Program Objective, Course Objective and Learning Outcome for Geology (H) CBCS course

Semester	Name of the paper	Paper Code	Program Objective	Course Objective	Learning Outcome
1st	Earth System Science	BGELCCHC101	Overall understanding of different branches of Earth Science, with a special emphasis on understanding the works of earth's inteior. Interpreting signature of geological incidents as may be preserved in rock records. Application of knowledge to explore natural resource like minerals, oil, coal, water.	Overall understanding of the subject as a branch of Earth science, Interpreting signature of geological incidents as may be preserved in rock records. Earth system science introduces the subject as a whole as it is not taught holistically in school level.	Overall students will learn the basics of geology, terminologies used in different branches of geology, origin and evolution of the earth itself as well as life and atmosphere on earth, cause of different geological phenomenon etc.
	Mineral Science	BGELCCHT102		Imparts basic knowledge of minerals & rocks which are natural specimens.	Students will learn the basics of mineral structures, formulas, rock composition and gain practical knowledge of the studied minerals and rocks from hand specimens.
2nd	Elements of Geochemistry	BGELCCHT201		Objectivity of Elementary geochemistry is to study and correlate elemental chemistry with mineralogy and petrogenetic processes	Students will learn about different geochmical process that are active within and on the surface of the earth
	Structural Geology	BGELCCHT202		Structural geology is to apprise students of knowledge regarding impact of pressure, tension in the earth interior.	Students will learn the types of deformation pattern that rocks experience within earth's interior and surface.
3rd	Igneous Petrology	BGELCCHT301		Igneous petrology as a branch of petrology it gives a knowledge regarding magma crysyallidsation at different depth, pressure , temperature and also throws light upon upper mantle composition of earth interior .	Students learn to apply the knowledge to explore minerals in igneous rocks .
	Sedimentology	BGELCCHT302		Sedimentology imparts a knowledge dome regarding weathering, erosion, deposition and lithification through diagenesis .	Students learn to track elements dispersion which can be applied to explore minerals hosted in sedimentary rocks.
	Paleontology	BGELCCHT303		Palaeontology is the study of fossil specimens of organism that lived through geological history. Hence, objective will be to impart knowledge about origin and evolution of life through geological time.	In palaeontology students learn about evolution by taking into consideration chrono species which is biospecies along with a 3rd dimesion called Lineage. since bio events are more or less synchronous throughout the world and the very much ambient environment sensitive , this particular domain of knowledge is used as a tool to interpret past.
4th	Metamorphic Petrology	BGELCCHT401		Metamorphic petrology deals with metamorphism of crustal material as a function of pressure and temperature.	Students learn to observe the change of crustal substrate due to ever changing pressure temperature.
	Principle of Stratigraphy & Precambrian Stratigraphy of India	BGELCCHC402		Stratigraphy deals with stratified rocks. A strata of rock gets formed during a specific time span overlain and underlain by younger and older rock respectively . students learn to unearth the information encrypted in a strata of rock to interpret and correlate remote past.	Students learn to unearth the information encrypted in a strata of rock to interpret and correlate remote past. Also students will gather knowledge about regional examples of stratigraphic horizons, as well as earliest timeline of formation of peninsular India in the geological history of earth.
	Phanerozoic Stratigraphy of India	BGELCCHC403			
5th	Hydrology	BGELCCHC501		Hydrogeology -The main objectivity of the course module is to have a knowledge regarding exploration of ground water as a resource	Students learn to apply their expertise to explore hydrological resources and this makes the subject itself of viable career option.
	Economic Geology	BGELCCHC502		This course helps in understanding different aspects on ore mineraliztion and natural rsoursce exploration and management.	Students learn to apply their expertise to explore natural resource which makes the subject itself of viable career option.
	Evolution of life through time	BGELDSHT1		Elevctive paper, where an understanding of geological phenomenon and the resultant evolution of life froms happened through time have been discussed.	Students will learn about Evolutionary history of life forms from Archaen to Cenozoic time.
	Exploration Geology	BGELDSHT2		The acquired knowledge in this domain is basically application of entire knowledge dome of geology. Minerals and other natural resources are needed to be explored prior to mining. This will orient students for exploration and utilization of natural energy resources and their alternative sources.	This imparts an applicational edge of the subject itself and enhances its viability as a career option.
	Fuel Geology	BGELDSHT3		Natural fuels like coal, petroleum are traditional energy resources. These are regulators of fiscal health of a country. Nuclear fuels are strategic minerals.	Students will learn the genesis, mode of occurrence and exploration of these materials.
6th	Remote Sensing & GIS	BGELCCHC601		It imparts some knowledge regarding morphology of surficial features. Remote sensing is an effective tool particularly for inaccessible terrain. Preliminary knowledge and basic level acquaintance of GIS has relevance to some extent in Geology.	Technological advancement in the field of Geology with the proper knowledge of GIS and Remote Sensing will aid them to monitor and predict calamities in advance for proper implementation. They will also have the scope to expand/progress in any sector from all the previous theoretical and practical knowledge.
	Engineering Geology	BGELCCHC602		In engineering geology students acquire a know-how regarding feasibility study and impact assessment prior to a heavy civil construction.	Students will be able to contribute by assessing the impact of developing a civil engineering projects initiated by the Govt. or in private sectors.
	Geodynamics	BGELDSHT5		This branch of the subject deals with the sluggish changes that continuously take place within earth, ever changing plate configuration as function of internal forces and rheology.	The students would be in a stage to reconstruct the past and may frame models/experiments to predict the future geo-morphological scenario with respect to earths geo-dynamicity. The learners can exercise or advice proper action to reduce the natural or or human induced calamities at times when it cannot be prevented.
	Introduction to Geophysics	BGELDSHT6		Though Geophysics is a different subject altogether, but as its application are there in geological exploration and mineral resource finding, this paper has been kept as an elective for better understanding of the basic principles of physics of the earth	Students here will learn about different aspects of physics of earth and understand how of seismic waves and electric resistivity works inside earth's interior. Also grasp on this subject will help in the job market