**Part-B: Questions on Deep Learning:**

1. **Given a 3-channel RGB image of size 32x32x3. If a 5x5 convolution filter is applied on the image,**
2. **What's the output image size, with stride = 1?**

**Ans:** According to formula , where n=input image size, p=padding, f=filter size, s=stride

Output size= (32-5/1) + 1= 28

**Output image size**= 28x28

1. **How much padding needs to be added to retain the input image size as 32?**

**Ans:** to retain the dimension padding should be , where f=filter size, p=padding size

p= (5-1)/2=2

**Padding needed** = 2

Output size= (32+2\*2-5)/1 +1= 32

**Output image size**= 32x32

1. **What is the precision for a 2-class classifier with 50% recall? Is any additional information required?**

**Ans:** We cannot find precision directly from recall as there is trade-off between precision and recall. i.e. if the precision increases, the recall will decrease. And vice versa.

To calculate precision either we’ll need f1 score or we can directly calculate precision if we have how many times model has predicted positive classes & how many of them are correct or incorrect.