

7 <sup>th</sup> Semester	RMN7D006	Advanced Underground Coal Mining	L-T-P 3-0-0	3 Credits
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**Module-I:****(10hours)**

Mining of thick seams: Concept of a thick seam; Problems of mining thick seams; Past experience of working thick seams by Bord & Pillar method in multi-sections; Longwall based multi-slice methods:-Inclined slicing, horizontal slicing and cross-slicing in ascending and descending sequence; Under winning methods:-sub-level caving, integral caving, blasting gallery method, descending shield method

**Module-II:****(10hours)**

Hydraulic Mining of Coal:Conditions suitable for hydraulic Mining of Coal, Hydraulic Mining Operation, Hydraulic breaking of coal, hydraulic transport and hydro hoisting; Layout of workings for hydraulic mining of moderately thick seams

**Module-III:****(10hours)**

Mining of thin seams: Problems in Mining thin seams; Equipment and methods for thin seam extraction.Highwall Mining: Introduction, Applicability and Method

**Module-IV:****(10hours)**

Underground Coal Gasification: Conditions suitable for Underground Coal Gasification; Basic principle and technology of underground coal gasification, Advantage and disadvantage of UCG: Scope of application of UCG in Indian conditions

**Books:**

- [1] Longwall mining by Syd.S.Peng - Department of Mining Engineering, West Virginia University
- [2] Coal Mining by C.F.Statham – English Universities Press
- [3] Longwall thick seam mining by R.V.Ramani&A.K.Ghosh – N.S.F. (U.S.)