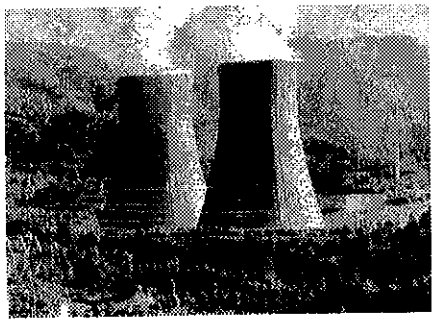
Mock. 2014.

DEB

Section B – 50 Marks
Answer **all** of the following:

(n) Describe the energy conversions that take place in a nuclear power plant.



(o) Explain **any three** of the following components of a nuclear power plant:

(i) Heat source;

(ii) Generator;

(iii) Pump;

(iv) Condenser.

(p) Describe **each** of the following terms used in nuclear energy technology:

(i) Nuclear fission;

(ii) Shielding;

(iii) Core.

(q) List **any three** safety concerns associated with the instillation of a nuclear power plant.

(r) List **any three** advantages that could occur with an increase in volume of nuclear power plants.

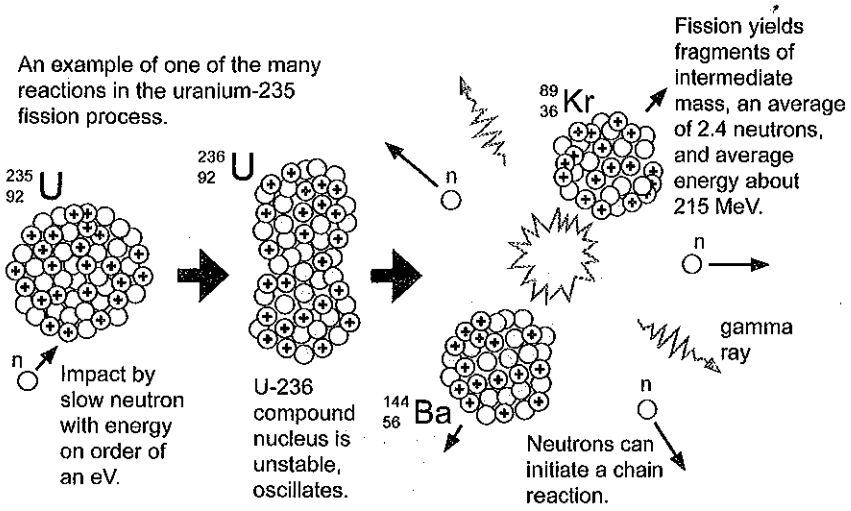
Mock 2014. E.C.

SECTION B – 50 MARKS

Answer **all** of the following:

(n) Define the term Nuclear Fusion.

(o) Explain, with the aid of the diagram, how nuclear fusion occurs.



(p) Explain any **three** of the following in relation to the generation of electricity in a nuclear power station:

(i) Reactor **(ii)** Steam Generator **(iii)** Steam Turbine **(iv)** Condenser **(v)** Containment Building.

(q) Explain the importance of each of the following in controlling the "reaction" in the nuclear reactor.

(i) The moderator; **(ii)** Control rods.

(r) Boiling water reactors and Pressurised water reactors operate on similar principles as opposed to an Advanced gas reactor. What are the advantages and disadvantages of these two different types of reactor?

(s) Safety at nuclear sites is incredibly important. Outline some of the key safety features at these sites.