

00811

**B.Tech. MECHANICAL ENGINEERING  
(BTMEVI)**

**Term-End Examination**

**December, 2013**

**BIMEE-017 : NUCLEAR POWER ENGINEERING**

*Time : 3 hours*

*Maximum Marks : 70*

- Note :* (i) *All the questions are to be answered in English language only.*  
(ii) *Attempt any five questions.*

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1. (a) What do you understand by natural radioactivity ? Describe various types of radioactive emissions. 7  
(b) What do you understand by nuclear fission ? What are the essential requirement to cause nuclear fission ? 7
  2. (a) Draw a neat sketch of nuclear reactor and explain the function of different components. 7  
(b) Briefly explain Pressurised Water Reactor with merits and demerits. 7
  3. (a) Why cladding is necessary ? What are the requirements for a good cladding materials ? 7  
(b) What are the desirable properties of a good moderator ? 7
  4. (a) What are the different types of nuclear waste ? Which are more dangerous and why ? 7

- (b) Briefly explain gaseous waste disposal system with neat sketch. 7
  - 5.
    - (a) Briefly explain screw conveyor with neat sketch. 7
    - (b) Briefly explain the principle of dust separation with neat sketch. 7
  - 6.
    - (a) Explain the working of Electro static precipitator with neat sketch. 7
    - (b) Briefly explain Ash handling system with neat sketch. 7
  - 7.
    - (a) Define Nuclear radiation and explain wastage accordingly 7
    - (b) Explain coal handling system with neat sketch. 7
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