Code No: 138BA **R16**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year II Semester Examinations, September - 2020
COAL GASIFICATION COAL BED METHANE AND SHALE GAS
(Mining Engineering)

Time: 2 Hours **Max. Marks: 75**

Answer any Five Questions
All Questions Carry Equal Marks
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1.a) Explain factors affecting underground coal gasification.
b) List the merits of Underground Coal Gasification (UCG). [7+8]

2. Explain the thermo-chemical processes during the UCG syngas generation. [15]

3.a) State depending factors for carbonization and heating value of the product gas.
b) Explain the terms i)Firedamp ii) Volatiles iii) Fixed carbon. [7+8]

4.a) Describe the basic component factors for UCG process.
b) Describe the Filtration Process of UCG. [8+7]

5.a) Explain the stream method of UCG.
b) Explain the borehole procedure method. [7+8]

6.a) Explain the Chamber method of UCG.
b) Discuss the applicability and operation technique of stream method. [7+8]

7.a) Discuss the applicability and operation technique Non-Mining method of inclined seams method of UCG.
b) State the advantages of Seams method of UCG. [8+7]

8. Discuss various case histories for linkage establishment in different countries. [15]

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JNTUH USED PAPER Sep-2020