## DEPARTMENT OF CHEMISTRY AND BIOCHEMISTRY

# AL NAHRAIN UNIVERSITY

## COLLEGE OF MEDICINE

**PRACTICAL MOLECULAR BIOLOGY: 3hr/ week ( 1 credit hour)**

**SECOND YEAR**

**SYLLEBAS TOPICS**

|  |  |  |
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| week | Name of the Exp. | Notes |
| 1 | introduction | Instruments, Hazards, Sterilization, Lab wares |
| 2,3 | DNA Extraction from different sources |  |
| 4 | DNA Quantification, purity |  |
| 5 | DNA Electrophoresis |  |
| 6 | Measurement of DNA Melting temp. | Calculating melting and annealing temp., GC+AT content |
| 7 | RNA Extraction |  |
| 8 | RNA Quantification | UV/ Orcinol method spectrometry |
| 9 | RNA Electrophoresis |  |
| 10 | Nucleotide composition of RNA |  |
| 11 | Primer design |  |
| 12 | Conventional PCR |  |
| 13 | Digestion of DNA by restriction enzyme , measurement of DNA size |  |
| 14 | RT-PCR |  |
| 15 | Application of recombinant DNA technology in diagnosis of sickle cell disease |  |