28. Match List-I (Fundamental Experiment) with List-II (its conclusion) and select the correct option from the choices given below the list:

List – I	**List -II**
(A) Franck-Hertz experiment	(i) Particle nature of light
(B) Photo-electric experiment	(ii) Discrete energy levels of atom
(C) Davison, Germer experiment	(iii) Wave nature of electron
	(iv) Structure of atom

(1) (A) - (i) (B) - (iv) (C) - (iii)
(2) (A) - (ii) (B)-(iv) (C) - (iii)
(3) (A) - (ii) (B) (i) (C) -(iii)
(4) (A) - (iv) (B) - (iii) (C) - (ii)

Answer:

(A) In Frank-Hertz experiment: It was discovered that, when an electron collided with a mercury atom, it could lose only a specific quantity (4.9 eV) of its K.E before flying away. This corresponds to Quantum theory of atom so related decrete energy of atom.

(B) Photo-electric experiment: This experiment demonstrated knocking out of electron due to collision of photon so related to particle nature of light.

(C) Davision, Germer experiment: The experiment verified the de Broglie hypothesis and demonstrated the wave-particle duality. Hence related to wave nature of electron

Correct option (3) (A) - (ii) (B) (i) (C) -(iii).