Name of Assistant Professor:- Ms.Manju (Asstt. Prof. Mathematics)

Class:- M.Sc(P)

Subject:- Differential Equation-II

Paper:- MM-411

Week	Date	Topic
Jan-2	08/01/2024-13/01/2024	linear second order equation: preliminaries, self adjoint equation of second order ,Basic facts
Jan-3	15/01/2024-20/01/2024	Superposition principal, Ricatti's Equation, Pruffer transformation
Jan-4	22/01/2024-27/01/2024	Zero of a solution, Oscillatory and non oscillatory Equations
Feb-1	29/01/2024-03/02/2024	Able's formula, Common zero of solutions and their linear dependence
Feb-2	05/02/2024-10/02/2024	Strum theory: Strum separation Theorem , Strum fundamental Comparison Theorem and its corollaries, Elementary linear oscillation
Feb-3	12/02/2024-17/02/2024	Autonomous System: the phase plane, path, critical points, types of critical points, definition
Feb-4	19/02/2024-24/02/2024	Node, Centre, saddle point, spiral point and stability of critical points
Feb-5	26/02/2024-02/03/2024	Critical points and paths of linear system: basic theorems and their applications
March-1	04/03/2024-09/03/2024	Critical points and paths of linear system: basic theorems and their applications
March-2	11/03/2024-16/03/2024	Liapunov function. Liapunov's direct method for stability of critical points of non-linear systems.
March-3	18/03/2024-22/03/2024	Limit cycles and periodic solutions: Limit cycle, existence and non-existence of limit cycles
April-1	01/04/2024-06/04/2024	Benedixson's non-existence criterion. Half-path or Semiorbit, Limit set, Poincare Benedixson theorem. Index of a critical point.
April-2	08/04/2024-13/04/2024	Second order boundary value problems(BVP): Linear problems; periodic boundary conditions, regular linear BVP, singular linear BVP; non-linear BVP. Sturm-Liouville BVP: definitions
April-3	15/04/2024-20/04/2024	eigen value and eigen function. Orthogonality of functions, orthogonality of eigen functions corresponding to distinct eigen values. Green's function. Applications of boundary value problems.
April-4	22/04/2024-30/04/2024	Use of Implicit function theorem and Fixed point theorems for periodic solutions of linear and non-linear equations

Name of Assistant Professor:- Ms.Manju (Asstt. Prof. Mathematics)

Class:- B.Sc /B.A.(III)

Subject:- Dynamics-II

Week	Date (3 Days per week)	Topic
Jan-2	08/01/2024-13/01/2024	Introduction about Syllabus
Jan-3	15/01/2024-20/01/2024	Basic definitions
Jan-4	22/01/2024-27/01/2024	Velocity and acceleration along Radical and transverse Direction
Feb-1	29/01/2024-03/02/2024	Velocity and acceleration along tangential and normal Direction
Feb-2	05/02/2024-10/02/2024	Motion of Particle on smooth planes
Feb-3	12/02/2024-17/02/2024	Motion of Particle on rough planes
Feb-4	19/02/2024-24/02/2024	Projectile motion of a particle in a plane.
Feb-5	26/02/2024-02/03/2024	Projectile motion of a particle in a plane (ctd...)
March-1	04/03/2024-09/03/2024	Vector angular velocity
March-2	11/03/2024-16/03/2024	General Motion of a Rigid Body, central orbit
March-3	18/03/2024-22/03/2024	General Motion of a Rigid Body, central orbit (ctd...)
April-1	01/04/2024-06/04/2024	Kapler's law of motion, motion of a particle in 3D
April-2	08/04/2024-13/04/2024	Kapler's law of motion, motion of a particle in 3D (ctd...)
April-3	15/04/2024-20/04/2024	Acceleration in terms of differential coordinates systems
April-4	22/04/2024-30/04/2024	Revision.