

# Chas College, Chas

## Department of Mathematics

### Courses Offered:

**BACHELOR OF Science in Mathematics/ UG Mathematics FYUGP**  
**FOUR-YEAR UNDERGRADUATE HONOURS/RESEARCH PROGRAMME (UNDER NEP–2020)**

### Paper and Topics:

#### COURSE STRUCTURE AND CONTENT SEMESTER-WISE SYLLABUS FOR FYUGP IN MATHEMATICS HONOURS/RESEARCH PROGRAMME

#### Major Papers

Year	Semester	Course Code	Title of the Paper	Theory	Credits
First Year	I	MJ-1	Calculus and Vector Calculus	Theory	04
	II	MJ-2	Real Analysis	Theory	04
Second Year	III	MJ-3	Higher Algebra & Trigonometry	Theory	04
		MJ-4	Differential Equation	Theory	04
	IV	MJ-5	Theory of Real Functions	Theory	04
		MJ-6	Group Theory - I	Theory	04
		MJ-7	Partial Differential Equation & Systems of Ordinary Differential Equation	Theory	04
Third Year	V	MJ-8	Numerical Methods	Theory	04
		MJ-9	Riemann Integration & Sequence and Series of Functions	Theory	04
		MJ-10	Ring Theory & Linear Algebra I	Theory	04
		MJ-11	Multivariate Calculus	Theory	04
	VI	MJ-12	Operation Research	Theory	04
		MJ-13	Linear Algebra	Theory	04
		MJ-14	Probability & Statistics	Theory	04
		MJ-15	Laplace Transform	Theory	04


**Note:** It is mandatory to take One Internship of 4 credits in any one of the semester during the first three years in FYUGP or before exit at any of the exit points if a student wishes to opt for the same.

Semester wise Course code and Credit Points for single Major during Fourth Year of FYUGP is as given in Table - 8A, 8B & 8C

#### Bachelor's Degree (Honours with Research)

Year	Semester	Course Code	Title of the Paper	Theory	Credits
Fourth Year	VIIA	MJ-16	Operation Research	Theory	04
		MJ-17	Linear Algebra	Theory	04
		MJ-18	Probability & Statistics	Theory	04
		RC 1	RESEARCH PROPOSAL-PLANNING AND TECHNIQUES	Theory	04
	VIII A	MJ-19	Operation Research	Theory	04
		MJ-20	Linear Algebra	Theory	04
		MJ-RC 2	Research Internship/ Field Work/Project/ Dissertation/Thesis	Theory	08

Bachelor's Degree (Honours)					
Fourth Year	VII B	MJ-16	Operation Research	Theory	04
		MJ-17	Linear Algebra	Theory	04
		MJ-18	Probability & Statistics	Theory	04
		AMJ-1	MJ-19 Operation Research	Theory	04
	VIII B	MJ-19	Operation Research	Theory	04
		MJ-20	Linear Algebra	Theory	04
		AMJ-1	Advanced Major Paper-1	Theory	04
		AMJ-2	Advanced Major Paper-2	Theory	04
BACHELOR'S DEGREE (WITH POST GRADUATE DIPLOMA)					
Fourth year	VII C	MJ-16	Operation Research	Theory	04
		MJ-17	Linear Algebra	Theory	04
		MJ-18	Probability & Statistics	Theory	04
		JOC-1	Skill based Job oriented Paper		04
	VIII C	MJ-19	Operation Research	Theory	04
		MJ-20	Linear Algebra	Theory	04
		JOC-2	Skill based Job oriented Paper		04
		JOC-3	Skill based Job oriented Paper		04
Multidisciplinary Course					
Sem	Course Code	Title of the Paper		Theory	Credit
I, II& III	MDC	MULTIDISCIPLINARY COURSE		Theory	3 (Each)
Ability Enhancement Course					
Sem	Course Code	Title of the Paper		Theory	Credit
I, II, III& IV	AEC	Language and Communication Skills		Theory	2 (Each)
Value Added Course					
Sem		Course Code	Title of the Paper	Theory	Credit
I, II& IV		VAC-1,2, 3	Value Added Course	Theory	2 (Each)
Associated Core Courses (From Discipline)					
Sem	Course Code	Title of the Paper		Theory	Credit
I/II	AC1/Minor	Calculus and Vector		Theory	04
III/IV	AC2/Minor	Differential Calculus		Theory	04
III/IV	AC3/Minor	Integral Calculus		Theory	04
List of Elective Course Papers (From Interdisciplinary)					
Year	Sem	Course Code	Title of the Paper	Theory	Credit
2	III	ELC-1	Elective courses from discipline/ Interdisciplinary/ vocational	Theory	04
	IV	ELC-2	Elective courses from discipline/ Interdisciplinary/ vocational	Theory	04
3	V	ELC-3	Elective courses from discipline/ Interdisciplinary/ vocational	Theory	04
	VI	ELC-4	Elective courses from discipline/ Interdisciplinary/ vocational	Theory	04
4	VII	ELC-5	Elective courses from discipline/ Interdisciplinary/ vocational	Theory	04
	VIII	ELC-6	Elective courses from discipline/ Interdisciplinary/ vocational	Theory	04

Internal Assessment and External Assessment			
Internal Assessment	Marks-25	External Assessment	Marks-75
Internal Assessment Test	20	MCQ/	5x1=05
Attendance/Other Activities	05	Shorts Answer Type	2x5=10
		Long Answer Type Questions	4x15=60
<p><b>NOTE:</b> Research Internship &amp; Dissertation/ Thesis (1x8=8 Credits) F.M.= 200 MARKS. In Semester VIII, Students will Complete an 8-Credit Course Involving a Research Internship and the Preparation of a Dissertation/Thesis. Students Must Submit a Comprehensive Research Report and Define Their Dissertation/Thesis. Marks Distribution May Be as Follows or Adjusted as Appropriate*:</p> <p>(a) Assessment of Projects Synopsis: 50 marks (b) Assessment of Project Thesis: 100 marks (c) Viva-voce: 50 marks</p>			
<p>Note: To know more detail about course content and topics see the syllabus of relevant subject linked website : <a href="https://bbmku.ac.in/Courses_details/FYUGP%202025">https://bbmku.ac.in/Courses_details/FYUGP%202025</a></p>			
<p><b>Admission Process:</b></p> <p>Admission in UG courses are through the Chancellor Portal (<a href="https://jharkhanduniversities.nic.in/home">https://jharkhanduniversities.nic.in/home</a>) at the start of each academic session i.e. in the month of May-June. Students must visit the Admission Notice section on the university website (<a href="http://www.bbmku.ac.in">www.bbmku.ac.in</a>) for all updates</p> <p><b>Total Departmental Intake/Seat: 64</b></p>			
<p><b>Faculty Details:</b></p> <div><p><b>Dr. Vivek Kumar Gupta</b> M.Sc.(Central University of South Bihar, Gaya), CSIR NET-JRF, CGSET, Ph.D. (Dr. Harisingh Gour Vishwavidyalaya, Sagar M.P.,) (A Central University), ) Email.id – <a href="mailto:v.vivekgupta@yahoo.com">v.vivekgupta@yahoo.com</a></p></div>			
<p><b>Syllabus:</b></p> <p><b>FYUGP Session: 2022 – 2026</b> <a href="https://bbmku.ac.in/storage/app/public/pdfs/e0JUcy9Pji08RvePZuRu6rQEmWPqxqv0nSbBknTG.pdf">https://bbmku.ac.in/storage/app/public/pdfs/e0JUcy9Pji08RvePZuRu6rQEmWPqxqv0nSbBknTG.pdf</a></p> <p><b>FYUGP Session: 2023 – 2027</b> <a href="https://bbmku.ac.in/storage/app/public/pdfs/oIvOjgrmQnJhYn155nfSvYKCKo1YpknLKvZs80v2.pdf">https://bbmku.ac.in/storage/app/public/pdfs/oIvOjgrmQnJhYn155nfSvYKCKo1YpknLKvZs80v2.pdf</a></p> <p><b>FYUGP Session: 2024 – 2028</b> <a href="https://bbmku.ac.in/storage/app/public/pdfs/mCCltZ0CCVUs9MGMTcelfDvOCfZ6QiRgSnJX47xH.pdf">https://bbmku.ac.in/storage/app/public/pdfs/mCCltZ0CCVUs9MGMTcelfDvOCfZ6QiRgSnJX47xH.pdf</a></p> <p><b>FYUGP Session: 2025 – 2029</b> <a href="https://bbmku.ac.in/storage/app/public/pdfs/EEQ4ACGVi3FP0qoYiX3F2MI845vu7nMMeoYEnW9Y.pdf">https://bbmku.ac.in/storage/app/public/pdfs/EEQ4ACGVi3FP0qoYiX3F2MI845vu7nMMeoYEnW9Y.pdf</a></p>			