
ANASOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

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SE MV €TER PLA X

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| Xatnes of the Cotuxe | BSC(MPC&D.S) |
| Subject | lathematrcs |
| Pa Sarne | It)Qtenttal and Integral calculus |
| Pa r Code | s 606 |
| Leammg Outcomes | Uter Completion ofthis course,students are able to you should solve 'roblems in arrange Q/Mathematical Applications using the derivative r the integral; App/.v thefundamental theorem ofcalculus; |
| Facultv Name | Ramadevi |

| Unit | Month and Year | | opics | Teaching Pedagogy, Teachin[g] Aids, Curricular, Extra-curricular Actfiities etc., | So. of Hours |
|---|---|---|---|---|---|
| Unit -1 aflial ifferenna ion | | | troductionunction of two •enables- 'eighbourhood of a oint (a.b | ecture and Discussion lack Board - Chalk | |
| | | | ontintlitv of a unction of two [r]ariables, continuity t a point limit of tnction of two •ariable | ecture and Discussion lack Board - Chalk | |
| | | | unit of Pmtial erivatives | ecture and Discussion lack Board - Chalk | |
| | | | eornetrical •epesentetion of a Inction of two | ecture and Discussion lack - Chalk | |

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| | | variables homogeneous functions | | |
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| Unit-2 Title | | Theorem on total differential - composite function | Lecture and Discussion Black Board - Chalk | 5 |
| | | Implicit function | Lecture and Discussion Black Board - Chalk | 4 |
| | | Equestion of fxy(a,b) & fyz(a,b) Taylors theorem for a function | Lecture and Discussion Black Board - Chalk | 4 |
| | | Maximua & Minima of function of two variations | Lecture and Discussion Black Board - Chalk | 3 |
| | | Lagrange's Method of undetermind multipliers | Lecture and Discussion Black Board - Chalk | 2 |
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| **Unit-3** | | Introduction- Difination of Curvature | Lecture and Discussion Black Board - Chalk | 3 |
| | | Radius of Curvature- Length of arc as a function Derivative of arc | Lecture and Discussion Black Board - Chalk | 3 |
| | | Radius of Curvature- Cartesion Equestion's - Newtonian Method | Lecture and Discussion Black Board - Chalk | 4 |
| | | Centre of curvature- chord of curvature | Lecture and Discussion Black Board - Chalk | 2 |
| | | Evolutes and Involutes - properties of the evolute | Lecture and Discussion Black Board - Chalk | 3 |
| | | One Parameter family of curves- consider the family of straight lines | Lecture and Discussion Black Board - Chalk | 2 |
| | | Defination - Dtermination of envelope | Lecture and Discussion Black Board - Chalk | 2 |
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| it-4 | | tittoductlon expression for the engths or ctuves | echue and Discussion lack 'Boald - Chalk | |
| | | spres«ions ror the ength of | ecture and Discussion lack Board - Chalk | |
| | | 'ohunes and Illfaces of evolution | ecture and Di ecussion lack Board - Chalk | |
| | | ntroductionxpression for the polume obtained by evolving about ither axis | ecture and Discussion lack Board - Chalk | |
| | | xpression for the olume obtained by •eveloving about any ine -Area of the urface of the restum of a cone | ecture and Discussion lack Board - Chalk | |
| | | xpression for the urface of revolution pappus theoremsurface of revolution | ecture and Discussion lack Board - Chalk | |
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PRINCIPAL
TSWRDC(W), MANCHER'AL

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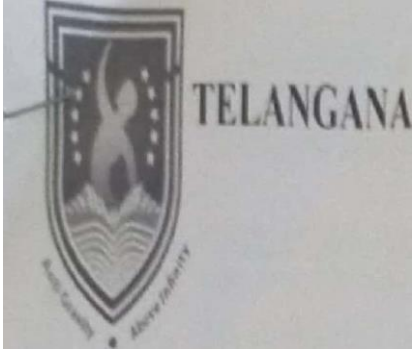


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SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

Name of the college: Mancherial

SEMESTER PLAN

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| | B.Sc (DSI,MPC l) |
| | Differential Equations |
| | Paper - Il |
| | s:201 |
| earn uteome mg | • Able to find order and degree ofa differential equatins<br>• Detennine partial derivatives of given functions<br>• Growth and decay<br>Cauchy euler equations<br>• Detennine paticular integral-linear differential equatiom |
| acu t arn | .Ramadevi |

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| | | eac Iin[o] ec agogy, eac ung .[i] I -urrieular. Extra-curricular .ActiOties etc. | |
| | Introduction ,dfferential equations of first order and first degree-equations in which variables are seperable.homogeneus differential equations. | Interactive lecture . testing of basics knowledge .e.xamples.chalk and boar | |
| | Dfferential equations reduciable to homogeneus form. Linear differential equations.D.E reducible to BERNOULLI'S equation. | Examples problems solving sessions.lecture method | |
| | EXACT DIFFERENTIAL EQUATIONS TOTAL &SIMULATANEOUS EQUATIONS.exact dfferential equations .integrating factors .change of variables. | Exaplanauon using examples , assignments. chalk and board | |
| | Total (Ililej enual equations.suuultaneous total diffel ential equations | Intel active lecture,quesnoumg and testing oblems solvtng sessions | |
| NIT-II | DIFFERENTIAL EQUATIONS OF HRsr ORDER BUT SOT FIRST DEGREE-Equauon solvable for P,solvable y ,solvable x | Interactive lecnue. chalk and bozuxi | |
| | Ditlérenual equation that do not contam x or y .D.E of the fonu $f(x,y,p)=0$ IS homogeneous m x and v | Inteaacnve lecture. chalk and tuxud | |
| | Diferential equation of rhe fonn f(.x where tlx.y.p)is of degree x and y | Intemcnve lecture.quesuoumg and testing .problems solving sessions | |

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| | Applicanons of det dltTerenual equatlons<br><br>ROWTH AND DECAY | [ ecture methodtquesuomnz and testme<br><br>Lectute Inethod.qne•nomng and testing | |
| | )YNA.MICS OF IVMOV'R GROWTH RADIO ACTIVITY CARBON DATING | Intet actjve lectusetquesuornng and testing .problems solvmg sessions | |
| | CONtPOV%N1) INTEREST | Lecture njethod-questiomng and testing | |
| | RTHOGON.XL TRAJFCTORIES | Interacttve lecmre.questionmg and testtng -problems solung sessions | |
| NIT -III | HIGHER ORDER HOMOGENTOUSLINEAR DIFFERENTIAL EQU.ATIONS.Definition | Intetactive lecture examples, askmg fonnulae | |
| | olutlon ofhomogeneous linear differential quation order n with constant comcients | Lecture method problem solvtngassænments | |
| | Higher order non homogeneous linear differential nations. Some ro elties ofP | Questioning and testing .lecture method | |
| | alticular integral when Q(x)=b(e)ax , with is an integer | Assignments . Chalk and board | |
| | articular integral Q(x)=bsina.x or bcosax | Lecture metluod -problem solving method. chalk and board | |
| | Particular integral when Q(x)=xv. Q(x) is of the forn $e^{n}ax$ v | Questioning and testing ,lecture method.quiz | |
| | Nlethod ofundetermined comcients. | Lecture method *problem sol'.ng method, Chalk and board | |
| UNIT-IV | Met luod ariation of para nueters | Interactive Lecture method - problem solving method | |
| | Linear different ial equat ions it 11 non eonstant eoeilieients. Reduction of order method to solve linear differential equation with variable coefficients | Lecture method .problem solving method- Chalk and board | |
| | The Cauchy- Euler equation .legenderes linear equation. Miscellaneous differential equations | Lecture method .problem solvmg method.assignments | |
| | ARIIAL DIFFERENTIAL EQUATIONS. onnation of pantal differential equations | Lecnue method .problem solv,ug method | |
| | asily integuable pullal drilexenual equatious, | Lecnue merhod .problem solvtug method. Chalk and board | |
| | ust Older lineat panial diftuenual equauons | Lecttue method .,probleiu solung Inethod, Chalk aud boald | |
| | | TOTAL | 5 |

HOD : Nesipala

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TSWRDC(W), MANCHERIAL

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TSWRDC(W), Manch

Ü Department of Mathemauue

TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGE FOR WOMEN, MANCHERIAL-504208 semesTER

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|---|---|---|
| 1 | Name of the Course | M pc, MPCS Datascience |
| | Subject | Mathematics |
| 3 | Paper Name | Real Analysis |
| 4 | Paper Code | BS : 301 |
| 5 | Name of the Chapter / Topic | |
| 6 | I Learning Outcomes | De--gcÆLe-— Tlæc bcx-glc A-i—wr-eyeuec-e<br>Give the definition related to Convergent.<br>→ Demonstrate an understanding of the theory of sequences and series.<br>→ understand the perform Simple proofs. |
| 7 | Faculty Name | Swarnalatha. |

| Unit | Topics | Teaching Pedagogy, Teaching Aids, Curricular Activities etc | No of Hours |
|---|---|---|---|
| Unit-1 Title<br>Sequences | → limit of sequences.<br>→ A discussion about proofs<br>→ limit theorems for sequences.<br>→ monotone sequences and cauchy sequences.<br>→ lim sups and lim infs<br>→ series<br>→ Alternating series and integral tests. | Teaching Pedagogy:<br>Group discussion<br>Teaching Aids:<br>Lecture method.<br>Curricular Activities.<br>Given Assignment<br>Extra Curricular Activities.<br>Project work Assigned | 22 hours |

| Unit | Topics | Teaching Pedagogy, Teaching Aids, Curricular Activities etc | No of Hours |
|---|---|---|---|
| Unit-2 Title<br>Continuity. | →Continuous functions. | Teaching pedagogy.<br>Peer Review. | |
| | →Properties of continuous functions. | Teaching Aids.<br>Blackboard chalk. | 23 hours. |
| | →uniform continuity. | Curricular Activities<br>Conducting Slip test on Theorems. | |
| | →Limits of functions. | | |
| | | Extra curricular Activities,<br>field trip. | |
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| Unit-3 Title<br>Differentiation | →Basic properties of the Derivative. | Teaching pedagogy<br>Quiz | |
| | →The mean value theorem. | Teaching Aids<br>lecture method | 15 hours. |
| | ⇒ L-Hospital rule | Curriculars Activities,<br>Group discussion | |
| | →Taylors theorem | Extra curricular Activities<br>Quiz on General Topic | |
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| Unit | Topics | Teaching Pedagogy, Teaching Aids, Curricular Activities etc. | No of Hours |
|---|---|---|---|
| Unit-4 Title | → The Riemann Integral | Teaching Pedagogy:- Assessment | |
| Integration | → Properties of Riemann Integral. | Teaching Aids. lecture method. | 12 hours |
| | → Fundamental theorem of Calculas. | Curricular Activities Given Homework on theorem | |
| | | Extra Curricular Activities Group discussion Especially | |
| | | In Cooperative learning. which successfully increases | |
| | | motivation of students. | |
| | Verified HOD | | |
| | TSWRDC(W), Mancherial Department of Mathematics | | |
| Unit-5 Title | | Verified 16/5/23 Principal | |
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TSWRDC(W), MANCHERIAL

TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGE FOR WOMEN, MANCHERIAL-504208

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| Name of the Course | Mathematics BSc MPCS, Datai |
| Subject | T Swarnalatha Mathematics |
| 3 Paper Name | Analysis Algebra |
| 4 Paper Code | |
| 5 Name of the Chapter / Topic | |
| Learning Outcomes | Accre-gs$.ca Completion 44k<br>Students will be able to recognize algebraic structures that arise in matrix algebra, linear Algebra and will be able to apply the skills learnt in understanding<br>vcvüemß subjects. |
| 7 Faculty Name | Thadichetla Swarnalatha |

| | Topics | Teaching Pedagogy, Teaching Aids, Curricular Activities etc | No of Hours |
|---|---|---|---|
| Unjt-I | →Definition and Example of a Groups<br>→Elementary properties of Groups, finite Groups<br>→ subgroups.<br>→Terminology and Notation.<br>→ subgroup tests.<br>→ Example of subgroups.<br>→ Properties of cyclic groups<br>→ classification of subgroups.<br>cyclic groups. | Teaching Pedagogy.<br>by Asking definitions<br>Teaching-Aids.<br>Black board<br>Curricular Activities.<br>Conduct Slip test<br>Extra Curricular activities.<br>Number Games. | 2 hrs |

| Unit | Topics | Teaching Pedagogy, Teaching Aids, Curricular Activities etc | No of Hours |
|---|---|---|---|
| Unit-2 Title<br>Permutation Groups | → Definition and Notation<br>→ Cycle Notation<br>→ Properties of permutation<br>→ A check digit scheme based on D5<br>Isomorphism; motivation;<br>→ Definition and Examples<br>→ Cayley's theorem properties of isomorphism → Automorphism<br>→ Cosets and lagrange's theorem.<br>Properties of cosets I & S.<br>→ lagrange's theorem and Consequences<br>→ an application of cosets<br>The permutation Groups<br>→ The Rotation Group of a Cube and a Soccer Ball | Teaching pedagogy<br>Group discussion<br>Teaching Aids<br>black board.<br>Curricular Activities<br>Seminar<br>Extra Curricular Activities<br>Memory Games | 22 hours |
| Unit-3 Title<br>Normal subgroups and factor groups | Normal subgroups, factor groups<br>→ Applications of factor groups<br>→ Group Homomorphism.<br>→ Definition and Examples<br>→ Properties of Homomorphism<br>→ The first isomorphism Theorem.<br>Introduction to Rings<br>→ Motivation and Definition.<br>→ Examples of Rings<br>→ Properties of Rings, subrings<br>Integral domains:<br>Definition and Examples<br>→ Fields<br>→ Characteristics of a ring. | Teaching pedagogy<br>flipped class<br>Teaching Aids.<br>black board.<br>Curricular Activities.<br>Conduct Exam<br>Extra Curricular Activities.<br>Chess club. | 20 hours |

| Unit | Topics | Teaching Pedagogy, Teaching Aids, Curricular Activities etc. | No of Hours |
|---|---|---|---|
| Unit-4 Title | Ideals and factor Rings :- | Teaching Pedagogy<br>Student self Assessment | 18 hours |
| | → Ideals<br>→ factor Rings | Teaching Aids<br>online using Blackboard | |
| | → prime ideals, and<br>→ maximal ideals. | Curricular Activities<br>Given Assignment | |
| | Ring Homomorphism<br>→ Definition and Examples | Extra Curricular Activities<br>Project work | |
| | → Properties of Ring | | |
| | → Homomorphisms, | | |
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| Unit-5 Title | | | |
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| | Desipala<br>HOD<br>TSWRDC(W), Mancherial<br>Department of Mathematics | 16/5/23<br>Principal<br>PRINCIPAL<br>TSWRDC(W). MANCHERIAL | |
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TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

Name of the College TSWRDCW, Mancherial

SEMESTER PLAN

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| Names of the Course | 13 c |
| Sub' ect | Mathematics |
| Pa Name | Linear Algebra |
| P rCode | e- 503 |
| Learning Outcomes | paper, S+ude-nå-ß ŧ<br>1) Demonstrate understanding of concepts of Vector space and su<br>2) Demonstrate understanding of L span and basis.<br>3) Determine eigen values and eigen<br>4) Demonstrate understanding of inn<br>U poo Suc CompleFon<br>ve |
| Faculty Name | B.DESI |

| Unit | Topics | Teaching Pedagogy, Teaching Aids, Curricular, Extra-curricular Activities etc., | No. of Hours |
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| Unit-I Title | xteU-oM S pcx cc ' Subspaces | l') b e.c±use method avou-p discussion | |
| | spaces, Column, linear transforma | t) bocxv& Referring 40 600 , | |
| | Linearly independent Sets, Bases | 3) Oral test and written test. | |
| | Coordinate Systems | | |

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| Unit-2 Title | The dimension of a vector space. | 1) Inquiry-based learning, Peer learning. | 20 hrs |
| | Rank. | 2) Black board, video, referring to articles on internet. | |
| | Change of Basis | 3) Written test, Quiz. | |
| | Eigen values and Eigen vectors. | | |
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| Unit-3 Title | The characteristic equation. | 1) Explanation, Testing previous knowledge. | 20 hrs |
| | Diagonalization. | 2) Black board, video, articles. | |
| | Eigen vectors and Linear transformation | 3) Oral test, Problem solving exercise. | |
| | complex Eigen values | | |
| | Application to Differential Equations | | |
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| Unit-4 Title | Inner Product | 1) Lecture method, Flip teaching | 20 hrs |
| | Length | 2) Black board, video, PPT | |
| | Orthogonality | 3) Peer evaluation worksheet Solving. | |
| | Orthogonal sets. | | |
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| | @eripala HOD | Principal | |
| Unit-5 Title | TSWRDC(W), Mancherial Department of Mathematics | PRINCIPAL TSWRDC(W), MANCHERIAL | |
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| | | Total Hours : | |

TELANGANA SOCIAL WELFARE RESIDENTIAL DEGREE COLLEGES

Name of the College TSWRDCW, Mancherial

SEMESTER PLAN

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| Names of the Course | BSC |
| Subject | Mathematics |
| Paper Name | Analytical Solid Geometry |
| Paper Code | DSE VI (C) |
| Learning Outcomes | Upon successful completion of this paper, students will be able to<br>1) Find centre and radius of sphere and circle<br>2) Find family of spheres passing through a circle, tangent planes and normal lines to a sphere.<br>3) Identify different conicoids and sketch them<br>4) Understand relationship between different coordinate systems and plot the curve in spherical, cylindrical polar coordinates<br>5) obtain eq of a cone, enveloping cone, cylinder, right circular cylinder, enveloping cylinder. |
| Faculty Name | B. DESI PALA |

| Unit | Topics | Teaching Pedagogy, Teaching Aids, Curricular, Extra-curricular Activities etc., | No. of Hours |
|---|---|---|---|
| Unit-1 Title | Sphere: Definition, The sphere through four given points, | 1) Lecture method, Group discussion, Presentation | 25 hrs |
| | Eqs of a circle, Intersection of a sphere and a line. | 2) Blackboard, video | |
| | Eq of a Tangent plane, Angle of Intersection of two spheres | 3) written test, Oral test. | |
| | Radical Plane. | | |

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| Unit-2 Title | Cones : Definition, | 1) Peer learning, Inquiry based learning | 20 hrs |
| | condition that the general eq of second deg represents a cone, | 2.) Blackboard, video, referring books and articles. | |
| | cone and a plane through its vertex. | 3) Flipped class, written test. | |
| | Intersection of a line with a cone. | | |
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| Unit-3 Title | The right circular cone, | 1) Lecture method, Group discussion. | 20 hrs |
| | The cylinder. | 2) Black board, PPT, referring books and journals. | |
| | The right circular cylinder. | 3) Written test, Presentation. | |
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| Unit-4 Title | The conicoid : The general eq of the second degree, | 1.) Lecture method, Peer teaching | 15 hrs |
| | Intersection of a line with a conicoid, | 2) Black board, video, referring articles and books. | |
| | Plane of contact, | 3) Oral test, Quiz, Presentation. | |
| | Enveloping cone and cylinder. | | |
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| | HOD | Principal | |
| | TSWRDC(W), Mancherial<br>Department of Mathematics | | |
| Unit-5 Title | | PRINCIPAL<br>TSWRDC(W), MANCHERIAL | |
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| | | Total Hours : | |