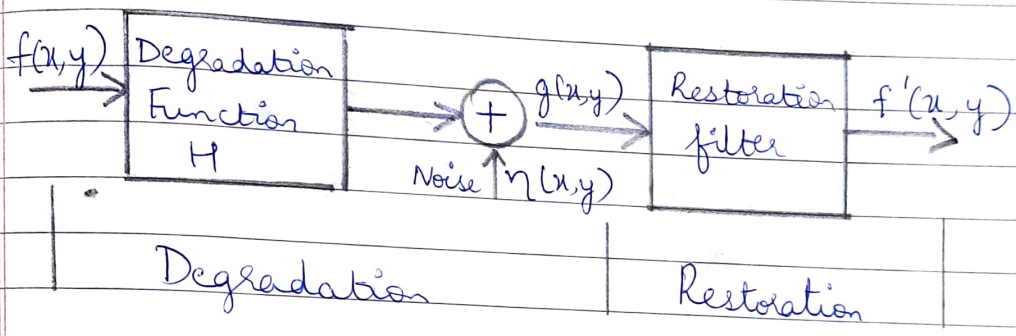
20181CSE0621
Sai Ram

20181CSE0621
Sai Ram.K
7-CSE-10

Part-B

Q3] Image Degradation and Restoration

→ Block Diagram :-



- Degradation function along with some additive noise operates of $f(x,y)$ to produce degraded image $g(x,y)$
- Given $g(x,y)$, some knowledge about the degradation function H and additive noise $\eta(x,y)$ objective of restoration is to obtain estimate $f'(x,y)$ of the original image.
- If H is linear position invariant process then in spatial domain :-

$$g(x,y) = h(x,y) * f(x,y) + \eta(x,y)$$

$H(x,y)$ → spatial representation of H

$*$ indicates convolution

- Since convolution in spatial domain is multiplication in frequency domain

$$G(u,v) = H(u,v).F(u,v) + N(u,v)$$

- We assume H is identity operator
- We deal only with degradation due to noise.