**Lab** **Assignment 2 (10 marks)**

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| **Question** **1** **[3 marks]** | |
| Liquid soap consists of surfactants, which are both hydrophobic and hydrophilic. This kind of structure reminds me of phospholipids from the “Chemistry of Life” topic. During the DNA extraction procedure, the liquid soap can break down cell membranes and release the DNA inside the nucleus. | |
| **Question** **2** **[4 marks]** | |
| The estimated size of the bands are 600-700,about 500,about 800, 700-800 repectively.  Factors affecting DNA band brightness could be the DNA concentration, higher concentration can make the band brighter. It could also be the UV intensity. | |
| **Question 3** **[3 marks]** | |
| To shorten the PCR amplicon by 100 bp from the 3’ end, we can use a different primer to anneal 100 bp upstream of its current binding site.  The procedure is as follows:   1. Analysis the sequence of the given DNA 2. Design the new primer to match the sequence 100 bp upstream 3. Run PCR 4. Run the new product on agarose gel electrophoresis to confirm. | |