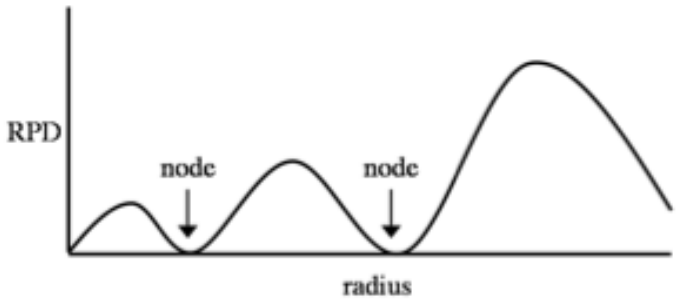
LECTURE 6

1. (a) How many different values of the quantum number *l* are possible when n = 14?
   (b) How many different values of m_l are allowed for an electron in a 9d subshell?
   (c) How many values of m_l are allowed for a 5s subshell?

   (a) 14
   (b) 5
   (c) 1

2. (a) What is the total number of nodes in a 5p orbital?
   (b) How many radial nodes are in a 4p orbital?
   (c) How many radial nodes are in a 3s orbital? Draw the radial probability distribution for a 3s orbital. Indicate each radial node with an arrow. You should label the axes, but should not include any numerical values.

   (a) 4 nodes
   (b) 2 radial nodes
   (c) 2 radial nodes



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