B. Tech Electronics & Communication Engineering
Semester V Examination 2022
ECS-502 Computer Architecture

Time: 1 **hours** **MM:16**

Attempt each question. All questions carry equal marks.

Q1. (a) Draw the diagram of 4-bit combinational circuit shifter, what is the value of output H if input A is 1001, S = 1, I_R=1 and I_L = 0?

(b) The 8-bit registers AR, BR, CR and DR initially have the following values:

AR = 11110010
BR = 11111111
CR = 10111001
DR = 11101010

Determine the 8-bit values in each register after the execution of the following sequence of microoperations.

$AR \leftarrow AR + BR$	Add BR to AR
$CR \leftarrow CR \wedge DR,\ BR \leftarrow BR + 1$	AND DR to CR, increment BR
$AR \leftarrow AR - CR$	Subtract CR from AR.

Q2. (a) Give flow chart of first pass of assembler.

(b) Give the computer representation of the line of code: LOP, ADD PTR I.