QUESTION 20: 10 moles of electrons are lost by 1 mole of N2H4 to form a new compound Y. Assuming that all the nitrogen appears in the new compound. What is the oxidation state of N in Y? (There is no change in oxidation state of H).

ANSWER: OPTION 3

The oxidation state of N in hydrazine is -2.

1 mole of hydrazine contains 2 moles of N and loses 10 moles of electrons. Hence, 1 N atom will lose 5 electrons. Hence, its oxidation number will increase by 5.

Hence, the oxidation number of N in compound y will be −2+5 = **+3.**