

1,3,1 & partly 2,3,1  
(Highlighted)

## Summary of Course Structure (M.Sc. in Geology)

Number of Papers	:	15 (14 Compulsory + 4 Practicals + 01 Elective + 02 interdisciplinary)
Field-work	:	02 (Two to three weeks at the end of 1st and 3 <sup>rd</sup> Semester)
Summer Training	:	01 (Minimum 04 weeks, during summer break between 2 <sup>nd</sup> and 3 <sup>rd</sup> Semester)
Project Oriented Dissertation	:	4th Semester
Total Marks	:	2400
Total Credits	:	96

### Time-schedule of Four Semester M. Se. Geology Course:

**1<sup>st</sup> Semester**  
**Paper 101-104+Field-work (105)**

**Teaching**  
 16th July to 31<sup>st</sup> October

**Field Work**  
 1<sup>st</sup> November to 21<sup>st</sup> November

**Examination**  
 8<sup>th</sup> December – 21<sup>st</sup> December

**3<sup>rd</sup> Semester**  
**Paper 30 I-304+Field-work (305)**

**Teaching**  
 16th July to 31<sup>st</sup> October

**Field Work**  
 1<sup>st</sup> November to 21<sup>st</sup> November

**Examination**  
 8<sup>th</sup> December – 21<sup>st</sup> December

**Summer  
Training**  
 In the  
 Summer  
 Break  
 Between  
 2<sup>nd</sup> and 3<sup>rd</sup>  
 Semester

**2<sup>nd</sup> Semester**  
**Paper 201-205**

**Teaching**  
 8<sup>th</sup> January to 7<sup>th</sup> April

**Examination**  
 21<sup>st</sup> to 30<sup>th</sup> April

**4<sup>th</sup> Semester**  
**Paper 14 (401), 15 (Elective,  
402) and Dissertation (403)**

**Teaching**  
 8<sup>th</sup> January to 7<sup>th</sup> April

**Examination + Dissertation**  
 21<sup>st</sup> April to 30<sup>th</sup> April

  
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### Semester 3:

COURSE NO.	COURSE	Scheme of Examinations	Examination Internal Assessment
GLG 301	Ore Geology and Mineral Economics (4 credits)	70	30
GLG 302	Oil and Coal Geology (4 credits)	70	30
GLG 303	Geo-Exploration (4 credits)	70	30
GLG 304	Engineering Geology (4 credits)	70	30
GLG 305	Practicals (4 credits)	80	20
GLG 306	Geological Field Training (2 credits)	15 (viva-voce)	35 (field work +report)
<b>Total</b>	<b>Credits - 22</b>		<b>Marks - 550</b>

### Semester 4:

COURSE NO.	COURSE	Scheme of Examinations	Examination Internal Assessment
GLG 401*	Remote Sensing and GIS (4 credits)*	70	30
GLG 402	Geophysics (4 credits)	70	30
GLG 403	Interdisciplinary course from other department (4 credits)	70	30
GLG 404	Elective Courses (4 credits) (i)* Paleogeography and Paleoclimatology* (ii) Geochemistry and Isotope Geology (iii) Advanced Mineralogy (iv) Earthquake Geology and Seismotectonics (v)* Applied Hydrogeology* (vi) Active Tectonics and Geomorphology (vii)* Environmental Geology* (viii) Sedimentary Environments (ix)* Natural Hazards and Disaster Management* (x) Rock Mechanics and Rock Engineering	70	30

  
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**CHOICE BASED CREDIT SYSTEM (CBCS):**

The CBCS provides an opportunity for the students to choose courses from the prescribed courses comprising core, elective/minor or skill based courses. The courses can be evaluated following the grading system, which is considered to be better than the conventional marks system. Therefore, it is necessary to introduce uniform grading system in the entire higher education in India. This will benefit the students to move across institutions within India to begin with and across countries. The uniform grading system will also enable potential employers in assessing the performance of the candidates. In order to bring uniformity in evaluation system and computation of the Cumulative Grade Point Average (CGPA) based on student's performance in examinations, the UGC has formulated the guidelines to be followed.

**Outline of Choice Based Credit System:**

1. **Core Course:** A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course.
2. **Elective Course:** Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the candidate's proficiency/skill is called an Elective Course.
  - 2.1 **Discipline Specific Elective (DSE) Course:** Elective courses may be offered by the main discipline/subject of study is referred to as Discipline Specific Elective. The University/Institute may also offer discipline related Elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).
  - 2.2 **Dissertation/Project:** An elective course designed to acquire special/advanced knowledge, such as supplement study/support study to a project work, and a candidate studies such a course on his own with an advisory support by a teacher/faculty member is called dissertation/project.
  - 2.3 **Generic Elective (GE) Course:** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is called a Generic Elective.  
P.S.: A core course offered in a discipline/subject may be treated as an elective by other discipline/subject and vice versa and such electives may also be referred to as Generic Elective.
3. **Ability Enhancement Courses (AEC)/Competency Improvement Courses/Skill Development Courses/Foundation Course:** The Ability Enhancement (AE) Courses may be of two kinds: AE Compulsory Course (AECC) and AE Elective Course (AEEC). "AECC" courses are the courses based upon the content that leads to Knowledge enhancement. They ((i) Environmental Science, (ii) English/MIL Communication) are mandatory for all disciplines. AEEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, etc.
  - 3.1 AE Compulsory Course (AECC): Environmental Science, English Communication/MIL Communication.
  - 3.2 AE Elective Course (AEEC): These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based instruction.

**Project work/Dissertation** is considered as a special course involving application of knowledge in solving / analyzing /exploring a real life situation / difficult problem. A Project/Dissertation work would be of 6 credits. A Project/Dissertation work may be given in lieu of a discipline specific elective paper.

  
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**Details of courses under B.A (Honors), B.Com (Honors) & B.Sc. (Honors)**

Course	*Credits	
	Theory+ Practical	Theory + Tutorial
<b><u>I. Core Course</u></b>		
(14 Papers)	14X4= 56	14X5=70
<b>Core Course Practical / Tutorial*</b>		
(14 Papers)	14X2=28	14X1=14
<b><u>II. Elective Course</u></b>		
(8 Papers)		
A.1. Discipline Specific Elective	4X4=16	4X5=20
(4 Papers)		
A.2. Discipline Specific Elective		
Practical/ Tutorial*	4 X 2=8	4X1=4
(4 Papers)		
B.1. Generic Elective/		
Interdisciplinary	4X4=16	4X5=20
(4 Papers)		
B.2. Generic Elective		
Practical/ Tutorial*	4 X 2=8	4X1=4
(4 Papers)		
• Optional Dissertation or project work in place of one Discipline Specific Elective paper (6 credits) in 6 <sup>th</sup> Semester		
<b><u>III. Ability Enhancement Courses</u></b>		
<b>1. Ability Enhancement Compulsory</b>		
(2 Papers of 2 credit each)	2 X 2=4	2 X 2=4
Environmental Science		
English/MIL Communication		
<b>2. Ability Enhancement Elective (Skill Based)</b>		
(Minimum 2)	2 X 2=4	2 X 2=4
(2 Papers of 2 credit each)		
<b>Total credit</b>	<b>140</b>	<b>140</b>
<b>Institute should evolve a system/policy about ECA/ General Interest/Hobby/Sports/NCC/NSS/related courses on its own.</b>		

\* wherever there is a practical there will be no tutorial and vice-versa

SEMESTER	COURSE OPTED	COURSE NAME	CREDIT
I	Ability Enhancement: compulsory course - I	Communicative English	2
	Core Course - I	Earth System Science	4
	Core Course – I (Practical)		2
	Core Course - II	Mineral Science	4
	Core Course – II (Practical)		2
	Generic Elective – I	GE - I	4
	Generic Elective - I (Practical)	GE - I	2
		<b>Total Credit</b>	<b>20</b>
SEMESTER	COURSE OPTED	COURSE NAME	CREDIT
II	Ability Enhancement: compulsory course - II	Environmental Science	2
	Core Course – III	Elements of Geochemistry	4
	Core Course – III (Practical)		2
	Core Course - IV	Structural Geology	4
	Core Course – IV (Practical)		2
	Skill enhancement course - I	Field Work - I	2
	Generic Elective - II	GE – II	4
		<b>Total Credit</b>	<b>20</b>

SEMESTER	COURSE OPTED	COURSE NAME	CREDIT
V	Core Course – XI	Economic Geology	4
	Core Course – XI (Practical)		2
	Core Course – XII	Geomorphology	4
	Core Course – XII (Practical)		2
	Discipline Specific Elective - I	DCE - I	4
	Discipline Specific Elective - I (Practical)		2
	Discipline Specific Elective - II	DCE - II	4
	Discipline Specific Elective - II (Practical)		2
		<b>Total Credit</b>	<b>24</b>
SEMESTER	COURSE OPTED	COURSE NAME	CREDIT
VI	Core Course – XIII	Engineering Geology	4
	Core Course – XIII (Practical)		2
	Core Course – XIV	Remote Sensing & GIS	4
	Core Course – XIV (Practical)		2
	Discipline Specific Elective - III	DSE - III	4
	Discipline Specific Elective (Practical - III)		2
	Discipline Specific Elective - IV	DSE - IV	4
	Discipline Specific Elective (Practical - IV)		2
	Skill Enhancement Course - III	SEC – III (Field Work)	2
		<b>Total Credit</b>	<b>26</b>
<b>Grand Total of Credits in Six Semesters</b>			<b>140</b>

SEMESTER	COURSE OPTED	COURSE NAME	CREDIT
III	Core Course – V	Igneous Petrology	4
	Core Course – V (Practical)		2
	Core Course - VI	Sedimentary Petrology	4
	Core Course – VI (Practical)		2
	Core Course – VII	Paleontology	4
	Core Course – VII (Practical)		2
	Generic Elective - III		4
	Generic Elective - III (Practical)		2
		<b>Total Credit</b>	<b>24</b>
SEMESTER	COURSE OPTED	COURSE NAME	CREDIT
IV	Core Course – VIII	Metamorphic Petrology	4
	Core Course – VIII (Practical)		2
	Core Course – IX	Stratigraphic Principles and Indian Stratigraphy	4
	Core Course IX Practical		2
	Core Course – X	Hydrogeology	4
	Core Course – X (Practical)		2
	Skill Enhancement Course - II	Field Work - II	2
	Generic Elective - IV	GE - 4	4
	Generic Elective - IV (Practical)		2
		<b>Total Credit</b>	<b>26</b>