## Study Questions (Chapter 03 – Part A)

- 1. Write an ARM LDR/STR address register indirect instruction(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.
- 2. Write an ARM LDR/STR program counter relative instruction(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.
- 3. Write an ARM LDR/STR address register indirect with offset instructoin(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.
- 4. Write an ARM LDR/STR address register indirect with index instructoin(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.
- Write an ARM LDR/STR address register indirect with offset and pre-update instructoin(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.
- Write an ARM LDR/STR address register indirect with index and pre-update instructoin(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.
- 7. Write an ARM LDR/STR address register indirect with offset and post-update instructoin(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.
- 8. Write an ARM LDR/STR address register indirect with index and post-update instructoin(See slide 129).
  - a) Encode this instruction to machine language.
  - b) Use the ARM simulator to verify that your answer is correct.
  - c) Decode the generated machine language instruction to generate the original assembly instruction.