



Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Underground Coal Mines

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Explain opening of coal seam by adits. (10 Marks)
 b. Explain the concept of “Division of mine into blocks”. (10 Marks)
- 2 a. Explain the factors which influences the choice of Coal Mining Methods. (12 Marks)
 b. Write the Basic Coal Mining Methods and write the advantages and disadvantages of Bord and Pillar method of Mining. (08 Marks)
- 3 a. Explain Bord and Pillar Mining System. (08 Marks)
 b. Find out : i) Strength of Pillars and ii) Factor of Safety of pillars for given data
 Given : Depth of Working = 200m (656.17 ft) ; Width of galleries = 3m (9.84 ft)
 Height of galleries = 3m (9.84 ft) ;
 Width of square pillars between centers of Bords = 22.5m (73.82 ft).
 Assume density of the strata to be 2.306 tonnes /m³. (12 Marks)
- 4 Mention and explain variants of Room and Pillar method. (20 Marks)

PART – B

- 5 a. Mention and explain the classification of Modern LongWall faces. (10 Marks)
 b. Explain planning of Long Wall Mining system. (10 Marks)
- 6 a. What are the problems associated with Mining Thin Seams and Mining Thick Seams? (10 Marks)
 b. Explain Inclined slicing in Descending order with stowing with a neat sketch. (10 Marks)
- 7 a. Explain Sublevel Caving of Mining thick coal seam, with neat sketch. (10 Marks)
 b. Explain Velenjee method of Mining thick seam, with neat sketch. (10 Marks)
- 8 a. Write short notes on “Hydraulic Mining”. (10 Marks)
 b. Write short notes on “Goaf Control”. (10 Marks)
