PHYSICS

BOOKS - PUNJAB BOARD PREVIOUS YEAR PAPERS

Nuclear Reactions

Exercise

1. Aman designed an atomic power plant which produces 100 MW power by using $_{92}U^{235}$. If

fission of each atom of $_{92}U^{235}$ produces 200 Me V of heat energy and the plant converts 90% of it into electric energy then how many grams of $_{92}U^{235}$ will be consumed at that plant in a day ?

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2. Jagriti designed an atomic power which produces 200 MW power by using $_{92}U^{235}$. If fission of each atom of $_{92}U^{235}$ produces 200 MeV of heat energy and the plant converts

80% of it into electric energy then how many grams of ${}_{92}U^{235}$ will be consumed by that plant in a day.

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3. Munish designed an atomic power plant which produces 250 MW power by using ${}_{92}U^{235}$. If fission of each atom of ${}_{92}U^{235}$ produces 200 MeV of heat energy and the plant converts 75% of it into electric energy

then how many grams of ${}_{92}U^{235}$ will be consumed at that plant in a day ?

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4. Define critical mass of nuclear chain reaction.

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5. Why are control rods made of cadmium usedto control nuclear chain reaction ?

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6. Write an equation representing nuclear fusion.

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7. Write one similarity and one difference between nuclear fusion and fission.

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8. A fusion reaction is more energetic than fission reaction. Comment.

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9. What is a nuclear fission reaction?

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10. What are nuclear forces ? Discuss fourimportant properties of nuclear forces.

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11. Explain the phenomenon of fission. Give one representative equation.

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12. What is nuclear fission and fusion.

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