

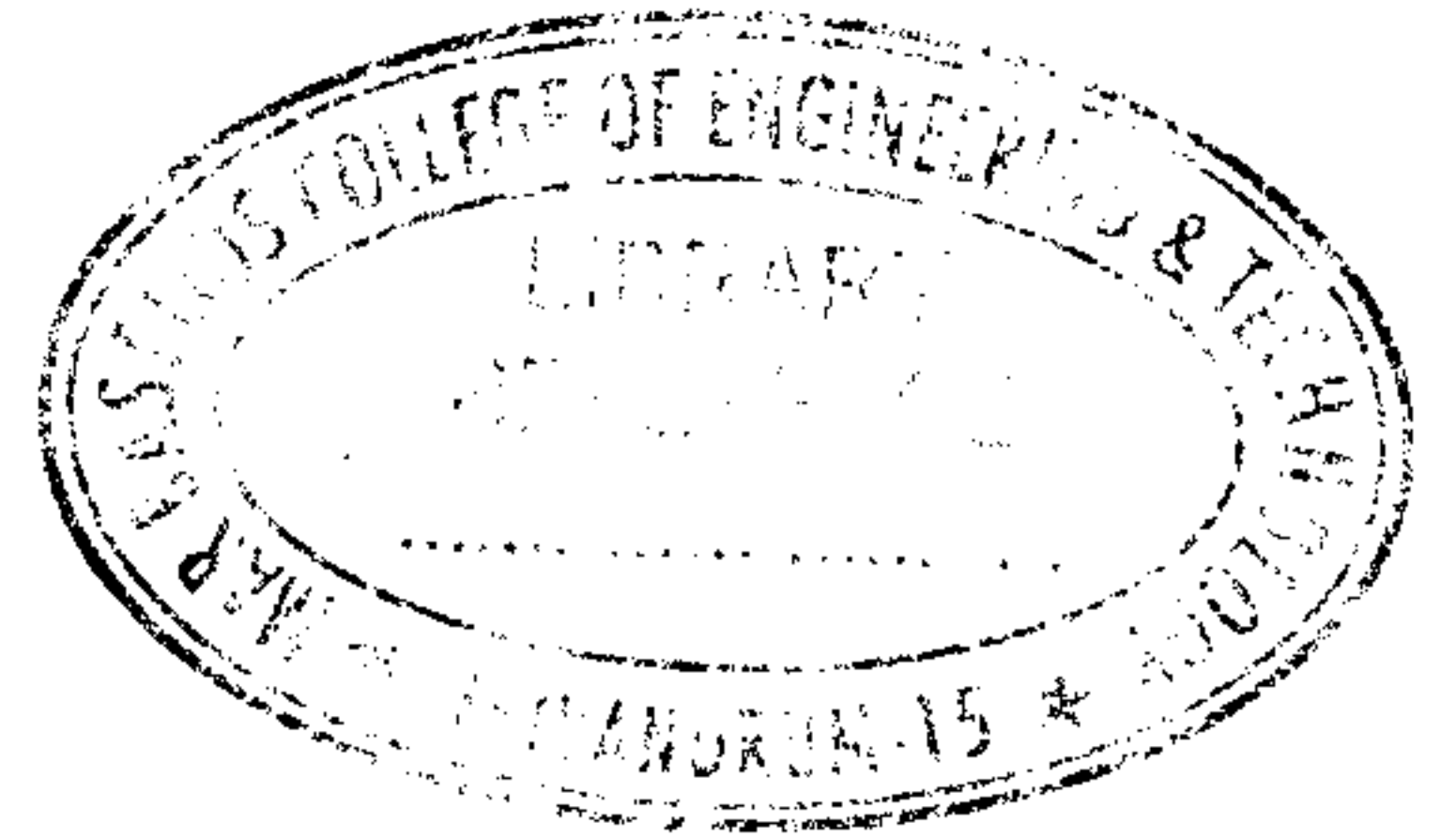


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C – 2725

Reg. No. : .....

Name : .....



**Sixth Semester B.Tech. Degree Examination, June 2017  
(2013 Scheme)  
13.606.11 : NUCLEAR ENGINEERING (MP)**

Time : 3 Hours

Max. Marks : 100

**PART – A**

Answer **all** questions in Part – A (Each question carries 2 marks).

1. Explain Compton Effect.
2. What are the conditions satisfied to sustain nuclear fission process ?
3. Give the requirements of chain reaction.
4. What is meant by neutron flux ?
5. Name the components involved in boiling water reactor.
6. Name the component used to slow down the neutrons and explain it.
7. What is meant by fertile fuel ?
8. What is meant by fuel enrichment ?
9. Name the methods used to dispose nuclear waste.
10. Explain biological half life and effective half life. **(2×10=20 Marks)**

P.T.O.



## PART - B

Answer any one full question from each Module in Part - B.

(4×20=80 Marks)

## MODULE - 1

11. Briefly explain about need of nuclear energy. 20

OR

12. Explain about nuclear fission and chain reaction. 20

## MODULE - 2

13. Explain briefly about control and safety features of reactor system. 20

OR

14. Compare and contrast the properties of uranium in its various forms as a nuclear fuel. 20

## MODULE - 3

15. Explain solvent extraction using PUREX method. 20

OR

16. Explain briefly about cladding and properties of cladding. 20

## MODULE - 4

17. What is meant by radiation ? How to protect human from radiation if affected ? 20

OR

18. Derive the expression for temperature distribution in a flat slab where heat generation varies exponentially with distance. Identify any one part of the nuclear reactor where the above expression can be used. 20

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