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Roll No

MI - 405**B.E. IV Semester Examination, June 2015****Underground Coal Mining****Time : Three Hours****Maximum Marks : 70**

- Note:** i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
 ii) All parts of each questions are to be attempted at one place.
 iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.
 iv) Except numericals, Derivation, Design and Drawing etc.

1. a) What is meant by coking coal?
 b) Define fault.
 c) Explain Drift theory.
 d) Write a note on Important coal fields in India.

Or

Discuss the various factors affecting the choice of coal mining methods.

2. a) Define Pillar and Gallery.
 b) Define Goaf.
 c) What is meant by Depillaring? Explain any one method.
 d) What is Panel system of Mining? Explain it. Mentions its advantages. How the size of panel is determined?

Or

What is Board and Pillar method of Mining? Discuss the applicability and limitations of the method.

3. a) What do you mean by longwall advancing?
 b) Write down the applicability of Longwall mining method.
 c) What is meant double unit longwall face? Explain.
 d) What are the various parameters required to be considered for determining the length of a longwall face?

Or

Draw a neat layout of a longwall retreating face and explain the method.

4. a) Explain the mechanism of cable bolting.
 b) Explain any one slicing method.
 c) Discuss the various problems associated with thick seam mining in brief.
 d) What is sublevel caving? Explain in brief.

Or

Explain blasting gallery method with suitable sketch.

5. a) What is shortwall mining?
 b) Explain Hydraulic mining in brief.
 c) Discuss the various provisions of coal mines regulations related with mining of contiguous seams.
 d) Discuss the various provisions of coal mines regulations related with mining under water bearing strata and mining of seams prone to spontaneous heating.

Or

Write a note on mass production technology citing any mine which is using the above technology.
