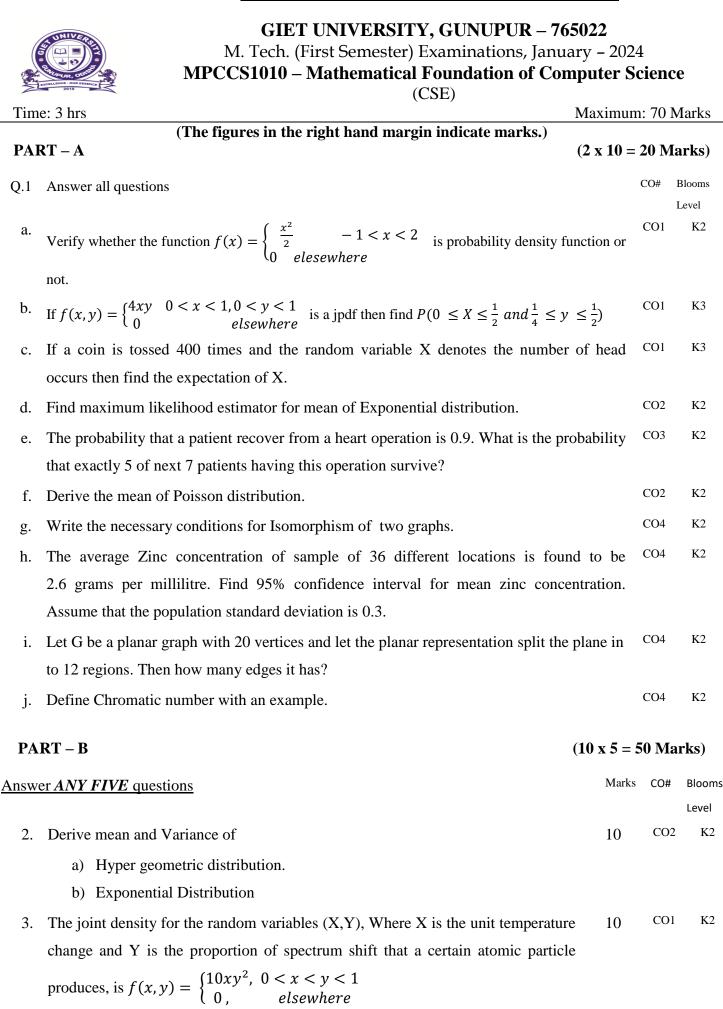
Reg.						AY 23
No						



- a) Find the marginal densities f(x) and f(y)
- b) Find the conditional density f(y/x)
- c) Check whether X and Y are independent?
- 4. Find maximum likelihood estimator for mean and variance of Normal 10 CO3 K2 distribution.
- 5.a) A random sample of 64 bags of white cheddar popcorn weighted, on average 5.23 5 CO3 K2 ounces with standard deviation of 0.24 ounces. Test the hypothesis that $\mu = 5.5$ ounces against the alternative hypothesis, $\mu < 5.5$ ounces at the 0.05 level of significance.
 - b) A die is tossed 180 times with the following results:

CO3 K2

5

Х	1	2	3	4	5	6
f	28	36	36	30	27	23

Is this a balanced die? Use a 0.01 level of significance.

- 6. Test the hypothesis that the average content of containers of a particular lubricant 10 CO3 K2 is 10 litres. If the contents of random sample of 10 containers are 10.2, 9.7,10.1, 10.3, 10.1, 9.8, 9.9, 10.4, 10.3 and 9.8 litres. Use a 0.01 level of significance.
 7. State and prove Euler's formula of planar graph. 10 CO4 K2
- 8. Explain Principal Component Analysis with an example. 10 CO5 K2

--- End of Paper ---