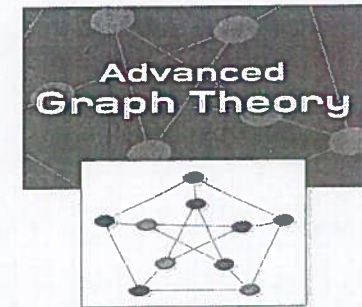# RISE KRISHNA SAI GANDHI GROUP OF INSTUTIONS:ONGOLE

Certificate program

"ADVANCED GRAPH THEORY"

on

11th **NOVEMBER** 2019 TO 15th **NOVEMBER** 2019

Mr. M. Siva prasanth,

Working as Freelancer Trainer at State Head for Corporate
Communication

ORGANIZED BY

PRINCIPAL
RISE KRISHNA SAI GANDHI
GROUP OF INSTITUTIONS
VALLUR, ONGOLE.

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Department of Computer Science and Engineering

Date: 8-11-2019,
Valluru,

To

Mr. M. Siva prasanth,

Freelancer Trainer,

9677879862.

Dear Sir,

Subject: A letter of invitation to conduct a five day certificate program on "ADVANCED GRAPH THEORY"- Reg..

---o---

Greetings from RISE Krishna Sai Gandhi Group of Institutions, Ongole

The RISE Institutions started functioning from the academic year 2009-10 and offering undergraduate courses in several engineering branches namely CE, CSE, ECE,.
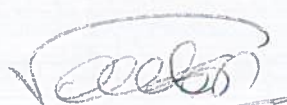
As per the discussion over phone, I hereby take this opportunity to invite you to take Certificate program classes on "ADVANCED GRAPH THEORY" from 11-11-2019 to 15-11-2019.

You are requested to interact and provide guidance to our II CSE B.Tech Students, who are looking forward to their bright career ahead. I will feel honored by your gracious presence at our organization. I believe that your lecture will help our students and faculty members to explore knowledge.

Thanking you in anticipation.

Yours sincerely,

PRINCIPAL
RISE KRISHNA SAI GANDHI
GROUP OF INSTITUTIONS
VALLURU- ONGOLE

Principal
PRINCIPAL
RISE KRISHNA SAI GANDHI
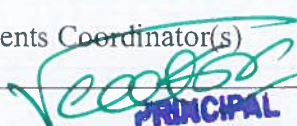GROUP OF INSTITUTIONS
VALLURU:: ONGOLE

Department of Computer Science and Engineering
PROPOSAL FORM
SUB: certificate program on "**ADVANCED GRAPH THEORY**" –Programme

To the Secretary/Correspondent through Principal for Kind Approval

1	Name of the Institution	**RISE Krishna Sai Gandhi Group of Institutions**
2	Name of the Department	Computer Science and Engineering
3	Title of the Programme	5 Day certificate program
4	Topic of the Programme	Certificate program "**ADVANCED GRAPH THEORY**"
5	Objective of the Programme	To bring the exposure in the recent advancements in the subject
6	Details of Resource Person(s) & CV Attached.	Mr. M. Siva prasanth, Freelancer Trainer, 9677879862.
7	Proposed Date(S)/Academic Year	11-11-2019 TO 15-11-2019
8	Duration of the Programme	5 Days
9	Venue	Seminar Hall
10	Target	II- CSE-1 & II-CSE-2
11	Number of Participants	109 Students
12	Registration Fee	NIL
13	Name of Programme Coordinator(s)	Mr. CH.HARI KRISHNA
14	Name of the Students Coordinator(s)	1. GAVIRNI KEERTHI CHINMYEE(188B1A0509) 2. MUDDANA LAVANYA(188B1A0522)

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VALLURU:: ONGOLE

			3. PAKALA BALA CHANDANA(188B1A0578) 4. YARRA GEETHA (188B1A0589)
15	Source of Fund Identified		Management
16	Management Contribution Required		YES /NO
17	Name of Budgetary Members		1. Mr. P.ISAAC PAUL (HOD) 2. Mr. CH.HARI KRISHNA(Coordinator)

SUBMITTED BY

HOD
HEAD OF THE DEPARTMENT
Department of CSE
RISE Krishna Sai Gandhi Group of
titutions,VALLUR,A.P.-523 272

PRINCIPAL
RISE KRISHNA SAI GANDHI
GROUP OF INSTITUTIONS
VALLURU:: ONGOLE.

A FIVE DAY CERTIFICATE PROGRAMME ON "ADVANCED GRAPH THEORY"

$11^{th} - 15^{th}$ NOV, 2019.

Coordinator

Mr.CH. HARI KRISHNA
ASSOC..Prof.

Organized by

Department of Computer Science & Engineering

RISE KRISHNA SAI GANDHI GROUP OF INSTITUTIONS

(Approved By AICTE-NEW DELHI, Affiliated To JNTUK KAKINADA)
NH-16, Valluru, Ongole,
Prakasam District, A.P-523272
Phone : +91 99662 72111
mail id : rise_gandhi@yahoo.com

ORGANIZING COMMITTEE

Chief Patrons

Sri SIDDA. VENKATESWARA RAO
Chairman

Sri I.C. RANGAMANNAR
Hon'ble Chairman

Sri SIDDA. HANUMANTHA RAO
Secretary

Sri SIDDA. BHARATH
Treasurer

Patron

Prof. Dr. K.V.SUBRAHMANYAM
M. Tech, Ph. D. ,
Principal

Coordinator

Mr.CH.HARI KRISHNA
Assoc.prof.

STUDENT REGISTRATION FORM

Name : ....

Gender : ....

Department : ....

Institution : ....

Address for Communication.

....

....

....

PIN :................................

EMAIL :................................

MOBILE NO. : ....

About RISE:-

RISE KRISHNA SAI Gandhi Group of Institutions is located in the outer suburb of the calm town, Ongole in Prakasam district in Andhra Pradesh. RISE KRISHNA SAI GANDHI Group of Institutions offers unparalleled Engineering, Management and Computer Education.

The most competent and dedicated technical and human resources in the campus sharpen students and their skills. They, thereby, shall be sure to make the greatest possible strides both in their career and life!

The Institution was established on 5th October 2009 by RISE which stands for Rural Institute of Social and Economic Empowerment.

The institution is approved by AICTE, New Delhi and Govt. of Andhra Pradesh and is affiliated to Jawaharlal Nehru Technological University, Kakinada (JNTUK).

This world class institute with global standards offers courses at the Undergraduate levelin five areas (CE, ME, EEE, ECE, CSE) ofengineering, at the Post Graduate level in two areas(MBA & MCA)

About Department:-

The department of Computer Science and Engineering was established in 2009 with an intake of 60 students in the UG programmer.

The intake was enhanced to 120 in 2010 with highly qualified and experienced faculty and has good infrastructural facilities and is equipped with full-fledged laboratories. The department also has audiovisual facilities with sufficient LCD and OHP's for effective teaching.

The staff members are deputed to participate in workshops, conferences and refresher courses to keep in pace with recent developments in the field of Computer Science & Engineering.

Objectives of the Programme:-

Advanced Graph Theory focuses on problem solving using the most important nations of Graph theory with an in-depth study of concepts on the applications in the field of the computer science.

This course provides an in-depth understanding of graphs and fundamental principles and models underlying the theory , algorithms , and proof techniques in the fiels of the Graph Theory.

Course Contents:-

Graph Theory: Introduction Paths, Cycles, and Trails Eulerian Circuits, Vertex Degrees and Counting

The Chinese Postman Problem and Graphic Sequences Trees and Distance Spanning Trees and Enumeration Matchings and covers Independent Sets, Covers and Maximum Bipartite Matching Weighted Bipartite Matching Stable Matchings and Faster Bipartite Matching Factors Ss Perfect Matching in General Graphs Matching in General Graphs: Edmonds Blossom Algorithm Connectivity and Paths: Cuts and Connectivity k-Connected Graphs Network Flow Problems Vertex Coloring and Upper Bounds Brooks Theorem and Color-Critical Graphs Counting Proper Colorings

Planar Graphs Characterization of Planar Graphs Line Graphs and Edge-coloring Hamiltonian Graph, Traveling Salesman Problem and NP-Completeness

Connected Dominating Set and Distributed Algorithm

- Matching
- Connectivity and edge
- Independence and Coverning
- Labelings
- Perfect Graphs

Graph Theory challenges Algorithms:-

- Synchronous Shopping
- Subset component
- Snakes and ladders
- Dijkstra's Algorithm
- Kruskal's MST
- Breadth First Search(Shortest path)

Resource Person:-

Mr. M. Siva Prasanth., Working as Freelancer Trainer at State Head for Corporate Communication.
Ph.no: 9677879862.

Guidelines:-

No participant fee will be collected.
Session time will be from 9:00AM to 5:00PM.

Department of Computer Science and Engineering

Date: 9-11-2019,
Valluru,

CIRCULAR

This is to inform II-B.Tech students and faculty that there will be a 5-Day Certificate program on "ADVANCED GRAPH THEORY" from 11-11-2019 to 15-11-2019 by M. Siva Prasanth, Working as Freelancer Trainer at State Head for Corporate communication.

Professor and HOD
HEAD OF THE DEPARTMENT
Department of CSE
ISE Krishna Sai Gandhi Group of
titutions, VALLUR, A.P.-523 272

Copy to:

Principal

Staff Circular

Students of CSE II year

CSE Department Notice Boards

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VALLURU:: ONGOLE.

RISE KRISHNA SAI GANDHI GROUP OF INSTITUTIONS

(Approved by AICTE-NEW DELHI, Affiliated to JNTUK KAKINADA)

NH-16, Valluru -523272, Ongole, Prakasam District, A.P, India.

Department of Computer Science & Engineering

Schedule for "ADVANCED GRAPH THEORY"

S. No	Date	Time	Topic Covered
1	11-11-2019	9.00am to 10.00am	Opening ceremony
		10.00am to 12.40pm	Graph Theory: Introduction, Paths, Cycles, and Trails
		Lunch	
		1.20pm to 5.00pm	Eulerian Circuits, Vertex Degrees and Counting
2	12-11-2019	9.00am to 12.40pm	The Chinese Postman Problem and Graphic Sequences Trees and Distance Spanning Trees and Enumeration
		Lunch	
		1.20pm to 5.00pm	Matchings and covers Independent Sets, Covers and Maximum Bipartite Matching
3	13-11-2019	9.00am to 12.40pm	Weighted Bipartite Matching Stable Matchings and Faster Bipartite Matching Factors & Perfect Matching in General Graphs
		Lunch	
		1.20pm to 5.00pm	Matching in General Graphs: Edmonds Blossom Algorithm Connectivity and Paths: Cuts and Connectivity

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4	14-11-2019	9.00am to 12.40pm	k-Connected Graphs Network Flow Problems Vertex Coloring and Upper Bounds
		Lunch	
		1.20pm to 5.00pm	Brooks Theorem and Color-Critical Graphs Counting Proper Colorings
5	15-11-2019	9.00am to 12.40pm	Planar Graphs Characterization of Planar Graphs
		Lunch	
		1.20pm to 4.00pm	Line Graphs and Edge-coloring Hamiltonian Graph, Traveling Salesman Problem and NP-Completeness Connected Dominating Set and Distributed Algorithm
		4.00pm to 5.00pm	Closing Ceremony

Coordinator

HOD
HEAD OF THE DEPARTMENT
Department of CSE
RISE Krishna Sai Gandhi Group of
stitutions,VALLUR,A.P.-523 272

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RISE KRISHNA SAI GANDHI
GROUP OF INSTITUTIONS

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

STUDENT FEED BACK FORM

NAME OF THE STUDENT : K. Naga Vyshnavi   DATE: 15/11/2019

ROLL NO : 188B1A0512   A.Y: 2019-20

PROGRAMME NAME : Advanced Graph Theory

S.NO	FEED BACK POINTS	1	2	3	4	5
1	Is the Programme useful or not?				✓	
2	Is the Programme well planned or not?					✓
3	Programme makes objectives clear?				✓	
4	Programme speaker speaks clearly and audibly?					✓
5	Speaker explains with examples clearly?					✓
6	Is your Doubts clarified or not?				✓	

5-EXCELLENT   4-GOOD   3-AVERAGE   2-POOR   1-NO COMMENT

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

STUDENT FEED BACK FORM

NAME OF THE STUDENT : Sd. Ruhi Faordibha   DATE: 15/11/2019

ROLL NO : 186B1A0536   A.Y: 2019 - 2020

PROGRAMME NAME : Advanced Goraph Theory

S.NO	FEED BACK POINTS	1	2	3	4	5
1	Is the Programme useful or not?					✓
2	Is the Programme well planned or not?					✓
3	Programme makes objectives clear?					✓
4	Programme speaker speaks clearly and audibly?					✓
5	Speaker explains with examples clearly?					✓
6	Is your Doubts clarified or not?					✓

5-EXCELLENT   4-GOOD   3-AVERAGE   2-POOR   1-NO COMMENT

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

STUDENT FEED BACK FORM

NAME OF THE STUDENT : G. Kiran Kumar.   DATE: 15-11-2019.

ROLL NO : 188B1A0597 .   A.Y: 2019-2020.

PROGRAMME NAME : Advanced graph theory.

S.NO	FEED BACK POINTS	1	2	3	4	5
1	Is the Programme useful or not?				✓	
2	Is the Programme well planned or not?				✓	
3	Programme makes objectives clear?					✓
4	Programme speaker speaks clearly and audibly?					✓
5	Speaker explains with examples clearly?				✓	
6	Is your Doubts clarified or not?					✓

5-EXCELLENT   4-GOOD   3-AVERAGE   2-POOR   1-NO COMMENT

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

STUDENT FEED BACK FORM

NAME OF THE STUDENT : G. Krishna Deepika   DATE: 15/11/2019

ROLL NO : 188B1A0566   A.Y: 2019-20

PROGRAMME NAME : Advanced graph theory

S.NO	FEED BACK POINTS	1	2	3	4	5
1	Is the Programme useful or not?					✓
2	Is the Programme well planned or not?				✓	
3	Programme makes objectives clear?					✓
4	Programme speaker speaks clearly and audibly?				✓	
5	Speaker explains with examples clearly?					✓
6	Is your Doubts clarified or not?					✓

5-EXCELLENT   4-GOOD   3-AVERAGE   2-POOR   1-NO COMMENT

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(APPROVED BY AICTE-NEW DELHI, AFFILIATED TO JNTUK KAKINADA)

NH-16, Valluru-523272, Ongole, Prakasam (Dist), Andhra Pradesh, India

Department of Computer Science & Engineering

Certificate program Feedback Analysis

Topic   : Certification program on" **ADVANCED GRAPH THEORY"**

Resource Person   : Mr.M.Siva prasanth,

Working as Freelancer Trainer at State Head for Corporate communication

Dates   : 11-11-2019 To 15-11-2019

Venue   : Seminar Hall

Targeted Students : II Year students

S.No	No. of students Participated	No. of students given feedback	Feedback %
1	109	109	100%

Co-ordinator

Head of the Department

HEAD OF THE DEPARTMENT
Department of CSE
RISE Krishna Sai Gandhi Group of
stitutions, VALLUR, A.P.-523 272

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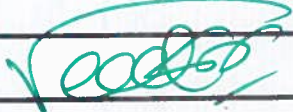
DEPARTMENT OF COMPUTER SCIENCE
FEEDBACK ANALYSIS
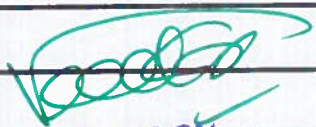
A.Y: 2019-2020   Year : II B.Tech CSE   Date: 15-11-2019

Certificate Program on "ADVANCED GRAPH THEORY"

S.No	Roll Number	Name	1	2	3	4	5	6
1	188B1A0501	ASODI RAMYASREE	4	4	5	4	4	5
2	188B1A0502	ATHMAKURI RAMYA	5	4	4	5	5	4
3	188B1A0503	BEZAWADA JESWITHA	4	4	5	4	4	5
4	188B1A0504	BOMMINENI RENUKA	4	5	5	4	5	4
5	188B1A0505	BYRAPANENI YASHASREE	4	4	4	4	5	5
6	188B1A0506	CHENNUBOINA LAHARI	5	4	5	4	5	5
7	188B1A0507	CHUNDURI JAYA LAKSHMI	5	4	5	4	5	4
8	188B1A0508	GAJJALA MALLESWARI	4	5	4	5	5	5
9	188B1A0509	GAVIRNI KEERTHI CHINMYEE	4	4	5	4	4	4
10	188B1A0510	GUMMADI MADHURI	5	5	5	4	4	5
11	188B1A0511	JUGUNTA KUSUMALATHA	4	4	5	4	5	5
12	188B1A0512	K NAGA VYSHNAVI	4	5	4	5	5	4
13	188B1A0513	KAKUMANI AMRUTHA	4	4	5	5	5	5
14	188B1A0514	KANDEPI SWARNALATHA	5	5	5	5	5	5
15	188B1A0515	KANTU ANJALI	4	5	4	5	5	5
16	188B1A0516	KARETI MOUNIKA	4	4	5	4	5	4

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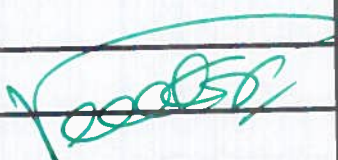
17	188B1A0517	KATTINENI SUSMITHA	4	4	5	4	4	5
18	188B1A0518	KOKKILAGADDA SIREESHA	5	4	4	5	4	5
19	188B1A0519	KOTAPATI RAJESWARI	4	5	5	4	5	4
20	188B1A0520	KOTIKELAPUDI MOWKTHIKA	4	4	5	4	5	5
21	188B1A0521	KUNAM VIDHYALATHA	4	5	5	4	5	5
22	188B1A0522	MUDDANA LAVANYA	4	4	5	5	5	5
23	188B1A0523	MULAGANI SARANYA REDDY	5	5	4	4	5	4
24	188B1A0524	MUSUNURI DHARANI	4	5	5	4	5	5
25	188B1A0525	NALLAMOTHU JAYASREE	5	4	5	5	4	4
26	188B1A0526	NANNE BOINA SUCHARITHA	5	5	4	5	5	5
27	188B1A0527	NERELLA SATVIKA	5	4	5	4	4	4
28	188B1A0528	PALADUGU DEEPIKA	5	5	5	4	4	5
29	188B1A0529	PAMIDI SRAVANI	5	4	5	4	4	5
30	188B1A0530	PANDI DEEPTHI RAYALU	4	5	5	4	4	4
31	188B1A0531	PUTTAMRAJU SRAVYA	5	4	5	4	5	5
32	188B1A0532	SAMANTHAPUDI KEERTHANA	5	4	4	5	5	5
33	188B1A0533	SUDANAGUNTA BHAVANA PRIYA	5	4	5	5	5	5
34	188B1A0534	SURABHI SRAVANI	5	5	5	5	5	4
35	188B1A0535	SURAM SRIVIDHYA	5	4	4	4	4	5
36	188B1A0536	SYED RUHI FARDIBHA	5	5	5	5	5	5
37	188B1A0537	THANGELLA GEETHIKA	5	4	5	4	4	5

				5	4	5	5	5	4
38	188B1A0538	THATHA SAI HARI PRIYA		5	5	4	4	4	5
39	188B1A0539	THOTTEMPUDI NAVYA		4	4	5	4	5	5
40	188B1A0540	THOTTEMPUDI VENKATA NANDHINI		5	4	5	4	5	4
41	188B1A0541	VALETI PRASANNA		5	4	5	4	5	5
42	188B1A0542	VARADA SWETHA		5	5	4	4	4	5
43	188B1A0543	YANAMALA SIRISHA		5	5	4	5	4	5
44	188B1A0544	YARRAMOTHU KANAKA DURGA		5	4	4	4	5	4
45	188B1A0545	ANIL BABU SAKINENI		4	5	4	5	4	5
46	188B1A0546	BIJJAM HARSHA REDDY		5	4	4	4	5	5
47	188B1A0547	DEVIREDDY JESHWANTH REDDY		5	4	4	4	5	5
48	188B1A0548	GONUGUNTA VENKATA SURYA SAI HARSHA		5	5	5	4	5	5
49	188B1A0549	KOMMALAPATI AKHIL CHOWDARY		5	4	5	4	4	5
50	188B1A0550	KYPU RAVINDRA REDDY		5	4	5	4	5	4
51	188B1A0551	MALISETTY DINESH		4	5	5	5	4	5
52	188B1A0552	NANDURI RAVINDRA		5	4	5	4	5	5
53	188B1A0553	PADARTHI AVINASH		5	5	5	5	4	5
54	188B1A0554	PODDUTURI GREESHMANTH		5	5	4	5	5	5
55	188B1A0555	POTTURI SARATH KUMAR		5	5	5	4	5	4
56	188B1A0556	RACHANENI SOWMITH NAIDU		5	4	5	5	5	4
57	188B1A0557	SEELAM MULINTI GURIVI REDDY		5	5	4	5	5
58	188B1A0558	SUDANAGUNTA VENKATA REVANTH			5	5	4	5	5

No.	ID	Name						
59	188B1A0559	THAMALAPAKULA VAMSI BABU	5	4	4	5	5	5
60	188B1A0560	VASANTHA VIJAY BHARGAV	5	5	5	5	5	5
61	188B1A0561	AKKALA BHAVYA BHARATHI	4	4	5	5	4	4
62	188B1A0562	BHAVANASI HARITHA	5	4	5	4	5	5
63	188B1A0563	CHALLA VINEETHA	5	4	5	5	5	5
64	188B1A0564	CHELLI PRAVALIKA	5	4	5	5	5	5
65	188B1A0565	GATTUPALLI JHANSI LAKSHMI	5	4	5	4	5	5
66	188B1A0566	GURRAM KRISHNA DEEPIKA	5	4	5	4	5	5
67	188B1A0567	ILINDRA KRISHNA VARSHINI	5	4	5	4	5	5
68	188B1A0568	JAJJARA SOWKHYA	5	4	4	4	5	5
69	188B1A0569	JALAKAM USHA RANI	5	5	5	4	5	5
70	188B1A0570	KANNEBOINA GAYATHRI	5	5	5	5	5	5
71	188B1A0571	KODURI SRI SAI ALEKHYA	5	5	5	4	5	5
72	188B1A0572	KORUMALLI AHALYA	5	4	4	5	5	5
73	188B1A0573	MADISETTY BHANU KEERTHANA	5	4	5	5	5	5
74	188B1A0574	MALLAVARAPU PRUDHVI	4	5	5	5	5	5
75	188B1A0575	MIRIYALA SUMA PRIYA	5	5	5	5	5	5
76	188B1A0576	NERELLA VENKATA VASAVI	5	4	5	4	5	5
77	188B1A0577	OLLA GAYATHRI	5	5	5	5	5	5
78	188B1A0578	PAKALA BALA CHANDANA	5	4	5	4	5	5

PRINCIPAL
RISE KRISHNA SAI GANDHI
GROUP OF INSTITUTIONS
VALLURU:: ONGOLE

No.	Reg. No.	Name						
79	188B1A0579	PATAN ANJU	5	5	5	4	5	5
80	188B1A0580	PONNURU CHERISHMA LAKSHMI DURGA	5	4	4	4	5	5
81	188B1A0581	POTHURU VENKATA SAI AMRUTHA	5	4	5	5	5	4
82	188B1A0582	SAIBA VENKATA SARANYA	5	5	5	4	4	5
83	188B1A0583	SEELAM BORANNAGARI GURU SIVANI	5	5	5	5	5	5
84	188B1A0584	SOMISETTY VIDYA	4	5	5	5	4	5
85	188B1A0585	SWARNA BHARGAVI	4	5	5	4	5	4
86	188B1A0586	UNNAM PRAVALLIKA	5	4	4	5	5	5
87	188B1A0587	VELAMPALLI LAKSHMI VENKATA SAROJA	4	5	5	5	5	5
88	188B1A0588	VELAMPALLI PAVITHRA	5	5	5	4	5	5
89	188B1A0589	YARRA GEETHA	4	5	5	5	5	5
90	188B1A0590	YENDLURI HARI PRIYA	5	5	5	5	4	4
91	188B1A0591	AYYAPU CHARAN KUMAR	4	5	4	5	4	5
92	188B1A0592	BANDARU HEMANTH KUMAR	5	5	5	5	5	5
93	188B1A0593	BEEMANADHAM MADANMOHAN REDDY	4	4	5	4	4	4
94	188B1A0594	BODAPATI SARATH CHANDRA	5	4	5	5	5	4
95	188B1A0595	CHERUVU RAVITEJA	5	5	5	5	4	5
96	188B1A0596	DAMA BOSE THIRUPATA ROY CHOWDARY	5	5	5	5	5	5
97	188B1A0597	GRANDI KIRAN KUMAR	4	4	5	5	4	5

No.	ID	Name						
98	188B1A0599	MADALA NISHIT	4	5	5	4	5	4
99	188B1A05A0	MURARISETTY VENKATA RAKESH	5	5	4	5	5	5
100	188B1A05A1	NELLURI VENKATA THARUN KUMAR	4	5	5	5	5	5
101	188B1A05A2	PULICHARLA HEMANTH KUMAR REDDY	5	5	5	5	5	5
102	188B1A05A3	R VENKATA AJAY KUMAR	4	5	5	5	5	5
103	188B1A05A4	RACHAPUDI JAGADEESH	5	4	5	5	4	4
104	188B1A05A5	RAVIPATI VENKATA MAHESH	4	5	4	5	4	5
105	188B1A05A6	SANKA PAVAN KALYAN	5	5	5	5	5	5
106	188B1A05A7	URIBINDI RAVI TEJA	4	5	5	5	4	4
107	188B1A05A8	VADICHERLA PRASANTH	5	4	5	5	5	4
108	188B1A05B0	VENKATA JASWANTH GONUGUNTA	5	5	4	5	4	4
109	188B1A05B1	MARAKA MOUNIKA	4	5	4	5	4	4
			4.67	4.50	4.74	4.51	4.70	4.72
			93.39	90.09	94.86	90.28	93.94	94.50
			92.84					

Faculty coordinator

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HEAD OF THE DEPARTMENT
Department of CSE
RISE Krishna Sai Gandhi Group of
titutions, VALLUR, A.P.-523 272

Department of Computer Science & Engineering

Certificate Program on "ADVANCED GRAPH THEORY"
Model Question Paper

Student Name: RollNo:

Branch/Sem: II CSE/I SEM   AY : 2019-2020

1.A graph is a tree if and only if it   [ ]

(A) is completely connected
(B) is planar
(C) contains a act
(D) is minimally connected

2.Tree   [ ]
(A) is a connected graph
(B) with n nodes contains n – 1 edges
(C) is a bipartite graph
(D) all of these

3.The number of paths between any pair of nodes in a tree on n
nodes is   [ ]
(A) o
(B) 1
(C) (n – 1)
(D) n

4.A graph G with n nodes is bipartite if it contains   [ ]
(A) n^2 edges
(B) n edges
(C) a cycle of odd length
(D) no cycle of odd length

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5.A tree with n nodes has   [   ]
(A) n/2 edges
(B) n edges
(C) n – 1 edges
(D) n + 1 edges

6.Which of the following algorithms solves the all pair shortest path
problem?   [   ]
(A) Floyd's algorithm
(B) Dijkstra's algorithm
(C) Warshall's algorithm
(D) Prim's algorithm

7.What transversal techniques list the nodes of a binary search tree
in ascending order?   [   ]
(A) Pre-order
(B) Post order
(C) In-order
(D) None of these

8.A complete binary tree with the property that the values of each
node is at least as large as the values at its children is called   [   ]
(A) AVL tree
(B) Binary search tree
(C) Heap
(D) Completely balanced tree

9.A circuit in a connected graph which includes every vertex of the
graph is called   [   ]
(A) Hamilton
(B) Cheque
(C) Universal
(D) Euler

10. Which data structure is needed to convert infix notation to post fix notation?   [   ]
(A) Queue
(B) Linear list
(C) Stack
(D) Tree

11. A graph in which all nodes are of equal degree is called   [   ]
(A) Regular graph
(B) Multigraph
(C) Non regular graph
(D) Complete graph

12. A simple graph in which there exists an edge between every pair of vertices is called   [   ]
(A) Eular graph
(B) Complete graph
(C) Planner graph
(D) Incomplete graph

13. Which of the following sorting method is stable?   [   ]
(A) Straight insertion sort
(B) Heap sort
(C) Shell sort
(D) Binary insertion sort
14. Preorder is nothing but   [   ]
(A) Linear order
(B) Topological order
(C) Breadth first order
(D) Depth first order

15. In which tree, for every node the height of its left sub tree and right sub tree differ at least by one?   [   ]
(A) Threaded binary tree
(B) Binary search tree
(C) Complete tree
(D) AVL tree

16. The terminal vertices of a path are of degree   [   ]
(A) Zero
(B) One
(C) Two
(D) More than four

17. A graph with n vertices and n - 1 edges that is not a tree, is
(A) A circuit   [   ]
(B) Euler
(C) Connected
(D) Disconnected

18. What is the true complexity of linear search algorithm over an
array of n element?   [   ]
(A) 0 (n)
(B) $O(n / \log_2 n)$
(C) $O(n^2)$
(D) $(\log_2 n)$

19. A vertex of degree one is called   [   ]
(A) Colored vertex
(B) Null vertex
(C) Pendent
(D) Isolated vertex

20. A full binary tree with n leaves contains   [   ]
(A) n nodes
(B) $\log_2 n$ nodes
(C) 2^{n+1} nodes
(D) 2^n

KEY :

1. is minimally connected
2. all of these
3. 1
4. no cycle of odd length
5. n – 1 edges
6. Floyd's algorithm
7. In-order
8. Heap
9. Hamilton
10. Linear list
11. Regular Graph
12. Complete graph
13. Straight insertion sort
14. Depth first order
15. AVL tree
16. One
17. Disconnected
18. 0 (n)
19. Pendent
20. 2^{n+1} nodes

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Department of Computer Science & Engineering

Certificate Program on "ADVANCED GRAPH THEORY"
Model Question Paper

Student Name: K. Swarna Latta.

RollNo: 188B1A0514

Branch/Sem: II CSE/I SEM

AY : 2019-2020

1.A graph is a tree if and only if it   [D]

(A) is completely connected
(B) is planar
(C) contains a act
(D) is minimally connected

2.Tree   [D]
(A) is a connected graph
(B) with n nodes contains n – 1 edges
(C) is a bipartite graph
(D) all of these

3.The number of paths between any pair of nodes in a tree on n
nodes is   [B]
(A) o
(B) 1
(C) (n – 1)
(D) n

4.A graph G with n nodes is bipartite if it contains   [D]
(A) n² edges
(B) n edges
(C) a cycle of odd length
(D) no cycle of odd length

5.A tree with n nodes has   [C]
(A) n/2 edges
(B) n edges
(C) n – 1 edges
(D) n + 1 edges

6.Which of the following algorithms solves the all pair shortest path
problem?   [A]
(A) Floyd's algorithm
(B) Dijkstra's algorithm
(C) Warshall's algorithm
(D) Prim's algorithm

7.What transversal techniques list the nodes of a binary search tree
in ascending order?   [C]
(A) Pre-order
(B) Post order
(C) In-order
(D) None of these

8.A complete binary tree with the property that the values of each
node is at least as large as the values at its children is called   [C]
(A) AVL tree
(B) Binary search tree
(C) Heap
(D) Completely balanced tree

9.A circuit in a connected graph which includes every vertex of the
graph is called   [A]
(A) Hamilton
(B) Cheque
(C) Universal
(D) Euler

10. Which data structure is needed to convert infix notation to post fix notation? [B]
(A) Queue
(B) Linear list
(C) Stack
(D) Tree

11. A graph in which all nodes are of equal degree is called [A]
(A) Regular graph
(B) Multigraph
(C) Non regular graph
(D) Complete graph

12. A simple graph in which there exists an edge between every pair of vertices is called [B]
(A) Eular graph
(B) Complete graph
(C) Planner graph
(D) Incomplete graph

13. Which of the following sorting method is stable? [A]
(A) Straight insertion sort
(B) Heap sort
(C) Shell sort
(D) Binary insertion sort

14. Preorder is nothing but [D]
(A) Linear order
(B) Topological order
(C) Breadth first order
(D) Depth first order

15. In which tree, for every node the height of its left sub tree and right sub tree differ at least by one? [D]
(A) Threaded binary tree
(B) Binary search tree
(C) Complete tree
(D) AVL tree

16. The terminal vertices of a path are of degree   [B]
(A) Zero
(B) One
(C) Two
(D) More than four

17. A graph with n vertices and n - 1 edges that is not a tree, is
(A) A circuit   [D]
(B) Euler
(C) Connected
(D) Disconnected

18. What is the true complexity of linear search algorithm over an
array of n element?   [A]
(A) 0 (n)
(B) $O(n / \log_2 n)$
(C) $O(n^2)$
(D) $(\log_2 n)$

19. A vertex of degree one is called   [C]
(A) Colored vertex
(B) Null vertex
(C) Pendent
(D) Isolated vertex

20. A full binary tree with n leaves contains   [C]
(A) n nodes
(B) $\log_2 n$ nodes
(C) 2^{n+1} nodes
(D) 2^n

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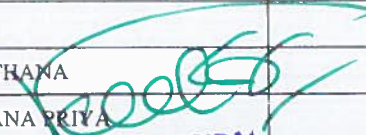
DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

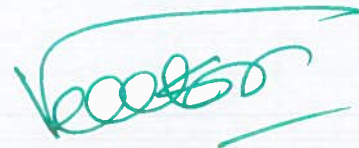| BRANCH:CSE-I YEAR : II-I	Academic year:2019-20	Certificate program on "ADVANCED GRAPH THEORY"

STUDENT ASSESSMENT SHEET			
S.NO	ROLL NUMBERS	NAME OF THE STUDENT	MARKS
1	188B1A0501	ASODI RAMYASREE	19
2	188B1A0502	ATHMAKURI RAMYA	19
3	188B1A0503	BEZAWADA JESWITHA	18
4	188B1A0504	BOMMINENI RENUKA	19
5	188B1A0505	BYRAPANENI YASHASREE	19
6	188B1A0506	CHENNUBOINA LAHARI	18
7	188B1A0507	CHUNDURI JAYA LAKSHMI	17
8	188B1A0508	GAJJALA MALLESWARI	20
9	188B1A0509	GAVIRNI KEERTHI CHINMYEE	17
10	188B1A0510	GUMMADI MADHURI	17
11	188B1A0511	JUGUNTA KUSUMALATHA	18
12	188B1A0512	K NAGA VYSHNAVI	18
13	188B1A0513	KAKUMANI AMRUTHA	18
14	188B1A0514	KANDEPI SWARNALATHA	20
15	188B1A0515	KANTU ANJALI	18
16	188B1A0516	KARETI MOUNIKA	18
17	188B1A0517	KATTINENI SUSMITHA	18
18	188B1A0518	KOKKILAGADDA SIREESHA	19
19	188B1A0519	KOTAPATI RAJESWARI	18
20	188B1A0520	KOTIKELAPUDI MOWKTHIKA	17
21	188B1A0521	KUNAM VIDHYALATHA	18
22	188B1A0522	MUDDANA LAVANYA	19
23	188B1A0523	MULAGANI SARANYA REDDY	17
24	188B1A0524	MUSUNURI DHARANI	19
25	188B1A0525	NALLAMOTHU JAYASREE	18
26	188B1A0526	NANNE BOINA SUCHARITHA	20
27	188B1A0527	NERELLA SATVIKA	17
28	188B1A0528	PALADUGU DEEPIKA	17
29	188B1A0529	PAMIDI SRAVANI	20
30	188B1A0530	PANDI DEEPTHI RAYALU	19
31	188B1A0531	PUTTAMRAJU SRAVYA	17
32	188B1A0532	SAMANTHAPUDI KEERTHANA	18
33	188B1A0533	SUDANAGUNTA BHAVANA PRIYA	20
34	188B1A0534	SURABHI SRAVANI	17
35	188B1A0535	SURAM SRIVIDHYA	18

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S.NO	ROLL NUMBERS	NAME OF THE STUDENT	MARKS
37	188B1A0537	THANGELLA GEETHIKA	19
38	188B1A0538	THATHA SAI HARI PRIYA	18
39	188B1A0539	THOTTEMPUDI NAVYA	20
40	188B1A0540	THOTTEMPUDI VENKATA NANDHINI	20
41	188B1A0541	VALETI PRASANNA	20
42	188B1A0542	VARADA SWETHA	18
43	188B1A0543	YANAMALA SIRISHA	18
44	188B1A0544	YARRAMOTHU KANAKA DURGA	20
45	188B1A0545	ANIL BABU SAKINENI	20
46	188B1A0546	BIJJAM HARSHA REDDY	17
47	188B1A0547	DEVIREDDY JESHWANTH REDDY	18
48	188B1A0548	GONUGUNTA VENKATA SURYA SAI HARSHA	19
49	188B1A0549	KOMMALAPATI AKHIL CHOWDARY	19
50	188B1A0550	KYPU RAVINDRA REDDY	18
51	188B1A0551	MALISETTY DINESH	17
52	188B1A0552	NANDURI RAVINDRA	19
53	188B1A0553	PADARTHI AVINASH	18
54	188B1A0554	PODDUTURI GREESHMANTH	19
55	188B1A0555	POTTURI SARATH KUMAR	17
56	188B1A0556	RACHANENI SOWMITH NAIDU	19
57	188B1A0557	SEELAM MULINTI GURIVI REDDY	19
58	188B1A0558	SUDANAGUNTA VENKATA REVANTH	19
59	188B1A0559	THAMALAPAKULA VAMSI BABU	18
60	188B1A0560	VASANTHA VIJAY BHARGAV	20

COORDINATOR

HOD
HEAD OF THE DEPARTMENT
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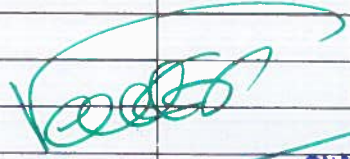
DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

BRANCH:CSE-II YEAR : II-I	Academic year:2019-20	Certificate program on "ADVANCED GRAPH THEORY" ATTENDANCE

STUDENT ASSESSMENT SHEET

S.NO	ROLL NUMBERS	NAME OF THE STUDENT	MARKS
1	188B1A0561	AKKALA BHAVYA BHARATHI	18
2	188B1A0562	BHAVANASI HARITHA	19
3	188B1A0563	CHALLA VINEETHA	18
4	188B1A0564	CHELLI PRAVALIKA	19
5	188B1A0565	GATTUPALLI JHANSI LAKSHMI	19
6	188B1A0566	GURRAM KRISHNA DEEPIKA	19
7	188B1A0567	ILINDRA KRISHNA VARSHINI	18
8	188B1A0568	JAJJARA SOWKHYA	17
9	188B1A0569	JALAKAM USHA RANI	19
10	188B1A0570	KANNEBOINA GAYATHRI	19
11	188B1A0571	KODURI SRI SAI ALEKHYA	19
12	188B1A0572	KORUMALLI AHALYA	19
13	188B1A0573	MADISETTY BHANU KEERTHANA	18
14	188B1A0574	MALLAVARAPU PRUDHVI	18
15	188B1A0575	MIRIYALA SUMA PRIYA	20
16	188B1A0576	NERELLA VENKATA VASAVI	19
17	188B1A0577	OLLA GAYATHRI	17
18	188B1A0578	PAKALA BALA CHANDANA	18
19	188B1A0579	PATAN ANJU	18
20	188B1A0580	PONNURU CHERISHMA LAKSHMI DURGA	18
21	188B1A0581	POTHURU VENKATA SAI AMRUTHA	19
22	188B1A0582	SAIBA VENKATA SARANYA	19
23	188B1A0583	SEELAM BORANNAGARI GURU SIVANI	19
24	188B1A0584	SOMISETTY VIDYA	20
25	188B1A0585	SWARNA BHARGAVI	18
26	188B1A0586	UNNAM PRAVALLIKA	17
27	188B1A0587	VELAMPALLI LAKSHMI VENKATA SAROJA	18
28	188B1A0588	VELAMPALLI PAVITHRA	17
29	188B1A0589	YARRA GEETHA	20
30	188B1A0590	YENDLURI HARI PRIYA	17
31	188B1A0591	AYYAPU CHARAN KUMAR	18
32	188B1A0592	BANDARU HEMANTH KUMAR	19
33	188B1A0593	BEEMANADHAM MADANMOHAN REDDY	18
34	188B1A0594	BODAPATI SARATH CHANDRA	

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S.NO	ROLL NUMBERS	NAME OF THE STUDENT	MARKS
35	188B1A0595	CHERUVU RAVITEJA	18
36	188B1A0596	DAMA BOSE THIRUPATA ROY CHOWDARY	18
37	188B1A0597	GRANDI KIRAN KUMAR	18
38	188B1A0599	MADALA NISHIT	19
39	188B1A05A0	MURARISETTY VENKATA RAKESH	19
40	188B1A05A1	NELLURI VENKATA THARUN KUMAR	19
41	188B1A05A2	PULICHARLA HEMANTH KUMAR REDDY	19
42	188B1A05A3	R VENKATA AJAY KUMAR	19
43	188B1A05A4	RACHAPUDI JAGADEESH	18
44	188B1A05A5	RAVIPATI VENKATA MAHESH	19
45	188B1A05A6	SANKA PAVAN KALYAN	20
46	188B1A05A7	URIBINDI RAVI TEJA	18
47	188B1A05A8	VADICHERLA PRASANTH	18
48	188B1A05B0	VENKATA JASWANTH GONUGUNTA	17
49	188B1A05B1	MARAKA MOUNIKA	19

Coordinator

HOD
HEAD OF THE DEPARTMENT
Department of CSE
RISE Krishna Sai Gandhi Group of
Institutions, VALLUR, A.P.-523 27?

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REPORT OF THE CERTIFICATE PROGRAM

Advanced Graph Theory

ON

11-11-2019 TO 15-11-2019

Organized by the Department of CSE

Target Audience: II CSE

1. Introduction

One week certificate program on "ADVANCED GRAPH THEORY" was organized by the Department of Computer Science & Engineering, Rise Krishna Sai Gandhi Group of Institutions , Ongole, from 11th November to 15TH November 2019(duration 05 days).

The participants were students from Ist Semester CSE department of RGAN. Around 107 Students registered and successfully completed the certificate program. The speakers were the faculties from Computer Science and Engineering department Mr.P.Isaac paul., and Mr. CH.Hari krishna.

The Certificate program was inaugurated on 11th November 2019 Mr.P.Isaac paul., Head of the department Computer Science Engineering and . The valedictory was held on 15th November 2019. Mr. CH.HARI KRISHNA , Asst. Prof. from CSE coordinated the Course. All the resource persons were invited and were present for both inauguration and valedictory.

Certificate program trainer:-

Mr. M. Siva prasanth, Working as Freelancer Trainer at State Head for Corporate communication

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Outcome of the Certificate program:

The topics covered in the course provide students understand the features of "ADVANCED GRAPH THEORY" so that they can improve their coding skills. During the course of the workshop the resource persons ensured that a number of real world applications are solved. Many assignments were given and discussed that helped the students prepare for their placements and other competitive exams. It also boosted the student's confidence in taking up projects.

TOPIC

Graph Theory:

- ❖ Introduction to Graphs.
- ❖ Its applications.

Paths, Cycles, and Trails:

- ❖ Basics of Paths
- ❖ Cycles, and Trails
- ❖ Connection
- ❖ Bipartite Graphs

Eulerian Circuits:

- ❖ Vertex Degrees and Counting
- ❖ Degree-sum formula
- ❖ The Chinese Postman Problem
- ❖ Graphic Sequences

Trees and Distance:
- ❖ Properties of Trees
- ❖ Spanning Trees
- ❖ Enumeration
- ❖ Matrix-tree computation
- ❖ Cayley's Formula
- ❖ Prufer code

Matchings and Covers:
- ❖ Hall's Condition
- ❖ Min-Max Theorem
- ❖ Independent Sets
- ❖ Covers
- ❖ Maximum Bipartite Matching
- ❖ Augmenting Path Algorithm

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Weighted Bipartite Matching:
- ❖ Hungarian Algorithm
- ❖ Stable Matchings
- ❖ Faster Bipartite Matching

Factors & Perfect Matching in General Graphs:
- ❖ Matching in General Graphs
- ❖ Edmonds' Blossom Algorithm

Connectivity and Paths:
- ❖ Cuts and Connectivity
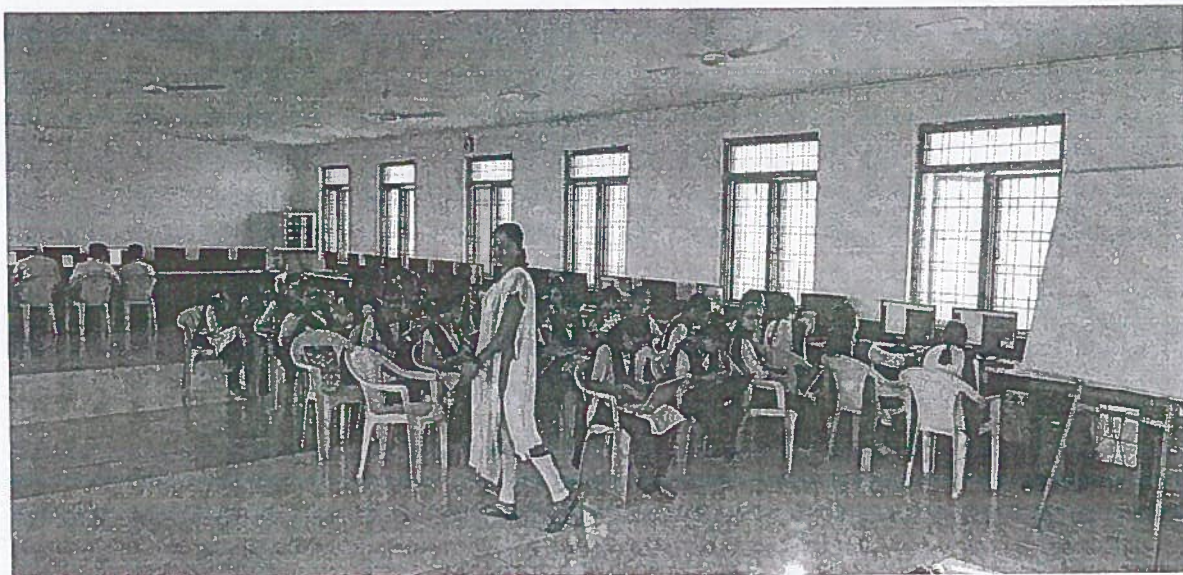- ❖ k-Connected Graphs

Network Flow Problems:
- ❖ Ford-Fulkerson Labeling Algorithm
- ❖ Max-Flow Min-cut Theorem
- ❖ Menger's Proof using Max-Flow Min-Cut Theorem

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Vertex Coloring and Upper Bounds:
   ❖ Brooks' Theorem
   ❖ Color-Critical Graphs:
   ❖ Counting Proper Colorings
Planar Graphs:
   ❖ Characterization of Planar Graphs
   ❖ Kuratowski's Theorem
   ❖ Wagner's Theorem
Line Graphs and Edge-coloring
Hamiltonian Graph
Traveling Salesman Problem
   ❖ NP-Completeness
Dominating Sets:
   ❖ Connected Dominating Set
   ❖ Distributed Algorithm

Coordinator

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GROUP OF INSTITUTIONS
ONGOLE

HOD
AD OF THE DEPARTMENT
Department of CSE
ISE Krishna Sai Gandhi Group of
Institutions, VALLUR, A.P.-523 272

Date: 15-11-2019.

CLOSING REPORT

To
The principal
Rise Krishna Sai Gandhi Group of Intuitions

As per the approved schedule Rise Krishna Sai Gandhi group of Institutions conducted a **Certificate Program on "ADVANCED GRAPH THEORY"** at CSE Seminar Hall From **11-11-2019** to **15-11-2019** from 9.00am to 5 .00 pm per day.The students of II CSE total 109 are participated in this programme. This Certificate Program head attended Mr. M. Siva prasanth, Working as Freelancer Trainer at State Head for Corporate communication

Main issues addressed:

- Matching
- Connectivity and edge
- Independence and Covering
- Labelings
- Perfect Graphs

We are expecting your support in future also, for that we will be thankful to you.

Thanking you sir,

Yours faithfully,

Faculty Coordniator

HOD
HEAD OF THE DEPARTMENT
Department of CSE
RISE Krishna Sai Gandhi Group of
stitutions,VALLUR,A.P.-523 2

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