Enrollment No.....

Master of Technology

Third Semester Main Examination, December 2021

Computer Aided Design of Thermal System [MTTPE301(1)]

Time: 3:00 Hrs **Max Marks 70**

Note : Attempt any five questions.
All questions carry equal marks.

Q.1 (a) Explain the formulation of design problem of a thermal system ?
(b) What do you understand by mathematical modeling ? compare it with physical modeling ?

Q.2 (a) What is numerical simulation ? Discuss different methods of numerical simulation ?
(b) What is dynamic programmine ? state its limitation ?

Q.3 (a) Describe calculus method of optimization ?
(b) Explain system simulation and numerical modeling ?

Q.4 (a) How is simulation of a quewing system done ?
(b) Explain in brief genetic algorithm ?

Q.5 (a) Discuss the basic elements of thermal system design. explain with on example ?
(b) What is modeling ? Differentiate between physical and con-central modeling explain with example ?

Q.6 (a) What do you understand by simulation of thermal process ? State its important discuss any simulation software available in design of thermal system ?
(b) Explain computer aided design material selection ?

Q.7 (a) What is optimization ? discuss different optimization methods ?
(b) Explain numerical computation technique for continuous model ?

Q.8 (a) Discuss the importance of material selection in design of thermal system ?
(b) Discuss the conceptual design step in design of not rolling process ?

Enrollment No.....

Master of Technology
Third Semester Main Examination, December 2021
Non-Conventional Energy Sources [MTTPE302(2)]

Time: 3:00 Hrs **Max Marks 70**

Note : (i) Attempt any five questions out of eight.
(ii) All questions carry equal marks.

Q.1 (a) Enlist the merits & demerits of any there non-conventional energy source.
(b) Introduce to photo voltaic & thermoelectric conversion.

Q.2 (a) Explain beam radiation & diffuse radiation also write the expression for tilt factor for the abow two.
(b) With a neat sketch explain the working principal of solar pond.

Q.3 (a) What do you understand by green power?
(b) Explain geothermal energy ?

Q.4 (a) Explain how to heat transport in geothermal system.
(b) List the different types of 'concentrating collector' explain any one of them with neat sketch .

Q.5 (a) Explain fission & fusion technology?
(b) Describe the methods of power generation by wind mill.

Q.6 (a) Explain the wind power plant with neat sketch.
(b) Explain briefly the methods of hydrogen storage & transportation.

Q.7 Explain the working principle & characteristic of photovoltaic conversion.

Q.8 Write short note on .
i) Fuel cells.
ii) General & fast reactor.
iii) Growth kinetics.