

# Sem - V, VI - Geology Syllabus (FYUGP)



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FYUGP

## **GEOLOGY HONOURS/ RESEARCH SYLLABUS**

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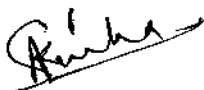


FOR UNDER GRADUATE COURSES UNDER  
BINOD BIHARI MAHTO KOYALANCHAL UNIVERSITY, DHANBAD



Implemented from  
Academic Session 2023-2027

**Members of Board of Studies of FYUGP Syllabus as per Guidelines of the  
Binod Bihari Mahto Koyalanchal University, Dhanbad**

As per Guidelines of the Binod Bihari Mahto Koyalanchal University, Dhanbad, Syllabus for undergraduate courses of Geology honours/research/minor under NEP-2020 was prepared by Members of Board of Studies of FYUGP. List of Members are following below

<u>Name of Members</u>		<u>Signature</u>
1. <b>DR. LEELAWATI KUMARI</b> Associate Professor, Dean Science and Head (Additional Charge) University Department of Geology, BBMKU, Dhanbad	<b>-Chairman</b>	
2. <b>DR. ATUL KUMAR SINHA</b> University Department of Geology, BBMKU, Dhanbad	<b>-Member</b>	
3. <b>DR. KRISHNA GOPAL</b> University Department of Geology, BBMKU, Dhanbad	<b>-Member</b>	
4. <b>DR. SAGAR KUMAR SWAIN</b> Department of Geology, PKRM College, BBMKU, Dhanbad	<b>-Member</b>	
5. <b>DR. C.P. MAHTO</b> Head, University Department of Geology, Ranchi University, Ranchi	<b>-External expert</b>	

## COURSE STRUCTURE FOR FYUGP 'HONOURS/ RESEARCH'

Table 1: Credit Framework for Four Year Undergraduate Programme (FYUGP) under State Universities of Jharkhand [Total Credits =160]

Level of Courses	Semester										Credits	Double Major (DMI)
	MF: Discipline specific courses-Core or Major (80)	MN: Minor from discipline (16)	MN: Minor from discipline (16)	MDC: Multidisciplinary Courses [Life Sciences, Phys. Mathematical and Computer Sciences, Data Analysis, Social Sciences, Humanities, etc. (9)	AEC: Ability Enhancement Courses (8)	SEC: Ability Enhancement Courses (9)	VAC: Value added Courses (6)	IAP: Internship / Dissertation (4)	RC: Research Courses (12)	AMP: Advanced Courses in lie of Research (12)		
1	3	4	5	6	7	8	9	10	11	12	13	14
100-199: Foundation or Introductory courses	4	4		3	2						20	4+4
	4+4	4	4	3	2	3					20	4+4
Exit Point: Undergraduate Certificate provided with Summer Internship/Project (4 credits)												
200-299: Intermediate-level courses	4+4	4	4	3	2	3					20	
	4+4+4	4	4	4	2	4	2				20	4+4
Exit Point: Undergraduate Diploma Certificate provided with Summer Internship in 1 <sup>st</sup> or 2 <sup>nd</sup> year /Project (4 credits)												
300-399: Higher-level courses	4+4+4	4						4			20	4+4
	4+4+4+4	4	4								20	4+4
Exit Point: Bachelor's Degree												
400-499: Advanced courses	4+4+4+4	4									20	4+4
	4	4	4	4					12	4+4+4	20	4+4
Exit Point: Bachelor's Degree with Hons./Research												
											160	224

Note: Honours students not undertaking research will do 3 courses for 12 credits in lieu of a Research project /Dissertation.

## SEMESTER WISE COURSES OF STUDY FOR FOUR YEAR UNDERGRADUATE PROGRAMME 2023 onwards

Table 2: Semester wise Course Code and Credit Points:

Semester	Common, Introductory, Major, Minor, Vocational & Internship Courses		Credits
	Code	Papers	
I	AEC-1	Language and Communication Skills (Modern Indian language including TRL)	2
	VAC-1	Value Added Course-1	4
	SEC-1	Skill Enhancement Course-1	3
	MDC-1	Multi-disciplinary Course-1	3
	MN-1A	Minor from Discipline-1	4
	MJ-1	Major paper 1 (Disciplinary/Interdisciplinary Major)	4
II	AEC-2	Language and Communication Skills (English)	2
	SEC-2	Mathematical & Computation Thinking Analysis	3
	MDC-2	Multi-disciplinary Course-2	3
	MN-2A	Minor from Vocational Studies/Discipline-2	4
	MJ-2	Major paper 2 (Disciplinary/Interdisciplinary Major)	4
	MJ-3	Major paper 3 (Disciplinary/Interdisciplinary Major)	4
III	AEC-3	Language and Communication Skills (Modern Indian language including TRL)	2
	SEC-3	Skill Enhancement Course-3	3
	MDC-3	Multi-disciplinary Course-3	3
	MN-1B	Minor from Discipline-1	4
	MJ-4	Major paper 4 (Disciplinary/Interdisciplinary Major)	4
	MJ-5	Major paper 5 (Disciplinary/Interdisciplinary Major)	4
IV	AEC-3	Language and Communication Skills (MIL-2/English-2)	4
	VAC-2	Value Added Course-2	2
	MN-2B	Minor from Vocational Studies/Discipline-2	4
	MJ-6	Major paper 6 (Disciplinary/Interdisciplinary Major)	4
	MJ-7	Major paper 7 (Disciplinary/Interdisciplinary Major)	4
	MJ-8	Major paper 8 (Disciplinary/Interdisciplinary Major)	4
V	MN-1C	Minor from Discipline-1	4
	MJ-9	Major paper 9 (Disciplinary/Interdisciplinary Major)	4
	MJ-10	Major paper 10 (Disciplinary/Interdisciplinary Major)	4
	MJ-11	Minor Paper 3 (Disciplinary/Interdisciplinary Minor)	4
	IAP	Internship/Apprenticeship/ Field work / Dissertation/ Project	4
VI	MN-2C	Minor from Vocational Studies/Discipline-2	4
	MJ-12	Major paper 12 (Disciplinary/Interdisciplinary Major)	4
	MJ-13	Major paper 13 (Disciplinary/Interdisciplinary Major)	4
	MJ-14	Minor Paper 14 (Disciplinary/Interdisciplinary Minor)	4
	MJ-15	Minor Paper 15 (Disciplinary/Interdisciplinary Minor)	4
VII	MN-1D	Minor from Discipline-1	4
	MJ-16	Major paper 16 (Disciplinary/Interdisciplinary Major)	4
	MJ-17	Major paper 17 (Disciplinary/Interdisciplinary Major)	4
	MJ-18	Minor Paper 18 (Disciplinary/Interdisciplinary Minor)	4
	MJ-19	Minor Paper 19 (Disciplinary/Interdisciplinary Minor)	4
VIII	MJ-20	Major paper 20 (Disciplinary/Interdisciplinary Major)	4
	RC/	Research Internship/ Field work/ Dissertation	12/
	AMJ-1	Advanced Major paper-1 (Disciplinary/Interdisciplinary Major)	4
	AMJ-2	Advanced Minor Paper 18 (Disciplinary/Interdisciplinary Minor)	4
	AMJ-3	Advanced Minor Paper 19 (Disciplinary/Interdisciplinary Minor)	4
		<b>Total Credits</b>	<b>160</b>

**Abbreviations:**

AEC Ability Enhancement Courses

SEC Skill Enhancement Courses

IAP	Internship/Apprenticeship/ Project
MDC	Multidisciplinary Courses
MJ	Major Disciplinary/Interdisciplinary Courses
DMJ	Double Major Disciplinary/Interdisciplinary Courses
AMJ	Advance Major Disciplinary/Interdisciplinary Courses
MN	Minor Disciplinary/Interdisciplinary Courses
RC	Research Courses

**AEC (Ability enhancements courses)- 2 Credits**

- Full marks – 50, Pass Marks – 20
- In AEC the students of all faculties will have to select either Hindi or English in Semester -1 and those students who have opted Hindi will have to select English as AEC in Semester -2 and vice versa. For 3<sup>rd</sup> and 4<sup>th</sup> semester student can opt Sanskrit, Urdu, Bengali, English, Hindi or TRL.
- In 4<sup>th</sup> semester there will be AEC-3 will include Language and Communication Skill in Hindi and English.
- No internal examination will be conducted.

**VAC (Value added Courses)- 2 Credits**

- Full marks – 50, Pass Marks – 20
- For 1<sup>st</sup> semester -- “Understanding India”
- For 4<sup>th</sup> Semester – “Environmental Studies”
- No internal examination will be conducted.

**SEC (Skill Enhancement Courses) – 3 Credits**

- Full Marks – 75, Pass Marks – 30
- Digital Education or Mathematical & Computational Thinking Analysis is selected as SEC. Student will have to select or opt either of the two subjects for semester – I, II and III in no case both subjects will be allowed to opt.
- No internal examination will be conducted.

**MDC (Multidisciplinary Courses) – 3 credits**

- Full Marks – 75, Pass Marks – 30
- A student will study three different subjects in the multidisciplinary courses during first three semesters.
- No internal examination will be conducted.

## SEMESTER WISE COURSES OF STUDY FOR FOUR YEAR UNDERGRADUATE PROGRAMME 2023 onwards

**Table 3: Semester wise Course Code and Credit Points and Marks distribution of Major Papers:**

S.N.	Semester	Paper	Credit	Full Marks-100			Pass Marks		
				Internal Theory (Mid Sem.)	End sem. Theory	End sem. Practical	Internal Theory (Mid Sem.)	End Sem. Theory	End sem. Practical
1.	I	MJ-1: Theory	4	25	75	-	10	30	-
2.	II	MJ-2: Theory	4	25	75	-	10	30	-
		MJ-3: Practical- I	4	-	-	100	-	-	40
3.	III	MJ-4: Theory	4	25	75	-	10	30	-
		MJ-5: Practical- II	4	-	-	100	-	-	40
4.	IV	MJ-6: Theory	4	25	75	-	10	30	-
		MJ-7: Theory	4	25	75	-	10	30	-
		MJ-8: Practical-III	4	-	-	100	-	-	40
5.	V	MJ-9: Theory	4	25	75	-	10	30	-
		MJ-10: Theory	4	25	75	-	10	30	-
		MJ-11: Practical-IV	4	-	-	100	-	-	40
6.	VI	MJ-12: Theory	4	25	75	-	10	30	-
		MJ-13: Theory	4	25	75	-	10	30	-
		MJ-14: Theory	4	25	75	-	10	30	-
		MJ-15: Practical-V	4	-	-	100	-	-	40
7.	VII	AMJ-01: Theory	4	25	75	-	10	30	-
		AMJ-02: Theory	4	25	75	-	10	30	-
		AMJ-03: Theory	4	25	75	-	10	30	-
		AMJ-04: Practical-VI	4	-	-	100	-	-	40
8.	VIII	AMJ-05: Theory	4	25	75	-	10	30	-

- Total theory papers will be 14 and practical papers will be 6.
- No internal or mid semester examination will be conducted for practical papers.

## SEMESTER WISE COURSES IN GEOLOGY FOR FYUGP

**2023 onwards****Table 5: Semester wise Papers and Examination Structure for Geology Major:**

Semester	Geology Major		Examination Structure				Pass Marks		
	Code	Papers	Credits	Internal (Mid Semester)	End Semester	End Semester	Internal Theory	End Sem.	End sem.
				Theory (F.M.)	Theory (F.M.)	Practical (F.M.)	(Mid Sem.)	Theory	Practical
I	MJ-1: Theory	Earth System Science	4	25	75		10	30	-
II	MJ-2: Theory	Structural Geology	4	25	75		10	30	-
	MJ-3: Practical	Practical				100	-	-	40
III	MJ-4: Theory	Igneous Petrology	4	25	75		10	30	-
	MJ-5: Practical	Practical				100	-	-	40
IV	MJ-6: Theory	Sedimentary Petrology	4	25	75		10	30	-
	MJ-7: Theory	Metamorphic Petrology	4	25	75		10	30	-
	MJ-8: Practical	Practical				100	-	-	40
V	MJ-9: Theory	Economic Geology	4	25	75		10	30	-
	MJ-10: Theory	Stratigraphic Principles & Indian Stratigraphy	4	25	75		10	30	-
	MJ-11: Practical-IV	Practical				100	-	-	40
VI	MJ-12: Theory	Paleontology	4	25	75		10	30	-
	MJ-13: Theory	Geomorphology	4	25	75		10	30	-
	MJ-14: Theory	Hydro Geology	4	25	75		10	30	-
	MJ-15: Practical-V	Practical				100	-	-	40
VII	AMJ-01: Theory	Ore Geology	4	25	75		10	30	-
	AMJ-02: Theory	Remote Sensing & GIS	4	25	75		10	30	-

	AMJ-03: Theory	Engineering Geology	4	25	75		10	30	-
	AMJ-04: Practical- VI	Practical				100			40
<b>VIII</b>	AMJ-05: Theory	Exploration Geology	4	25	75		10	30	-