

No. of Printed Pages : 03

Roll No.

AA-785

M. Tech. EXAMINATION, Dec. 2017

(First Semester)

(B. Scheme) (Main & Re-appear)

RE-304

FUSION ENERGY

Time : 3 Hours]

[Maximum Marks : 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

(3-59/13)M-AA-785

P.T.O.

Unit I

1. Explain Nuclear fusion and Nuclear fusion process. Discuss the advantage and disadvantage of nuclear fission and nuclear fusion. **15**
2. (a) What is current status of Nuclear energy in relevance of India ? Discuss in detail. **10**
(b) Write short note on fuels for nuclear energy. **5**

Unit II

3. What are the main four fusion reactions, which are considered for fusion reactors ? Which one is the most favorable and why ? **15**
4. (a) State and Lawson Criteria and discuss factors on which it depends ? **7**
(b) Discuss the plasma confinement problems. **8**

Unit III

5. Write the name of various methods of plasma confinement. Describe magnetic confinement considering D-T reaction. **15**
6. Describe Tokamak Reactor systems for power generation. **15**

Unit IV

7. Discuss a Generic inertial fusion reactor and JET fusion reactor. **15**
8. Write short notes on the following :
 - (a) Nuclear radiation detector **7**
 - (b) Current status of Nuclear energy reactor in India. **8**