Title	Modules of Syllabus, Classes and Examinations
Session	2018-19 (Even Semester)
Department	B.Sc General in Mathematics
Institution Name	Hiralal Bhakat College, Nalhati, Birbhum, W.B.
Coordinator	Dr. Banshidhar Sahoo, Assistant Professor in Mathematics

Details of Courses of B.Sc. General under CBCS

SI.	Course	Credit		Marks
1.	Core Course (12 Papers)	Theory+Practical	Theory+Tuitorial	12×75=900
	4 core papers each in 3 disciplines of choice	12×(4+2)=72	12×(5+1)=72	
2.	Elective Course DSE	6×(4+2)=36	6×(5+1)=36	6×75=450
	(6 Papers)			
3	Ability Enhancement Core			
	Course (AECC)	4×1=4	4×1=4	100
	AECC-1 (ENVS)	2×1=2	2×1=2	50
	AECC-2 (English/MIL)			
4.	SEC (4 Papers)	4×2=8	4×2=8	4×50=200
	Total Credit:	122	122	1700

B.Sc. Mathematics General Course Structure

Semester	Course Course (CC)	Discipline Specific Elective (DSE)	Ability Enhancement Course	
			AECC (2)	SEC (4)
I	CC1A (Mathematics) CC2A (Physics) CC3A (Computer Sc.)		AECC-1	
II	CC1B (Mathematics) CC2B (Physics) CC3B (Computer Sc.)		AECC-2	
Ш	CC1C (Mathematics) CC2C (Physics) CC3C (Computer Sc.)			SEC-1 (Mathematics) or SEC-1 (Computer Sc.)
IV	CC1D (Mathematics) CC2D (Physics) CC3D (Computer Sc.)			SEC-2 (Mathematics) or SEC-2 (Computer Sc.)
V		DSE1A (Mathematics) DSE2A (Physics) DSE3A (Computer Sc.)		SEC-3 (Mathematics) or SEC-3 (Physics)
VI		DSE1B (Mathematics) DSE2B (Physics) DSE3B (Computer Sc.)		SEC-4 (Mathematics) or SEC-4 (Physics)

Semester-II

Core Course (CC 1B): Differential Equation

- Total 75 Marks
- ➢ 60 Marks for Semester-end-Examination[#] (will be organized by University)
- 10+5=15 Marks for Internal Assessment (will be organized by College in general and Department in Particular)
- > 10 Marks for Class Test/ Assignment/ Seminar
- ➢ 5 Marks for Attendance

Attendance: 50% & above but below 60% - 2 Marks

Attendance: 60% & above but below 75% - 3 Marks

Attendance: 75% & above but below 90% - 4 Marks

Attendance: 90% & Above - 5 Marks

Weightage5 Marks5 MarksNumber of Questions44Date16.04.201907.05.2019Time11.30 am11.30 amSyllabusFirst order exact differential equations, Integrating factor. First order higher degree equation. Solvable for x, y, p. Methods for solving higher- differential equations. Formation differential equations. Basic Theory of differential equations. Wronskian and its Properties.Order and degree of partial differential equations. Formation of first order partial differential equation. Simultaneous differential equation only.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)	Internal Assessment	Component 1 (C ₁)	Component 2 (C ₂)
Number of Questions44Date16.04.201907.05.2019Time11.30 am11.30 amSyllabusFirst order exact differential equations, Integrating factor. First order higher degree equation. Solvable for x, y, p. Methods for solving higher- differential equations. Basic Theory of differential equations. Wronskian and its Properties.Order and degree of partial differential equations. Formation of first order partial differential equations. Linear partial differential equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)	Weightage	5 Marks	5 Marks
Date16.04.201907.05.2019Time11.30 am11.30 amSyllabusFirst order exact differential equations, Integrating factor. First order higher degree equation. Solvable for x, y, p. Methods for solving higher- differential equations. Basic Theory of differential equations. Basic Theory of differential equations. Wronskian and its Properties.Order and degree of partial differential equations. Formation of first order partial differential equations. Linear partial differential equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Order and degree of partial differential equations. Concept of linear and non-linear partial differential equations. Formation of first order partial differential equation of first order. Lagrange's method. Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)	Number of Questions	4	4
Time11.30 am11.30 amSyllabusFirst order exact differential equations, Integrating factor. First order higher degree equation. Solvable for x, y, p. Methods for solving higher- differential equations. Basic Theory of differential equations. Basic Theory of differential equations. Wronskian and its Properties.Order and degree of partial differential equations. Concept of linear and non-linear partial differential equations. Formation of first order partial differential equations. Linear partial differential equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation.Order and degree of partial differential equations. Concept of linear and non-linear partial differential equations. Formation of first order partial differential equation of first order. Lagrange's method. Charpit's method.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)	Date	16.04.2019	07.05.2019
SyllabusFirst order exact differential equations, Integrating factor. First order higher degree equation. Solvable for x, y, p. Methods for solving higher- differential equations. Basic Theory of differential equations. Wronskian and its Properties.Order and degree of partial differential equations. Concept of linear and non-linear partial differential equations. Formation of first order partial differential equations. Linear partial differential equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Order and degree of partial differential equations. Concept of linear and non-linear partial differential equations. Formation of first order partial differential equation of first order. Lagrange's method.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)	Time	11.30 am	11.30 am
Integrating factor. First order higher degree equation. Solvable for x, y, p. Methods for solving higher- differential equations. Basic Theory of differential equations. Wronskian and its Properties.differential equations. Formation of first order partial differential equations. Linear partial differential equation of first order. Lagrange's method.Linear homogeneous equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)	Syllabus	First order exact differential equations,	Order and degree of partial
degree equation. Solvable for x, y, p. Methods for solving higher- differential equations. Basic Theory of differential equations. Wronskian and its Properties.linear and non-linear partial differential equations. Formation of first order partial differential equations. Linear partial differential equation of first order partial differential equation of first order partial differential equation of first order partial differential equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)		Integrating factor. First order higher	differential equations. Concept of
Methods for solving higher- differential equations. Basic Theory of differential equations. Wronskian and its Properties.differential equations. Formation of first order partial differential equations. Linear partial differential equation of first order. Lagrange's method.Linear homogeneous equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)		degree equation. Solvable for x, y, p.	linear and non-linear partial
differential equations. Basic Theory of differential equations. Wronskian and its Properties.of first order partial differential equations. Linear partial differential equation of first order. Lagrange's method.Linear homogeneous equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)		Methods for solving higher-	differential equations. Formation
differential equations. Wronskian and its Properties.equations. Linear partial differential equation of first order. Lagrange's method.Linear homogeneous equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)		differential equations. Basic Theory of	of first order partial differential
its Properties.differential equation of first order. Lagrange's method.Linear homogeneous equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Charpit's method.Name of TeacherDr. Banshidhar SahooLineat homogeneous (Linear non- homogeneous equations)Number of Classes63 (Tentative)120 (Tentative)		differential equations. Wronskian and	equations. Linear partial
Name of TeacherDr. Banshidhar Sahoo120 (Tentative)Number of Classes63 (Tentative)120 (Tentative)		its Properties.	differential equation of first
Linear homogeneous equations with constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Charpit's method.Name of TeacherDr. Banshidhar SahooClassification of second order partial differential equation only.Number of Classes63 (Tentative)120 (Tentative)			order. Lagrange's method.
constant coefficients. Linear non- homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)		Linear homogeneous equations with	Charpit's method.
homogeneous equations. Methods of variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.Classification of second order partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)		constant coefficients. Linear non-	
variable of parameters. Cauchy-Euler equation. Simultaneous differential equation.partial differential equations into elliptic, parabolic and hyperbolic through illustration only.Name of TeacherDr. Banshidhar Sahoo120 (Tentative)		homogeneous equations. Methods of	Classification of second order
equation. Simultaneous differential equation. elliptic, parabolic and hyperbolic through illustration only. Name of Teacher Dr. Banshidhar Sahoo Number of Classes 63 (Tentative) 120 (Tentative)		variable of parameters. Cauchy-Euler	partial differential equations into
equation.through illustration only.Name of TeacherDr. Banshidhar SahooNumber of Classes63 (Tentative)120 (Tentative)		equation. Simultaneous differential	elliptic, parabolic and hyperbolic
Name of TeacherDr. Banshidhar SahooNumber of Classes63 (Tentative)120 (Tentative)		equation.	through illustration only.
Number of Classes 63 (Tentative) 120 (Tentative)	Name of Teacher	Dr. Banshidhar Sahoo	
	Number of Classes	63 (Tentative)	120 (Tentative)

** Component 3 (C₃):

- ➢ 60Marks for Semester-end-Examination (will be organized by University)
- Answer 10 questions out of 15 carrying 02 marks each = $10 \ge 02$ marks
- Answer 04 questions out of 06 carrying 05 marks each = $04 \times 05 = 20$ marks
- Answer 02 questions out of 04 carrying 10 marks each = $02 \times 10 = 20$ marks

Whole Syllabus of CC 1B

Head Department of Muthematics Hiralal Bhakat College Nalhati,Birbhum



Janton S.

Teacher- in- Charge Hiralal Bhakat College Nalhati, Birbhum