

**Sri A.S.N.M GOVERNMENT COLLEGE (A),
PALAKOL,W.G.DT.**



DEPARTMENT OF MATHEMATICS

**CERTIFICATE COURSE IN
MATHEMATICS**

(2023-2024)

GRAPH THEORY

COURSE COORDINATOR

Sri.K.SIVA KRISHNA, Lecturer in Mathematics

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Minutes of the meeting

The Department of Mathematics staff held meeting on 01-11-2023 and passed resolution to organize certificate course that is on Graph Theory under the guidelines of Sri K.Siva Krishna, In-Charge of Mathematics for 30 working days.

The certificate course in Graph Theory was organized from 02-11-2023 to 11-01-2024 for the academic year 2023-2024 to the III B.Sc. (MPCs) students under curriculum enrichment programme.

Signature of the staff Members :

B.K.V. RAMA LAKSHMI, Contract lecturer in Mathematics

K.SIVA KRISHNA, Contract Lecturer in Mathematics

Signature of the Principal

Report on Certificate course Graph Theory

Introduction:

Department of Mathematics conducted a Certificate Course Graph Theory in Mathematics during the academic year 2023-2024 under curriculum enrichment Programme.

Graph Theory is the part of Mathematics devoted to the study of basic objects. Here discrete means consisting of distinct or unconnected elements. The kinds of problems solved using Graph theory include:

There are several important reasons for studying Graph theory. This course can develop mathematical maturity that is ability to understand and create mathematical arguments. Students will not get very far in their studies in the Mathematical sciences without these skills

Graph Theory is the gateway to more advanced courses in all parts of the Mathematical sciences. Graph Theory provides the Mathematical foundations for many computer science courses including *data structures, algorithms, database theory, computer security and operating systems*

Math courses based on the material studied in Graph theory include Paths, Applications of trees.

Course Objectives:

Graph Theory course has more than one purpose. Students should learn a particular set of Mathematical facts and how to apply them. More importantly this course should teach students how to think logically and mathematically.

- To introduce the concepts of Special types of trees.
- To introduce the concept of Spanning Trees.
- To perform the operations associated with Representing Graphs.

Learning Outcomes of Graph Theory

Be able to draw and interpret Graph Terminology and use operations to solve problems. Recognize when Trees is applicable to real life situations, Solve real life problems and communicate computer problems and solutions to other.

**List of students enrolled in Certificate course on
Basic Mathematics:III B.Sc.(MPCs)
(02-11-2022to 11-01-2024) 30 days from 4:00PM to 5:00 PM**

S.No	Regd No.	Name of the student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			02/ 11	03/ 11	04/ 11	09/ 11	10/ 11	16/ 11	17/ 11	18/ 11	23/ 11	24/ 11	25/ 11	30/ 11	01/ 12	02/ 12	07/ 12
1	2122001	A .Gayathri	p	p	p	p	p	A	A	P	A	P	P	P	A	P	P
2	2122002	A.Ganesh	P	A	P	A	A	P	P	A	P	P	A	A	P	P	P
3	2122003	B.Sowmya	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p
4	2122004	B.Pravallika	p	p	p	A	p	p	p	A	p	p	p	p	A	p	p
5	2122005	B.Jyothi Kiran	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
6	2122006	Ch.v.satyanarayana	p	p	A	p	p	p	A	p	p	p	p	A	p	A	p
7	2122007	D.Lathasri	p	A	p	A	p	p	A	p	p	p	A	p	p	p	p
8	2122009	G.Harika	p	A	p	p	A	p	p	A	p	p	p	p	A	p	p
9	2122010	G.Naveena	p	p	p	A	A	p	p	p	p	A	p	p	A	p	p
10	2122011	K.Dinesh Kumar	p	A	p	p	A	A	p	p	p	A	p	p	p	A	p
11	2122012	K.Bhuvaneswari	p	p	p	p	p	p	A	p	p	p	p	A	p	p	p
12	2122014	L.Sowmya	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
13	2122015	M.Hareesh	p	A	p	p	p	p	p	A	p	p	p	A	p	p	p
14	2122016	M.Murali Kalyan	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
15	2122017	M.D.Venkata ESWAR	p	A	p	A	p	p	p	p	p	p	A	p	p	p	p
16	2122019	N.Sri Dhana Lakshmi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
17	2122020	N.Durga	p	p	A	p	p	p	A	p	p	p	A	p	p	p	p
18	2122021	P.S.Jasmin	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
19	2122022	P.Bhanu sri	p	A	p	p	A	p	p	p	A	p	p	p	p	A	p
20	2122023	P.Jahnavi	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p
21	2122024	P.Sai Krishna	p	p	A	p	p	p	p	p	p	p	p	A	p	p	p
22	2122025	PSSP Sri Lavanya	p	A	p	p	p	p	p	A	p	p	p	p	A	p	p
23	2122026	P.N.V.D.Sai	p	p	p	p	p	p	A	p	p	p	p	p	p	p	p
24	2122027	R.Simhadri Appana	p	p	p	p	p	p	p	p	p	p	p	p	A	p	p
25	2122028	S.Naga Raju	p	p	A	p	p	p	A	p	p	p	p	A	p	A	p
26	2122029	T.Vara Prasad	p	A	p	A	p	p	A	p	p	p	A	p	p	p	p
27	2122030	U.Anitha Kumari	p	A	p	p	A	p	p	A	p	p	p	p	A	p	p
28	2122031	V.Harish Kumar	p	p	p	A	A	p	p	p	p	A	p	p	A	p	p
29	2122032	Y.Sonia	p	A	p	p	A	A	p	p	p	A	p	p	p	A	p

30	2122033	Y.Avinash	p	p	p	p	p	p	A	p	p	p	p	A	p	p	p
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S.No	Regd No.	Name of the student	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
			08/12	09/12	14/12	15/12	16/12	21/12	22/12	23/12	28/12	29/12	30/12	04/01	05/01	06/01	11/01
1	2122001	A .Gayathri	p	p	p	p	p	A	A	P	A	P	P	P	A	P	P
2	2122002	A.Ganesh	p	A	P	A	A	P	P	A	P	P	A	A	P	P	P
3	2122003	B.Sowmya	p	p	p	p	p	p	p	p	A	p	p	p	p	p	p
4	2122004	B.Pravallika	p	p	p	A	p	p	p	A	p	p	p	p	A	p	p
5	2122005	B.Jyothi Kiran	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
6	2122006	Ch.v.satyanarayana	p	p	A	p	p	p	A	p	p	p	p	A	p	A	p
7	2122007	D.Lathasri	p	A	p	A	p	p	A	p	p	p	A	p	p	p	p
8	2122009	G.Harika	p	A	p	p	A	p	p	A	p	p	p	p	A	p	p
9	2122010	G.Naveena	p	p	p	A	A	p	p	p	p	A	p	p	A	p	p
10	2122011	K.Dinesh Kumar	p	A	p	p	A	A	p	p	p	A	p	p	p	A	p
11	2122012	K.Bhuvaneswari	p	p	p	p	p	p	A	p	p	p	p	A	p	p	p
12	2122014	L.Sowmya	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
13	2122015	M.Harehsh	p	A	p	p	p	p	p	A	p	p	p	A	p	p	p
14	2122016	M.Murali Kalyan	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
15	2122017	M.D.Venkata ESWAR	p	A	p	A	p	p	p	p	p	p	A	p	p	p	p
16	2122019	N.Sri Dhana Lakshmi	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
17	2122020	N.Durga	p	p	A	p	p	p	A	p	p	p	A	p	p	p	p
18	2122021	P.S.Jasmin	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
19	2122022	P.Bhanu sri	p	A	p	p	A	p	p	p	A	p	p	p	p	A	p
20	2122023	P.Jahnavi	p	p	p	p	p	p	p	A	p	p	p	p	p	p	p
21	2122024	P.Sai Krishna	p	p	A	p	p	p	p	p	p	p	p	A	p	p	p
22	2122025	PSSP Sri Lavanya	p	A	p	p	p	p	p	A	p	p	p	p	A	p	p
23	2122026	P.N.V.D.Sai	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
24	2122027	R.Simhadri Appana	p	p	p	p	p	p	A	p	p	p	p	p	p	A	p
25	2122028	S.Naga Raju	p	p	A	p	p	p	A	p	p	p	p	A	p	A	p
26	2122029	T.Vara Prasad	p	A	p	A	p	p	A	p	p	p	A	p	p	p	p
27	2122030	U.Anitha Kumari	p	A	p	p	A	p	p	A	p	p	p	p	A	p	p
28	2122031	V.Harish Kumar	p	p	p	A	A	p	p	p	p	A	p	p	A	p	p
29	2122032	Y.Sonia	p	A	p	p	A	A	p	p	p	A	p	p	p	A	p
30	2122033	Y.Avinash	p	p	p	p	p	p	A	p	p	p	p	A	p	p	p

Course Syallabus

SYLLABUS :

UNIT-1: GRAPHS(15Hrs)

Graph Terminology and Special Types of Graphs, Representing Graphs and Graph Isomorphism, Connectivity, Euler and Hamilton Paths, Shortest –Path Problems, Planner Graphs, Graph Coloring.

UNIT-2: Trees(15 Hrs)

Introduction of Trees, Applications of Trees, Tree Traversal, Spanning Trees, Minimum Spanning Trees

Marks obtained in GRAPH THEORY Exam

Date: 20-01-2024

S.No	Regd. No	Name of the Student	Marks Obtained
1	2122001	A .Gayathri	42
2	2122002	A.Ganesh	44
3	2122003	B.Sowmya	42
4	2122004	B.Pravallika	38
5	2122005	B.Jyothi Kiran	40
6	2122006	Ch.v.satyanarayana	41
7	2122007	D.Lathasri	43
8	2122009	G.Harika	32
9	2122010	G.Naveena	40
10	2122011	K.Dinesh Kumar	40
11	2122012	K.Bhuvaneswari	42
12	2122014	L.Sowmya	40
13	2122015	M.Haresh	42
14	2122016	M.Murali Kalyan	41
15	2122017	M.D.Venkata ESWAR	38
16	2122019	N.Sri Dhana Lakshmi	45
17	2122020	N.Durga	41
18	2122021	P.S.Jasmin	42
19	2122022	P.Bhanu sri	40
20	2122023	P.Jahnavi	42
21	2122024	P.Sai Krishna	40
22	2122025	PSSP Sri Lavanya	32
23	2122026	P.N.V.D.Sai	42
24	2122027	R.Simhadri Appana	39
25	2122028	S.Naga Raju	35
26	2122029	T.Vara Prasad	32
27	2122030	U.Anitha Kumari	38
28	2122031	V.Harish Kumar	31

29	2122032	Y.Sonia	39
30	2122033	Y.Avinash	34

Other Details:

Duration of Course	:	30 Hours
Classes starting Date	:	02-11-2023
Classes ended Date	:	11-01-2024
Exam conducted on	:	20-01-2024
Classes Timings	:	4:00 PM – 05:00 PM
Resource Persons	:	1. Sri K. Siva Krishna 2. Smt. B.K.V Rama Lakshmi

Conclusion :

This certificate course develops the Mathematical basic concepts and technique which should serve as a preparation for more advanced quantitative courses.

SRI A.S.N.M. GOVERNMENT COLLEGE(A)
CERTIFICATE COURSE TIME TABLE, 2023-2024

S.NO.	DATE	CLASS	NAME OF THE LECTURER	TIMINGS
1	02-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
2	03-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
3	04-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
4	09-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
5	10-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
6	16-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
7	17-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
8	18-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
9	23-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
10	24-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
11	25-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
12	30-11-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
13	01-12-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
14	02-12-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
15	07-12-2023	III MPCS	B.K.V.Rama Lakshmi	4:00 – 5:00 PM
16	08-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
17	09-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
18	14-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
19	15-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
20	16-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
21	21-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
22	22-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
23	23-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
24	28-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
25	29-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
26	30-12-2023	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
27	04-01-2024	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
28	05-01-2024	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
29	06-01-2024	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM
30	11-01-2024	III MPCS	K.SIVA KRISHNA	4:00 – 5:00 PM

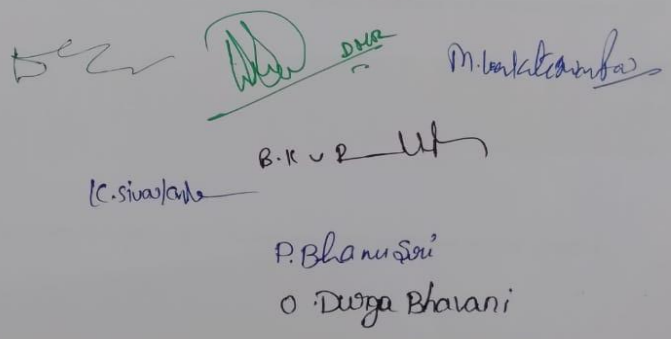
BOS RESOLUTION IN CERTIFICATE COURSE- GRAPH THEORY

SRI A.S.N.M. GOVT COLLEGE (A), PALAKOL
SYLLABUS FOR CERTIFICATE COURSE
2023-2024
TOPIC: GRAPH THEORY
30 HOURS

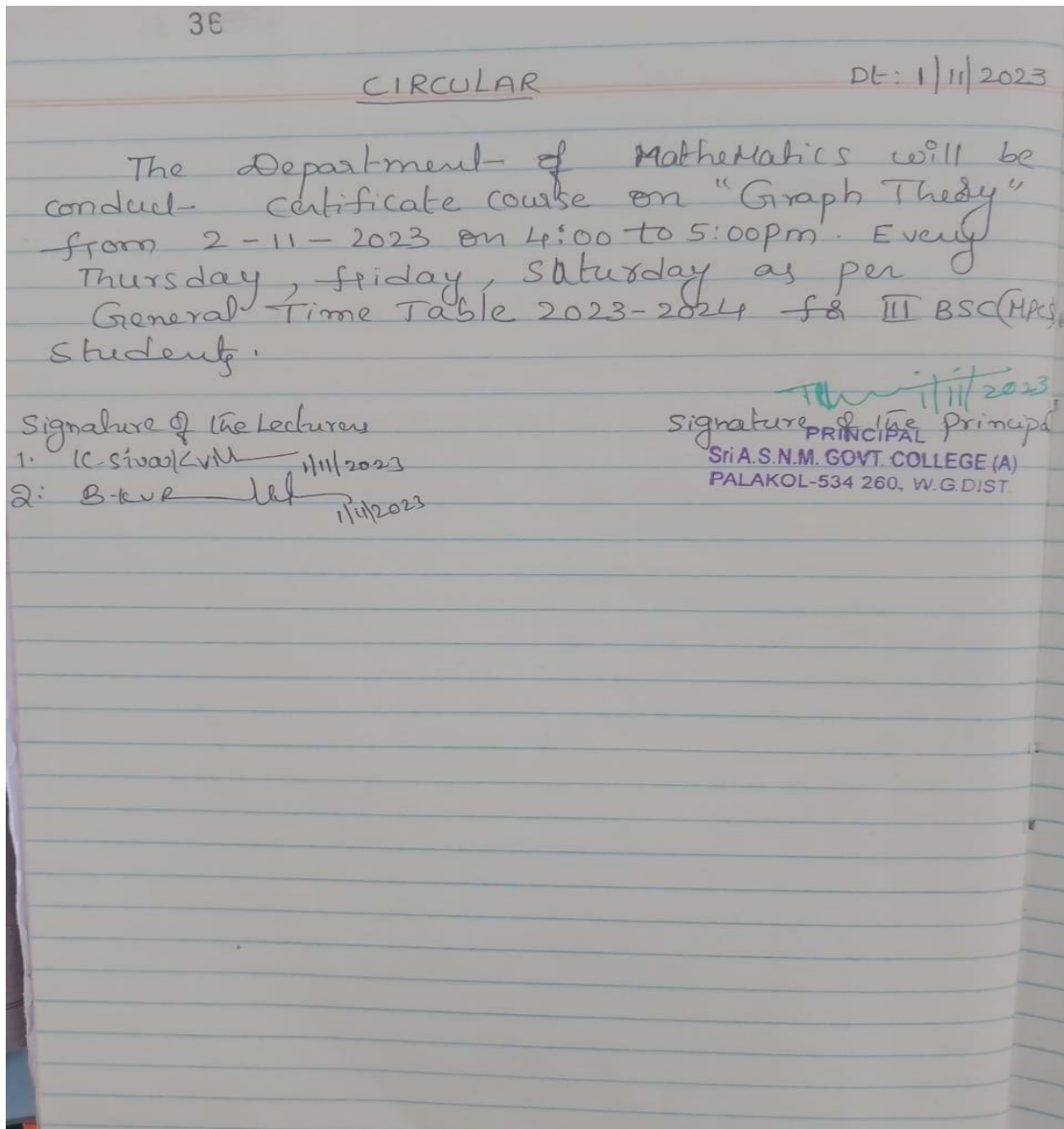
UNIT-1: Graphs (15 Hours)
Graph Terminology and Special Types of Graphs, Representing Graphs and
Graph Isomorphism, Connectivity, Euler and Hamilton Paths, Shortest-Path Problems
Planner Graphs, Graph Coloring

UNIT-2: Trees (15 Hours)
Introduction to Trees, Applications of Trees, Tree Traversal, Spanning Trees,
Minimum Spanning Trees

MODEL PAPER		MAX MARKS- 50MARKS	
UNIT-1	- 30 Multiple Choice Questions	-	30 X1 =30 M
UNIT-2	- 20 Multiple Choice Questions	-	20X1 = 20 M

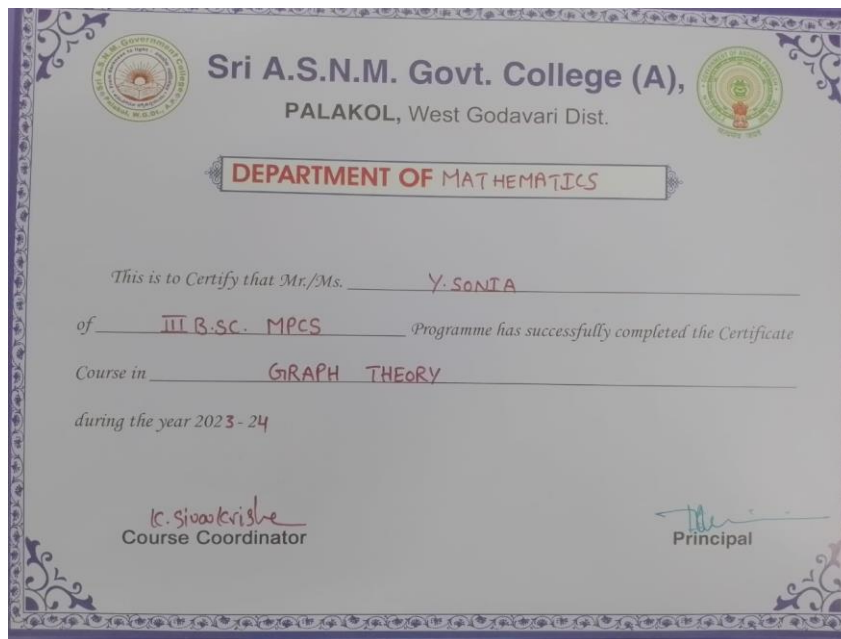
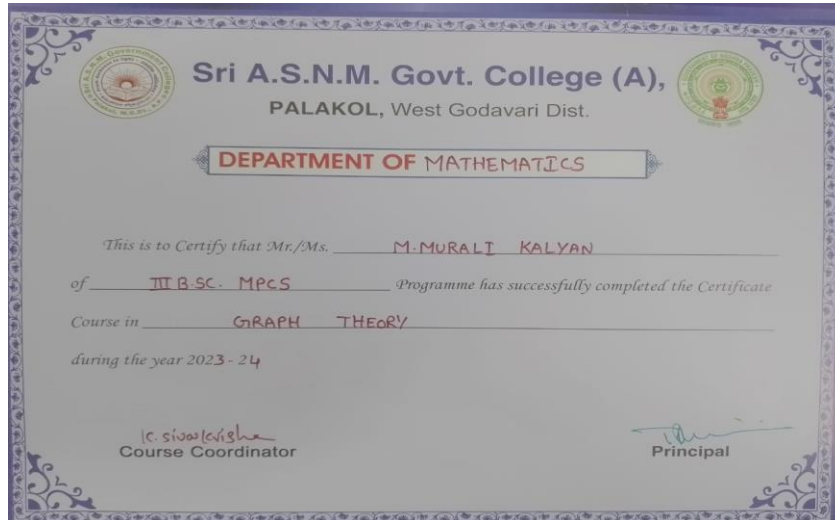

B.K.V.P. Ut
P. Bhavani Sai
O. Durga Bhavani

CIRCULAR





MODEL CERTIFICATES



PRESENTATION OF CERTIFICATES

