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**Problem # 4 / 6****Marks = 15, Time = 20 min.**

Suppose that 2 % of the people in Peshawar have the Covid 19. A laboratory conducting test to identify Covid 19 is 99 percent effective in detecting this disease when it is, in fact, present. Also, if a person does not have covid 19, the test correctly indicates so 99.9 % of the time. A random person from Peshawar is tested and his test result is positive then what is the probability that he has actually covid 19?

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