

Master Second Semester Exam2020
Subject: New and Renewable energy
conversation MPE602
Date 23/08/2020



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Faculty of Engineering, Shebin El-Kom
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Time allowed: 3 hours

N.B. Please use neat sketches to clarify your answer.

- 1-Define the following, biomass, energy storage, fuel cell, geothermal energy, solid fuel, thermo-ionic power converter. (10 Marks)
- 2-Briefly explain three different biomass energy resources and give the most known biomass products.(10 Marks)
- 3-Show the importance of energy storage and explain three different techniques used to store renewable energy..... (14 Marks)
- 4-Talk About the most used fuel cell types showing the theory of work, advantages, and the disadvantages of each type. (12 Marks)
- 5-List and explain the most important applications that can utilize geothermal energy and mention the challenges that faces the user of geothermal energy. (20 Marks)
- 6-Explain in some detail four techniques used to collect and utilize solar radiation in low, medium, and high temperature.(20 Marks)
- 7-Explain the theory of work for the different types of thermionic energy converters and mention the advantages and challenges of thermionic energy conversion units. (14 Marks)