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**UNIVERSITY OF PETROLEUM
AND ENERGY STUDIES**



End Semester Examination, December 2017

Program: B. Tech (Mining Engg)

Semester –Vth

Subject (Course): Solid Fuel & Clean Coal Technology

Max. Marks: 100

Course Code : PSEG 316

Duration : 3 Hrs

No. of page/s: 02

Instructions:

- a. Answers should carry the equations and diagrams, wherever necessary
- b. Section A is compulsory
- c. In Section B, first 3 are compulsory & attempt any 1 from Q-5
- d. In section C, all questions are compulsory

Section: A

20 Marks

Each question carries 05 marks

(4*5=20 Marks)

1.
 - a) What are the requisites for UCG?
 - b) What are the advantages of direct liquefaction?
 - c) What are the pre-treatment processes for coal gasification?
 - d) How many types of porosity exist in coal? Explain their significance

Section: B

(4*10= 40 Marks)

2. What are the differences between direct & indirect liquefaction?
3. Discuss the transition from coal bed gas to coal bed methane.
4. Summarize the reaction process involved in gasification
5. Gasification is a combination of four processes. Explain those

OR

Discuss the various gasification processes & highlight the application of UCG.

Section: C

(2*20=40 Marks)

6. What do you mean by ECBM technique? Why it's required & what are the available ECBM techniques? (5+5+10)
7. Why there is a need to establish linkage between boreholes in UCG? Discuss the various existing methods to establish the linkage (5+15)



