



**TRINITY COLLEGE DUBLIN**  
**SCHOOL OF COMPUTER SCIENCE AND STATISTICS**  
**DUBLIN 2, IRELAND**

QUIZ - I (October 02, 2024)  
CS7GV1: Computer Vision

**Time: 30 Minutes**  
**Max. Marks: 16**

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**NOTE: Each MCQ (Q1-Q6) carries +2 marks for correct answer and -0.5 for wrong answer.**

1. Median and Maximum filters are D filters respectively.  
(A) Non-linear and Linear (B) Linear and Non-linear  
(C) Linear and Linear ☒ (D) Non-linear and Non-linear
2. 2D Derivative filter is B filter.  
(A) Lowpass (B) ☒ Highpass  
(C) Allpass (D) Non-separable
3. Let the filter  $K = \begin{bmatrix} 2 & 1 & 3 \\ 4 & x & -4 \\ 1 & -5 & 3 \end{bmatrix}$  is a D high-pass filter. What should the value of X be?  
(A) Zero (B) Positive real number  
(C) Negative real number ☒ (D) All the above
4. Image pyramidal analysis is useful for A templet matching.  
☒ (A) scale invariant (B) rotation invariant  
(C) scale variant (D) both (A) and (B)
5. Derivative of Gaussian filter is B filter.  
(A) Non-linear ☒ (B) Separable  
(C) Non-separable (D) both (A) and (B)
6. Which of the following operation response is same as the input? C  
(A) Down sample by 2  $\rightarrow$  Up sample by 2  
(B) Down sample by 2  $\rightarrow$  Down sample by 2  
☒ (C) Up sample by 2  $\rightarrow$  Down sample by 2  
(D) Up sample by 2  $\rightarrow$  Up sample by 2

7. Write the definition of image sharpening.

(2M)

- Process to Enhance Edges, and fine details in an image
- Enhance the Contrast around the edges.

8. What is the importance of Non-maximum suppression in canny edge detector?

(2M)

- Edge thinning
- Improved Edge localization.
- Noise Reduction.

----- ALL THE BEST -----