Below table shows the In-pateints distribution by Age group in a hospital. Compute the following 2 marks (0.5 marks for each)

	AGE			
	Young	Middle-Aged	Old	Total
In pateint - No	10503	27368	259	38130
In pateint -Yes	3586	4851	120	8557
Total	14089	32219	379	46687

P(Old and Inpatient- Yes) (round of 4 th decimal dgit)
0.3166
0.0026
0.0266
0.2316

P(Old)

0.0081
0.0108
0.0208
0.0816

P(Yes | Old)

0.3166
0.0026
0.0266
0.2316

P(Old or Young)

0.3166
0.0266
0.2316
0

2. Does Old person and joining in hospital (i.e; In-pateint : Yes) are independent ? (1 Mark)
No
Yes

Are they mutually exclusive ?
Yes
No

3. A E-commerce site gets the visits/traffic from 3 diffrent sources. 30% source-1, 50% source02 and 20% from source-3, the expected of traffic for month will be ?

0.333
1
0.667
None of the above

4. Varaince of (18*2+59^2) = 7

0.636
1
0
None of the above

5. Assume X andY are independent, Variance of x is : 4 and Y is : 8 then - 6 Marks

a. Variance of (X-Y) will be ?

12
4
-12
-4

b. Variance of (X+Y) will be ?

12
4
-12
-4

5. If I randomly pick 10 people, what is the probability that I will get exactly 2 people will be in-pateint in the next week? Assume that the probability of join in a hospital is : 0.2

0.6779
0.3222
0.3020
0.7252

6. i. What will be the expected value of number of patients from the above question?

2
20
1.6
2.56

ii. What will be the variance of number of patients from the above question?

9 Marks

2
20
1.6
2.56

7. Compute the following error metrics from the following Confusion matrix

	Predicted			Total
		Postive	Negative	
Actual	Postive	950	520	1470
	Negative	160	3025	3185
	Total	1110	3545	4655

a. Recall 0.6462
b. Precision 0.8558
c. Accuracy 0.8539
d. Specificity 0.8533
f. F1 score 0.7364
g. Which measure is more important

Precision
Recall
Accuracy
None of the above