DEPARTMENT OF GEOLOGY
SEMESTER – V
BSC (H) Geology
Category - I

DISCIPLINE SPECIFIC CORE COURSE - DSC – 13: Economic Geology (L3, P1)

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC – 13: Economic Geology (L3, P1)	**4**	**3**	**0**	**1**	**12th pass with science**	**Studied Earth System Science and Equivalent**

Learning Objectives
This course on economic geology is provide basic knowledge and leaning to students to about morphology, structure, mineralogy, petrology and geochemistry of various ore deposits, and to help them to develop a basic idea and comprehension of different ore forming processes.

Learning outcomes
After going through this course students will develop basic understanding and skill about the characteristics and distribution of mineral resources and the knowledge on different ore-bearing geological systems. They will learn about the different processes that are responsible for producing different types of ores corresponding to different tectonic settings. They will learn about the different major ore bodies that have been identified in different parts of the India.

SYLLABUS OF DSC-7
Theory (45 hours)

UNIT – I (9 hours)
Detailed content
Introduction to ore geology: Economic and academic definitions/terminologies of ore geological components. Ore minerals and their uses. Morphology and style of ore mineralization. General textures and structures

UNIT – II (9 hours)
Detailed contents
Basic principles of an ore deposit formation: Geochemical behaviour of elements in ore geological systems. Concept of source-transporting agent-driving mechanism-trap

UNIT – III (9 hours)
Detailed contents
Ore forming processes: Magmatic ore forming processes. Hydrothermal ore forming processes. Sedimentary ore forming processes. Surficial and supergene ore forming processes

UNIT – IV (9 hours))
Detailed contents
Basic mineral economics and policies: Introduction to mineral economics related to metal an non-metallic commodities. Application of mineral economics to understand mineral commodity markets. An assessment of the mineral economics for the public and corporate policies.

UNIT – V (9 hours)
Detailed contents
Distribution of major metallic and non-metallic ore deposits in India

Practical Component- (30 Hours)
Identification of common ore minerals by physical and optical properties

Essential/recommended readings
Robb, L., 2020. Introduction to ore-forming processes. John Wiley & Sons.
Evans, A.M., 2009. Ore geology and industrial minerals: an introduction. John Wiley & Sons

Suggestive readings
Robb, L., 2020. Introduction to ore-forming processes. John Wiley & Sons.
Evans, A.M., 2009. Ore geology and industrial minerals: an introduction. John Wiley & Sons.
Bateman, A.M. and Jensen, M.L. 1990. Economic Mineral Deposits. John Wiley & Sons.
Misra, K., 2012. Understanding mineral deposits. Springer Science & Business Media.
Ramdohr, P., 2013. The ore minerals and their intergrowths. Elsevier.
Sarkar, S.C. and Gupta, A., 2012. Crustal evolution and metallogeny in India. Cambridge University Press.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.