K. Veeranjanyulu	9618640890	K. Veeranjanyulu
7.	21360049019	K. Eranna	9950032287	K. Eranna
8.	21360049021	M Madhu Krishna	8309520361	M. Madhu Krishna
9.	21360049023	M Shiv Shankar	8688196691	M. Shiv Shankar
10.	21360049024	M Sree Ramulu	7207547440	M. Sree Ramulu
11.	21360049025	N V Veeresh	9908716050	N.V. Veeresh
12.	21360049028	S Khaleel Basha	8688733068	Khaleel Basha
13.	21360049029	T Aruna	6300642260	T. Aruna
14.	21360049030	U Mahesh	6305667088	U. Mahesh
15.	21360049031	U Veerabhadri	9704882136	U. Veerabhadri
16.	21360049032	U Ganesh	6303043486	U. Ganesh
17.	21360049033	V Naga Kumar	9989758987	V. Naga Kumar

*K. Mahadevi Reddy*  
**PRINCIPAL**  
S.M.L. Govt. Degree College  
YEMMIGANUR Kurnool (Dist.)

*P. Devika Reddy*  
Signature of Course Coordinator  
Dept. of Mathematics  
Sri Mahayogi Lakshmana  
Govt. Degree College  
Yemmiganur - 518 360.



**Brief report:**

The Department of Mathematics of SML Govt. Degree college organised a certificate course in critical thinking and problem solving for II MPCS students during the academic year 2021-2022 during the period

In this connection, Dr.K Mahaboob Basha ,principal of the college presided over the inaugural function and expressed that it was a very useful course for everyone in daily life. He also appreciated the faculty of Mathematics department for organising the valuable certificate course. He advised the students to utilise it in a proper manner.

During the above period a few faculty members of the college took part in the course actively and expresses their views and suggestions for the betterment of the programme.

*Dr. Mahaboob Basha*  
**PRINCIPAL**  
**SML. Govt. Degree College**  
**YEMMIGANUR, Kurnool (Dt.)**

*J. Devika Rao*

# **SYLLABUS**

## **Unit 1: Introduction to Critical Thinking and Problem Solving**

### **1.1 Understanding Critical Thinking**

Definition and importance of critical thinking

Characteristics and skills of a critical thinker Critical thinking in various contexts (personal, academic, professional)

### **1.2 Problem Solving Process**

Overview of the problem-solving process

Identifying problems and setting objectives Analyzing problems and gathering information

Generating alternative solutions

Evaluating and selecting the best solution

. Implementing and evaluating the solution

### **1.3 Critical Thinking Tools and Techniques**

Logical reasoning and deductive/inductive thinking

Analyzing and evaluating arguments

Identifying fallacies and biases

Creative thinking techniques (brainstorming, mind mapping, etc.)

- Decision-making strategies

## **Unit 2: Applied Critical Thinking and Problem Solving**

### **2.1 Critical Thinking in Practice**

Applying critical thinking in real-life scenarios ·

Analyzing and evaluating information sources

Assessing the credibility and reliability of information

Recognizing and addressing biases and assumptions

## 2.2 Problem Analysis and Decision Making

Problem analysis techniques (SWOT analysis, root cause analysis, etc.)

Decision-making models and frameworks Ethical considerations in decision making

## 2.3 Effective Communication and Collaboration

Communicating ideas and arguments effectively

Active listening and asking probing questions

Collaborative problem solving and teamwork Managing conflicts and facilitating consensus

## TIME TABLE

Day	Morning Session
Monday	9 AM to 10 AM
Tuesday	9 AM to 10 AM
Wednesday	9 AM to 10 AM
Thursday	9 AM to 10 AM
Friday	9 AM to 10 AM
Saturday	9 AM to 10 AM

ATTENDANCE SHEET

S.N	STUDENT NAME	HT NO	27.6.22	28	29	4.7.22	5	6	7	8	11	12	13	14	15	16	18	19	20	21	22	23	25	26	27	28	29	1.8.22	2	3	4	5	
1	A RAJU	21360049001	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
2	A ANITHA	21360049002	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
3	B LAUTHA	21360049003	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
4	B LEE LAVATHI	21360049004	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
5	K VEERAKRISHNA	21360049016	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
6	K VEERANJANEYULU	21360049018	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
7	K ERANNA	21360049019	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
8	M MADHU KRISHNA	21360049021	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
9	M SHIVA SHANKAR	21360049023	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
10	M SREE RAMULU	21360049024	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
11	NV VEERESH	21360049025	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	S KHALEEL BHASHA	21360049028	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13	T ARUNA	21360049029	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14	U MAHESH	21360049030	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	U VEERABHADRI	21360049031	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16	U GANESH	21360049032	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17	V NAGA KUMAR	21360049033	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

*Devi Bai*  
 Incharge  
 Dept. of Mathematics  
 Sri Mahayogi Lakshammamma  
 Govt. Degree College  
 Yemmiganur - 518 360.



*Devi Bai*  
 PRINCIPAL  
 SRI MAHAYOGI LAKSHAMMA  
 GOVT. DEGREE COLLEGE  
 YEMMIGANUR - 518360.  
 Yemmiganur (Dist.) A.P.

## Model question paper (2021-22)

Certificate Course in Critical Thinking & Problem Solving

Time 02:00 Hrs

Maximum Marks: 50

### Section A: Multiple Choice Questions (10 marks)

Choose the correct answer and write the corresponding letter in the provided space.

1. Which of the following is NOT a step in the problem-solving process? ( )

- a) Identifying the problem
- b) Analyzing possible solutions
- c) Implementing the solution
- d) Ignoring the problem

2. What is the first step in critical thinking? ( )

- a) Evaluating evidence
- b) Generating ideas
- c) Asking questions
- d) Making decisions

3. Which of the following is a characteristic of a strong critical thinker? ( )

- a) Accepting information without questioning it
- b) Relying solely on emotions to make decisions
- c) Considering multiple perspectives
- d) Avoiding complex problems

4. When faced with a complex problem, what is an effective strategy? ( )

- a) Avoiding the problem and hoping it goes away
- b) Breaking the problem down into smaller parts
- c) Making quick decisions without much thought
- d) Blaming others for the problem

5. What is the purpose of brainstorming in problem-solving? ( )

- a) To criticize and dismiss ideas
- b) To generate a variety of possible solutions
- c) To follow a predetermined plan
- d) To choose the first solution that comes to mind

**Section B: Short Answer Questions (20 marks)**

Answer the following questions concisely in one or two sentences.

1. Define critical thinking.
2. Explain the difference between deductive and inductive reasoning.
3. What is the importance of data analysis in problem-solving?
4. What are the characteristics of a well-defined problem?
5. Describe the concept of "thinking outside the box."

**Section C: Case Study Analysis (20 marks)** Read the following case study and answer the questions based on the information provided.

**Case Study:** You are a project manager for a software development team. The team has encountered a critical bug in the software just days before the scheduled release. The bug could potentially cause significant issues for users. Your team has limited time to fix the bug and ensure a successful release. What steps would you take to address this problem?

1. Identify and explain the potential challenges in this situation.
2. Analyze possible solutions to fix the bug and prioritize them.
3. Outline the steps you would take to implement the chosen solution.
4. How would you evaluate the success of the implemented solution?

**AWARD LIST-2021-22**

S.no	Regd - No	Name of the student	Theory (Max.50)	Grade
1.	21360049001	A. RAJU	42	A
2.	21360049002	A. ANITHA	44	A
3.	21360049003	B. LALITHA	38	A
4.	21360049004	B. LEELAVATHI	35	B
5.	21360049029	T. ARUNA	47	A
6.	21360049016	K VEERAKRISHNA	35	B
7.	21360049018	K. VEERANJANEYUIU	45	A
8.	21360049019	K. ERANNA	43	A
9.	21360049021	M. MADHU KRISHNA	42	A
10.	21360049023	M. SIVA SANKAR	43	A
11.	21360049024	M. SREE RAMULU	44	A
12.	21360049025	NV. VEERESH	41	A
13.	21360049028	S. KHALEEL BHASHA	33	B
14.	21360049030	U. MAHESH	38	A
15.	21360049031	U. VEERABHADRI	32	B
16.	21360049032	U. GANESH	24	C
17.	21360049033	V. NAGA KUMAR	26	B

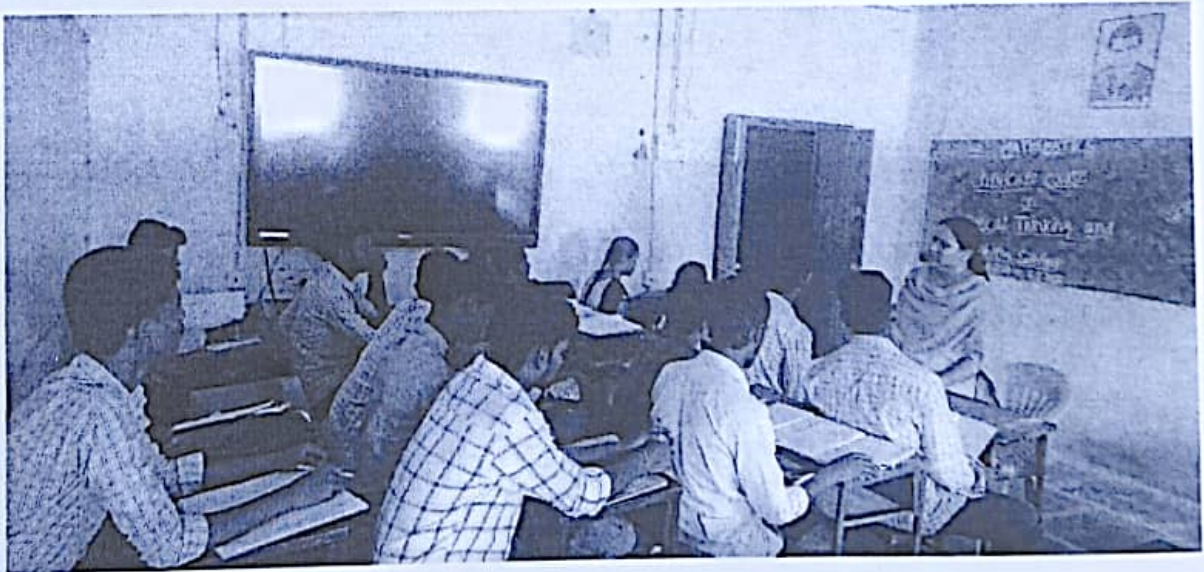
A Grade >75% ,B Grade >50%,C Grade <50%

*S. Sathya Devi*

**PRINCIPAL**  
**SML. Govt. Degree College**  
**YEMMIGANUR, Kurnool (D.T.)**

*B. Devis Rai*

27.06.2022 | MATHEMATICS  
Certificate course  
on  
Critical Thinking and  
Problem Solving  
27.6.2022 to 5.8.2022





## FEED BACK

- 1.Name of the student :A Raju
  2. Class & group : II MPCs
  - 3.Regd No : 21360049001
  4. Opinion : Excellent 2. Good 3. Satisfactory
  5. Signature of the student: *A. Raju*
- 

- 1.Name of the student : A Anitha
  2. Class & group : II MPCs
  - 3.Regd No : 21360049002
  4. Opinion : Excellent 2. Good 3. Satisfactory
  5. Signature of the student: *Anitha*
- 

- 1.Name of the student: B Lalitha
  2. Class & group : II MPCs
  - 3.Regd No : 21360049003
  4. Opinion : Excellent 2. Good 3. Satisfactory
  5. Signature of the student: *B. Lalitha*
- 

- 1.Name of the student: B Leelavathi
  2. Class & group : II MPCs
  - 3.Regd No : 21360049004
  4. Opinion : Excellent 2. Good 3. Satisfactory
  5. Signature of the student: *B. Leelavathi*
- 

- 1.Name of the student: K Veerakrishna
  2. Class & group : II MPCs
  - 3.Regd No : 21360049016
  4. Opinion : Excellent Good 3. Satisfactory
  5. Signature of the student: *K. Veerakrishna*
-

1. Name of the student: K Veeranjineyulu

2. Class & group : II MPCs

3. Regd No : 21360049018

4. Opinion  Excellent 2. Good 3. Satisfactory

5. Signature of the student: *K. Veeranjineyulu*

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1. Name of the student: K Eranna

2. Class & group : II MPCs

3. Regd No : 21360049019

4. Opinion  Excellent 2. Good 3. Satisfactory

5. Signature of the student: *K. Eranna*

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1. Name of the student: M Madhu Krishna

2. Class & group : II MPCs

3. Regd No : 21360049021

4. Opinion  Excellent 2. Good 3. Satisfactory

5. Signature of the student: *M. Madhu Krishna*

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1. Name of the student: M Siva Shankar

2. Class & group : II MPCs

3. Regd No : 21360049023

4. Opinion  Excellent 2. Good 3. Satisfactory

5. Signature of the student: *M. Siva Shankar*

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1. Name of the student: M Sree Ramulu

2. Class & group : II MPCs

3. Regd No : 21360049024

4. Opinion  Excellent  Good 3. Satisfactory

5. Signature of the student: *M. Sree Ramulu*

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1. Name of the student: NV Veeresh  
2. Class & group : II MPCs  
3. Regd No : 21360049025  
4. Opinion  Excellent 2. Good 3. Satisfactory  
5. Signature of the student: N. V. Veeresh

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1. Name of the student: S Khaleel Basha  
2. Class & group : II MPCs  
3. Regd No : 21360049028  
4. Opinion :  Excellent  Good 3. Satisfactory  
5. Signature of the student: S. Khaleel Basha

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1. Name of the student: T Aruna  
2. Class & group : II MPCs  
3. Regd No : 21360049029  
4. Opinion  Excellent 2. Good 3. Satisfactory  
5. Signature of the student: T. Aruna

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1. Name of the student: U Mahesh  
2. Class & group : II MPCs  
3. Regd No : 21360049030  
4. Opinion  Excellent 2. Good 3. Satisfactory  
5. Signature of the student: U. Mahesh

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1. Name of the student: U Veerabhadrri  
2. Class & group : II MPCs  
3. Regd No : 21360049031  
4. Opinion  Excellent 2. Good 3. Satisfactory  
5. Signature of the student: U. Veerabhadrri

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1. Name of the student: U Ganesh

2. Class & group : II MPCs

3. Regd No : 21360049032

4. Opinion :  1. Excellent    2. Good    3. Satisfactory

5. Signature of the student: U. Ganesh

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1. Name of the student: V Naga kumar

2. Class & group : II MPCs

3. Regd No : 21360049033

4. Opinion :  1. Excellent    2. Good    3. Satisfactory

5. Signature of the student: V. Naga kumar

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**SRI MAHAYOGI LAKSHMAMMA GOVERNMENT DEGREE COLLEGE**

**YEMMIGANUR, KURNOOL DIST,**

**AFFILIATED TO RAYALASEEMA UNIVERSITY, KURNOOL -518360 ,AP.**



**CERTIFICATE COURSE**



This is to certify that Mr/Miss \_\_\_\_\_

*V.Naga kumar*

has attended Certificate Course in "Critical

Thinking and Problem Solving" organized by Department of Mathematics, Sri Mahayogi Lakshamma

Govt. Degree College, Yemmiganur.

*P. Devika Devi*

HEAD OF THE DEPARTMENT

*X. Sankalochan Babbar*

PRINCIPAL

