

Govind Guru Tribal University, Banswara
Details of Discipline Centric Core and Elective Courses for freshers
who will be admitted in the session 2023-24

(Separate sheet to be used for each discipline/subject)

Name of University: Govind Guru Tribal University, Banswara

Name of Faculty(ies) : SCIENCE

Name of Discipline/Subject: MATHEMATICS

Three-Year Bachelor Degree Program								
#	Level	Semester	Type	Title	Credits			Total
					L + T	P		
1	5	I	DCC	CALCULUS	5	1	0	6
2	6	II	DCC	GEOMETRY	5	1	0	6
3	6	III	DCC	ALGEBRA	5	1	0	6
4	6	IV	DCC	REAL ANALYSIS	5	1	0	6
5	7	V	DSE / GE	Differential Equations and Mechanics	5	1	0	6
6	7	VI	DSE / GE	DISCRETE MATHEMATICS	5	1	0	6


Rajendra Prasad Agarwal
Registrar
 Govind Guru Tribal University
 Banswara (Rajasthan)



GOVIND GURU TRIBAL UNIVERSITY BANSWARA

B.Sc. Three Year Graduate Course Semester I MATHEMATICS DCC Calculus

UNIT-I

- Polar coordinates and derivatives of arc, polar subtangent and subnormal, pedal-equation,
- Roll's Theorem, Mean Value Theorems, Taylor's Theorem, their proofs, verifications and
- applications. Asymptotes, curvature, Test of concavity and convexity. Points of inflexion. Multiple points. Tracing of curves in Cartesian and polar coordinates.

UNIT -II


- Beta Gamma functions and their properties. Quadrature, Rectification.

UNIT – III

- Degree and order of a differential equation. Equations of first order and first degree, Equations
- in which the variables are separable, Homogeneous equations. Linear equations and equations
- reducible to the linear form. Exact differential equations.

References:

- Gorakh Prasad : A Text book on differential calculus (Pothishala)
- Gorakh Prasad : A Text book on Integral calculus and Differential Equations (Pothishala).
- E. A. Codington : An introduction to ordinary Differential Equations Prentice Hall of India, 1961.
- Gokhroo, Saini : UchchAvakalan Ganita.


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GOVIND GURU TRIBAL UNIVERSITY BANSWARA

B.Sc. Three Year Graduate Course Semester II MATHEMATICS DCC GEOMETRY

UNIT - I

- General equation of second degree, nature of conic, eccentricity and foci of conic, Tracing of different conics. Ellipse : Tangent, normal, Chord of contact of the tangents, pole and polar, eccentric angle, auxiliary circle, director circle, equation of chord in term of middle point, pair of tangents, conjugate lines, diameter and conjugate diameters and their properties.

UNIT - II

- Hyperbola: Parametric coordinates, tangent, normal, chord of contact of tangents, pole and polar etc. asymptotes, conjugate hyperbola, conjugate diameters, rectangular hyperbola, equation of hyperbola referred to its asymptotes. Polar Equations: Polar equation of conic, polar equations of tangent, perpendicular lines and normal, director circle of the conic.

UNIT-III

- Plane and straight line: Equation to represent two planes and angle between them, projection on a plane area of a triangle and volume of tetrahedron. Equations of line intersecting two lines, skew lines, shortest distance between two lines, intersection of three planes and three lines.

References:

- Gorakh Prasad and H.C. Gupta : A Text book of coordinate Geometry (Pothishala)
- S.L.Loney : The Elements of coordinate Geometry; Mack- Millan and Company, London.
- P.K. Jain and Khalil Ahmed : A Textbook of Analytical Geometry of Three Dimensions, Wiley Eastern Ltd., 1999.
- N.Saran and R.S.Gupta : Analytical Geometry of Three Dimensions.(Pothishala)

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