K.R.E. SOCIETY'S

KARNATAK ARTS, SCIENCE & COMMERCE, COLLEGE BIDAR

(Affiliated to Gulbarga University, Kalaburagi)

A
Project Report
On

"GRAPH THEORY WITH APPLICATIONS"

MASTER OF SCIENCE
(MATHEMATICS)

Submitted by

Names	Reg.No.
Stella Kiran	P04AE21S0008
Srushti	P04AE21S0007
Triveni	P04AE21S0052
Sultana	P04AE21S0014

Under the Guidance of
Dr. Vinodkumar
DEPARTMENT OF MATHEMATICS
KARNATAK ARTS, SCIENCE & COMMERCE COLLEGE
BIDAR
2022

KARNATAK ARTS, SCIENCE AND COMMERCE COLLEGE, BIDAR

(Affiliated to Gulbarga University, Kalaburagi)

ACCREDITED AT A GRADE BY NAAC
AND
COLLEGE WITH POTENTIAL FOR EXCELLENCE STATUS AWARDED
BY UGC

DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that the project work entitled "GRAPH THEORY WITH APPLICATIONS" submitted by Stella Kiran, Srushti, Triveni, Sultana in *M.Sc. second Semester* prescribed by the Karnatak Arts, Science & Commerce College Bidar. It is the record of original work carried out under the supervision of internal guide during the year 2021-22

Dr. Vinodkumar
INTERNAL GUIDE

Mrs. Padmini Kaji
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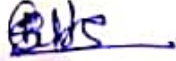Karnatak PG & UG College
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Dr. M.S Chelva
PRINCIPAL
Karnatak Arts, Sci. & Com. Coll
BIDAR-585401

Declaration

We hereby declare that the project work entitled "GRAPH THEORY WITH APPLICATIONS" has been prepared under the supervision and guidance of Dr.Vinodkumar Department of P.G. studies in Mathematics, Karnatak Arts, Science & Commerce College, Bidar is submitted by M. Sc. Second Semester students. This is the original project work and it has not formed the basis for the award of any degree/diploma elsewhere.

Place: BIDAR

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2. Srushti	
3. Triveni	
4. Sultana	

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KARNATAK ARTS, SCIENCE & COMMERCE, COLLEGEBIDAR

(Affiliated to Gulbarga University,Kalaburagi)

A
Project Report
On

"SOME PRIMAL-DUAL THEOREMS IN GRAPH THEORY - A STUDY"

MASTER OF SCIENCE
(MATHEMATICS)

Submitted by

Names	Reg.No.
Deepika	P04AE21S0010
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2022

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KARNATAK ARTS, SCIENCE AND COMMERCE COLLEGE, BIDAR

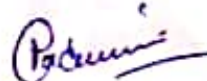(Affiliated toGulbarga University, Kalaburagi)

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DEPARTMENT OF MATHEMATICS

Certificate

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Declaration

We hereby declare that the project work entitled "SOME PRIMAL-DUAL THEOREMS IN GRAPH THEORY - A STUDY" has been prepared under the supervision and guidance of Dr.VinodkumarDepartment of P.G. studies in Mathematics, KarnatakArts, Science & Commerce College, Bidaris submitted by :M. Sc. Second Semester students.This is the original project work and it has not formed the basis for the award of any degree/diploma elsewhere.

Place: BIDAR

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KARNATAK ARTS, SCIENCE & COMMERCE, COLLEGE BIDAR

(Affiliated to Gulbarga University, Kalaburagi)

A
Project Report
On

"COLORING PROBLEM"

MASTER OF SCIENCE
(MATHEMATICS)

Submitted by

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KARNATAK ARTS, SCIENCE & COMMERCE COLLEGE BIDAR
2022

KARNATAK ARTS, SCIENCE AND COMMERCE COLLEGE, BIDAR

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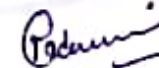### ACCREDITED AT A GRADE BY NAAC
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DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that the project work entitled "COLORING PROBLEM" submitted by Devi Panchal, Arjumand Sultana, Aarti, Sudharani patil in *M.Sc. second Semester* prescribed by the Karnatak Arts, Science & Commerce College Bidar. It is the record of original work carried out under the supervision of internal guide during the year 2021-22

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Declaration

We hereby declare that the project work entitled "COLORING PROBLEM" has been prepared under the supervision and guidance of Dr. Vinodkumar Department of P.G. studies in Mathematics, Karnatak Arts, Science & Commerce College, Bidar is submitted by *M. Sc. Second Semester students*. This is the original project work and it has not formed the basis for the award of any degree/diploma elsewhere.

Place: BIDAR

Date:

Names	Signature
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2. Arjumand Sultana	
3. Aarti Panchal	
4. Sudharani patil	

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KARNATAK ARTS, SCIENCE & COMMERCE, COLLEGE BIDAR

(Affiliated to Gulbarga University, Kalaburagi)

A
Project Report
On

"NON-LINEAR PARTIAL DIFFERENTIAL EQUATIONS, THEIR SOLUTIONS AND PROPERTIES"

MASTER OF SCIENCE
(MATHEMATICS)

Submitted by

Names	Reg.No.
Prajwal G	P04AE21S0088
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Nabeela	P04AE21S0009

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DEPARTMENT OF MATHEMATICS

KARNATAK ARTS, SCIENCE & COMMERCE COLLEGE BIDAR

2022

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KARNATAK ARTS, SCIENCE AND COMMERCE COLLEGE, BIDAR

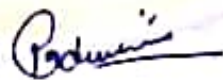(Affiliated to Gulbarga University, Kalaburagi)

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AND
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BY UGC

DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that the project work entitled *"NON-LINEAR PARTIAL DIFFERENTIAL EQUATIONS, THEIR SOLUTIONS AND PROPERTIES"* submitted by *Prajwal G, Sushma, Pooja, Nabeela* in *M.Sc. second Semester* prescribed by the *Karnatak Arts, Science & Commerce College Bidar*. It is the record of original work carried out under the supervision of internal guide during the year 2021-22

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Declaration

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Place: BIDAR

Date:

Names	Signature
1. Prajwal G	*Prajwal*
2. Sushma	*Push*
3. Pooja	*Pooja*
4. Nabeela	*Nabeela*

K.R.E. SOCIETY'S

KARNATAK ARTS, SCIENCE & COMMERCE, COLLEGE BIDAR

(Affiliated to Gulbarga University, Kalaburagi)

A

Project Report

On

"PARTIAL DIFFERENTIAL EQUATION"

MASTER OF SCIENCE
(MATHEMATICS)

Submitted by

Names	Reg.No.
Ambika	P04AE21S0012
Anupama Holla	P04AE21S0017
Kanchana Jadhav	P04AE21S0019
Shireen Fatima	P04AE21S0054

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KARNATAK ARTS, SCIENCE & COMMERCE COLLEGE BIDAR

2022

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KARNATAK ARTS, SCIENCE AND COMMERCE COLLEGE, BIDAR

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DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that the project work entitled *"PARTIAL DIFFERENTIAL EQUATION"* submitted by Ambika, Anupama Holla, Kanchana Jadhav, Shireen Fatima in *M.Sc. second Semester* prescribed by the Karnatak Arts, Science & Commerce College Bidar. It is the record of original work carried out under the supervision of internal guide during the year 2021-22

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Declaration

We hereby declare that the project work entitled "PARTIAL DIFFERENTIAL EQUATION" has been prepared under the supervision and guidance of Dr.Vinodkumar Department of P.G. studies in Mathematics, Karnatak Arts, Science & Commerce College, Bidar is submitted by M. Sc. Second Semester students. This is the original project work and it has not formed the basis for the award of any degree/diploma elsewhere.

Place: BIDAR

Date:

Names	Signature
1. Ambika	Baju
2. Anupama Holla	Anupama.
3. Kanchana Jadhav	Banchana
4. Shireen Fatima	Shireen.

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KARNATAK ARTS, SCIENCE & COMMERCE, COLLEGE BIDAR

(Affiliated to Gulbarga University, Kalaburagi)

A
Project Report
On

"PRINCIPLES AND APPLICATIONS OF OPERATION RESEARCH"

MASTER OF SCIENCE
(MATHEMATICS)

Submitted by

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Pooja	P04AE21S0051

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2022

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Certificate

This is to certify that the project work entitled "PRINCIPLES AND APPLICATIONS OF OPERATION RESEARCH" submitted by Sunita, Pooja, Beena in M.Sc. second Semester prescribed by the Karnatak Arts, Science & Commerce College Bidar. It is the record of original work carried out under the supervision of internal guide during the year 2021-22

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We hereby declare that the project work entitled "PRINCIPLES AND APPLICATIONS OF OPERATION RESEARCH" has been prepared under the supervision and guidance of Dr. Vinodkumar Department of P.G. studies in Mathematics, Karnatak Arts, Science & Commerce College, Bidar is submitted by M. Sc. Second Semester students. This is the original project work and it has not formed the basis for the award of any degree/diploma elsewhere.

Place: BIDAR.

Date:

Names	Signature
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2. Pooja	Pooja