

MEEM-201

M.E./M.Tech., II Semester Examination, June 2020

Clean Coal and Green Power Technology

Time : Three Hours

Maximum Marks : 70

- Note:** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Explain the concept of super critical power cycles. Discuss the benefits and challenges?
b) Discuss the waste heat recovery and cogeneration in brief.
2. a) Write a brief note on carbon capture and sequestration.
b) Explain in brief the need of zero emission technologies and barriers in their implementation.
3. a) Describe algae. Give a brief classification of algae.
b) What do you understand by the term carbon credit? Discuss it in brief.
4. Explain and discuss the flow diagram of IGCC plant. What are the benefits and drawbacks? Comment on its cost and reliability.
5. a) Explain in brief proton exchange membrane fuel cell.
b) Explain in brief the principle of MHD generator.
6. a) Explain in brief the fluidized bed combustion boilers.
b) Discuss in brief the oxy fuel combustion. Explain its components.
7. a) What is aquifer? Explain in brief the classification of aquifer.
b) Explain in brief the various types of nuclear reactors.
8. Write short note on :
 - a) Gas cleaning system
 - b) Hydrogen production
 - c) Flue gas desulfurization
