

Date: 24-11-2022

Assignment # 02

Subject: Digital Image Processing CS4045

Total Marks: 100

Note: Self study the below topics and submit your **HANDWRITTEN** assignment on or before **16:00 PKT, Thursday 1st December 2022**.

Question # 01:

Explain **how region filling algorithm** (in morphological processing) will work on the following **segmented image I**, with structuring element B? You **must** support your answer by **including** the processed **iterative arrays** X_k for $k = 0, 1, 2, 3, \dots$, and so on.

I =

1	1	1	1	0	0
1	0	0	1	0	0
1	0	0	1	1	1
1	1	1	0	0	1
0	0	1	1	0	1
0	0	0	0	1	1

B =

0	1	0
1	1	1
0	1	0

Question # 02:

Explain how **Skeletonization algorithm** (in morphological processing) will work on the following **object image J**, with structuring element B? You **must** support your answer by **including** the processed **iterative arrays** $S_k(J)$ for $k = 0, 1, 2, 3, \dots$, and so on. Also output the final skeleton image $S(J)$.

J =

0	1	1	1	1	0
0	1	1	1	1	0
0	1	1	1	1	0
0	1	1	1	1	0
0	1	1	1	1	0
0	1	1	1	1	0

B =

0	1	0
1	1	1
0	1	0

~.~.~. ----- Good Luck! ----- .~.~.~