14. Which of the following sets of quantum numbers is correct for an electron present in 4f orbital?

(1) n = 4, l = 3, m = +4, s = +½

(2) n = 3, l = 2, m = -2, s = +½

(3) n = 4, l = 3, m = +1, s = +½

(4) n = 4, l = 4, m = -4, s = -½

Solution:

For 4f orbital, n = 4 and l = 3.

Values of m = -3, -2, -1, 0, +1, +2, +3

Hence option (3) is the answer.