CERTIFICATE COURSE

ON

FUNDAMENTALS OF DIFFERENTIAL EQUATIONS

GOVT.DEGREE COLLEGE NARASANNAPETA

SRIKAKULAM DISTRICT

DEPARTMENT OF MATHEMATICS

2019-2020

From :

P. Surekha

Dept. of Mathematics

GDC, Narasannapeta

To :

The Principal

Govt. Degree College

GDC, Narasannapeta

PRINCIPAL
GOVT. DEGREE COLLEGE
NARASANNAPETA

Sub: Regarding to start Certificate Course on Fundamentals of Differential Equations.

Respected Sir/Madam

I am P. Surekha working as faculty in the Department of Mathematics in our College. This is regarding with conduct subject related certificate course introducing for students benefits of our department on"**FUNDAMENTALS OF DIFFERENTIAL EQUATIONS**". The course duration should be 20 days. We are going to start in the academic year 2019-2020. i.e. from **21-07-2019 to 09-08-2019**.So this my humble request you to permit us for the establishment of above course.

Thanking you sir/madam

Your's sincerely

Govt. Degree College
NARASANNAPETA

(P.SUREKHA)

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE ON 2019-2020

The faculty members of the Mathematics Department met in the Principal's chamber to discuss and review the conduct of the Certificate Course titled "Fundamentals of Differential Equations.

under the Chairmanship of the Principal and the faculty of the Department of Mathematics on 18-07-2019.

AGENDA:

Starting of Certificate Course for I B.Sc (M.P.C &M.P.Cs)Students (I Semester).

RESOLUTIONS:

1. It is resolved to start the Certificate Course titled Basic Concepts of Solid Geometry from 21- 07-2019 to 09-08-2019 (20 days).for the academic year 2019-2020.
2. It is also resolved to frame the syllabus , regulations for the successful completition of theCertificate course titled "Fundamentals of Differential Equations.
3. Enrolled 10 students in this Certificate course.
4. Resolved to conduct classes at 4.30pm.
5. Resolved to conduct exam of completition of the course and issue certificates to qualifiedcandidates.
6. Qualifying marks in 40%

Signature

LECTURER
Govt. Degree College
NARASANNAPETA

Members Present :

1. M. Harika.
2.
3.

CIRCULAR

DATE:-18-07-2019

This is to inform that the Department of Mathematics is going to be conducted a subject relatedCertificate Course from 21-07-2019 to 09-08-2019 for I year students of B.Sc (M.P.C&M.P.Cs) on "Fundamentals of Differential Equations". The students who are interested can enroll their names to concerned Department on are before 18-07-2019.The duration of the course is 20 days. The candidates who secure 40% of the marks in the examination will get the Certificate.

Signature

Govt. Degree College
NARASANNAPETA

(P.SUREKHA)

Lecturer in Mathematics

GDC, Narasannapeta

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA
SRIKAKULAM DISTRICT
DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2019-2020

TOPIC : Fundamentals of Differential Equations

ENROLLED STUDENTS LIST

S.NO	GROUP	NAME OF THESTUDENT
1	B.Sc (M.P.C)	T.SHIVA
2	B.Sc (M.P.C)	S.SREEDHAR
3	B.Sc (M.P.C)	P.KUMAR
4	B.Sc (M.P.C)	K.GOWTHAM
5	B.Sc (M.P.C)	D.LOKHANADHAM
6	B.Sc (M.P.Cs)	A.GAYATRI
7	B.Sc (M.P.Cs)	S.RAMESH KUMAR
8	B.Sc (M.P.Cs)	Y.UPENDRA

Signature:
(P.SUREKHA)

Govt. Degree College
NARASANNAPETA

GOVERNMENT DEGREE COLLEGE,
NARASANNAPETA
DEPARTMENT OF MATHEMATICS
SUBJECT RELATED CERTIFICATE COURSE-2019-2020

SUBJECT : FUNDAMENTALS OF DIFFERENTIAL EQUATIONS

STUDENTS ATTENDENCE LIST

S.NO	GROUP	NAME OF THE STUDENT	1	2	3	4	5	6	7	8	9	10
1	B.Sc (M.P.C)	T.SHIVA	P	P	P	P	a	P	P	P	a	P
2	B.Sc (M.P.C)	S.SREEDHAR	P	P	P	P	P	P	P	P	P	P
3	B.Sc (M.P.C)	P.KUMAR	a	a	P	P	a	P	P	a	a	P
4	B.Sc (M.P.C)	K.GOWTHAM	P	P	P	P	P	a	P	P	P	a
5	B.Sc (M.P.C)	D.LOKHANADHAM	P	P	P	P	P	a	P	P	a	P
6	B.Sc (M.P.Cs)	A.GAYATRI	P	P	P	P	a	P	P	Pa		P
7	B.Sc (M.P.Cs)	S.RAMESH KUMAR	P	a	P	P	P	P	a	a	P	P
8	B.Sc (M.P.Cs)	Y.UPENDRA	P	P	a	P	P	P	a	P	P	P

S.NO	GROUP	NAME OF THE STUDENT	11	12	13	14	15	16	17	18	19	20
1	B.Sc (M.P.C)	T.SHIVA	P	P	P	P	a	P	P	a	P	P
2	B.Sc (M.P.C)	S.SREEDHAR	P	P	P	a	P	P	P	P	P	P
3	B.Sc (M.P.C)	P.KUMAR	P	P	P	P	a	P	a	a	P	P
4	B.Sc (M.P.C)	K.GOWTHAM	a	P	P	P	a	P	P	P	P	a
5	B.Sc (M.P.C)	D.LOKHANADHAM	P	a	P	P	P	P	a	P	P	a
6	B.Sc (M.P.Cs)	A.GAYATRI	P	P	P	P	a	P	P	P	P	P
7	B.Sc (M.P.Cs)	S.RAMESH KUMAR	P	a	P	P	a	P	P	P	P	P
8	B.Sc (M.P.Cs)	Y.UPENDRA	a	P	P	P	P	P	P	a	P	P

SIGNATURE
Govt. Degree College
NARASANNAPETA

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2019-2020

FUNDAMENTALS OF DIFFERENTIAL EQUATIONS

REPORT :

As a part of academic activity ,the Department of Mathematics has conducted Certificate Course in "**FUNDAMENTALS OF DIFFERENTIAL EQUATIONS**" from 21-07-2019 to 09-08-2019 for the academic year 2019-2020.The important objective of the course is to improve basic knowledge in Mathematics among the UG degree students. As per the instructions given by the Principal during the minutes of the meeting 20 members of students are enrolled into the Certificate Course for Ist year B.Sc (M.P.C&M.P.Cs) to enrich the concepts the solid geometry, the Mathematics faculty members have engaged classes 20 days and depth the basic concepts of the subject. At the end of the course , an external examination with fill in the blanks and multiple choice questions has conducted for the assessment of learners understanding levels of knowledge .The minimum qualifying of marks for the award of certification is 40%.All the students completed the course successfully and got certificates during the academic year 2019- 2020.

LECTURER
SIGNATURE
Govt. Degree College
NARASANNAPETA
(P.SUREKHA)

GOVERNMENT DEGREE COLLEGE, NARASANNAPETA
SRIKAKULAM DISTRICT

DEPARTMENT OF MATHEMATICS
SUBJECT RELATED CERTIFICATE COURSE-2019-2020

TOPIC: FUNDAMENTALS OF A DIFFERENTIAL EQUATIONS

Objective of the Course :

The course will deal especially limited section of specific topics included in the CBSEXI &XII Mathematics curricular, topics to be discussed are those which involve basic concepts and formulas, and which therefore have wide applicability. These are also the topics that are conceptual the deepest and must therefore be understood as clearly as possible this will be the overall objective of the course.

Course Duration : 20 days.

Level : UG

Course type : Scheduled

Certification : Certification will be given on the continuous comprehensive evaluation ofStudents performance in the learning activities.

SYLLABUS OF THE COURSE

UNIT-I : (5 HOURS)

- INTRODUCTION
- SYMBOLS
- FORMULAS

UNIT- II (10HOURS)

- DEFINITIONS
- ORDER OF A DIFFERENTIAL EQUATIONS
- DEGREE OF A DIFFERENTIAL EQUATIONS
- EXAMPLES

UNIT-III (10 HOURS)

- **TYPES OF A DIFFERENTIAL EQUATIONS**

    1. **ORDINARY DIFFERENTIAL EQUATIONS**
    2. **PARTIAL DIFFERENTIAL EQUATIONS**

UNIT-IV (15 HOURS)

- **VARIABLES SEPARABLES**
- **HOMOGENEOUS DIFFERENTIAL EQUATIONS**
- **NON HOMOGENEOUS DIFFERENTIAL EQUATIONS**

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GOVERNMENT DEGREE COLLEGE, NARASANNAPETA

DEPARTMENT OF MATHEMATICS

SUBJECT RELATED CERTIFICATE COURSE-2019-2020

MULTIPLE CHOICE QUESTIONS

1) The Integrating Factor of $(x^2+y^2+2x)dx+2ydy=0$ is [ ]
   a)e^x/x b)e^x c)f d)g

2) The General Solution of $(y^2+2xy)dx-x^2dy=0$ is [ ]
   a)$y^2/c-y=0$ b)$y^2/c-x=0$ c)$x^2/c-x=0$ d)$x^2/c-y=0$

3) The Integrating Factor of $(x^4-x+y)dx-xdy=0$ is [ ]
   a) $1/y^2$ b)$1/x^2$ c)y d)y^2

4) The Integrating Factor of $(y^2+2xy)dx-x^2dy=0$ is [ ]
   a)$1/x^2$ b)y^2 c)$1/y^2$ d)x

5) The General Solution of $(e^y+ye^y)dx+xe^ydy=0$ is [ ]
   a)x(1+y)=c b)y(1+x)=c c)1+x d)1+y

6) The Integrating Factor of $(3xy-2ay^2)dx+(x^2-2axy)dy=0$ is [ ]
   a)x b)y c)1/x d)1/y

7) The General Solution of $(x^3-2y^2)dx+2xydy=0$ is [ ]
   a)$x^2+y^3=Cx^3$ b)$x^3+y^2=Cx^2$ c)x^2y^3 d) None of these

8) The Integrating Factor of $(y+y^3/3+x^2/2)dx+1/4(x+xy^2)dy=0$ is [ ]
   a)x^2 b)x^3 c)y^3 d)y^2

9) The General Solution of $(4xy+3y^2-x)dx+x(x+2y)dy=0$ is [ ]
   a)$4x^4y+4x^3y^2-x^4=C$ b) $4x^3y+4x^2y^3-x^5=C$ c)$4x^4y^2+4x^3y-x=C$ d) $4xy+4x^3y^2-x=C$

10) The Integrating Factor of $y(1+xy)dx+x(1-xy)dy=0$ is [ ]
    a)$1/x^2y^2$ b)x^2y^2 c)$1/2x^2y^2$ d)$2x^2y^2$