## HomeWork - 2

Shubbam Shankar 1001761068

1) a.	Probability of success = 0.3
	n = 10.
	Probability of failure = 1-0.3 = 0.7
	DC2 b(x), d(x), -2
	px.qn-x
	x:(n-x)!
	P(2 = 5)
	$= 10C_5(0.3)^5(0.7)^5$
	= D. 10292
	( * * 6 7
b)	p(z < 3) = 10 P(z=0) + P(z=1) + P(z=2)
	= 10Co(0.3)°(07)10+10C1(0.3)1 (0.7)9
	+ 1002(0.3)2 (0.7)8
	= 0.02825 + 0.12106 + 0.23347
	5 0-38278 FI WI (d
8//1	egrang Fall of the grang France
c)	P(Z7=7)=P(Z=7)+P(Z=8)+P(Z=9)+P(Z=10)
전국	· 10 C+ (0-3) + (0-7) 3 + 10 C8 (0-3)8 (0-7)2
×	06+10C9(0.3)7(0.7)1 +10C10(0.3)10(0.7)0
	= 0.00900 + 0.00145 + 0.00014 + 0.000005
	102X 68 HOV CO1059 01X F 2 F 88 + 1.
1.4	101 X 16 3 3 0 4 4 10 - 1-1 1 4 - 6 8 3 9 1 X 10
	TELE
	FF DIA APARES

Probability of Success =  $\frac{7}{10} = 0.7$ probability of failure =  $\frac{7}{10} = 0.7 = 0.3$ P(Z=10)= 00: (0.1)10 (0.3)10 a) 101101 = 20C10(0.7)10(0.3)10 = 0.03081 P(z>15) = P(z=16) + P(z=17) + P(z=18) +6) P(z=19) + P(z=20)= 20C16(0.7)16(0.3)4+20C17(0-7)17(0-3)3 + 20C18 (0-7)18 (0.3)2+ 2049 (0-7)19 (0-3)1 + 20020 (0.7)20 (0.3)0 . 0.13042+0.07160+0.02784 + 0.00684 +0.00079 = 0.23749 Variana = np (1-p) c) = 20×(0·7)(0.3) = 4.2 1) Binomial distribution.

(c)	Variance : No - 7						
d)	Poisson Distribution						
3.	P(X=K) = 10 (K) (N-K) = 1 (M). (M)						
	$P(X=R) = (R) \left(\frac{N-R}{N-R}\right) = (M) = (N-N)!$						
	$\left(\begin{array}{c}N\end{array}\right)$						
			7.				
	83	Draw	Total &	(60			
	Red Card	4	26				
		\$ 0	(8481F E)				
	face Card	3 13	12				
		62081-7					
	Total	5	52				
a)	1261	(52-26)	E , = , [ ,0 s F	(0)			
			= 14950 x	126			
PEDIO	C - FUIX 4	(52)	2598	960			
		5	10				
		F 811 0-0	16 - 16	N			
	=	0.14956	11				
	Flat	403. 604	3-3 G-8				
6)	[12]	(52-12)					
	(31/8	(5-3)	* 550 X 4.80	= 0.06603			
	15	2) [8.	2598960				
	28 ( .5	I do . Fo	9.3 H-4				
		141					

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С	Hyper - geo		mibution	(15)
	no bullion.	121 G T nuz	2807	(t)
	_			
4).	λ= 21	per month	N X )	7 E 3
1/10 1) 11 1	SO 2 X 3 = 6			
		it 1		
	e= 2.71	1828		
a)	K = 5 to T	wo et >	XK	
	26	c 1	Kel (0.10)	
	(2.71828)	6 65		
The state of the s	S <sub>a</sub>	5!	biod wot	
	=======================================	0.16062		
	52		butor*	
	•			
6)	K=0,1,2,3	y, du - ra \	1001	(x)
	i ngaloki	( P - B )	(1)	
	K=0 e-6 60			.00248
	01	\ c		
		0.01487	/	
	11	agenet-0	781	
		62 = 0:04		
		2:/=====	7 811 \	(d
_234433-1	K-3 e-6.		18923	
	Dararas	-	5/	
	K=4 e-6		3385	
		41.		

	= 0.00248+0.01487+0.044617
	+0.08923 +0.13385
	EXULT : 00:285050 : pid/bldoct
W5 200	10) = 3253010 106000 W 1 \$ 1 \$ 1 \$ 1 \$ 1 \$ 1
	2, (8)
( c)	Meanliterd Mi = UG 21, 10 mosió (2
<u>a)</u>	Poisson Distribution Mi (06)
	ev - (117)
5)	P = 1501. = 0.15
	EV ( ( = - x )
7.	$(I-P)^{\chi-1}P$
a)	= first dyective "PS" 4th One COM (3
	V & C
	XISAID TOURS CONTRACT DISTRIBUTED
	$(1-P)^3 \cdot 0 \cdot 15 = 0.09212$
(d	first dejective "90' 6 inspection
	,
	X = 1
	(1-0.15)°.0.15 = 0.15
	X=2 = 0.1275
-	X=3 = 0.10837
	X=4 = 0.09012

e E	0'X = 5 0 + + 2+ 00.07830
	X=6 0.06655
	Probability: 0-15+0-1275+0-10837
	+0.9212+0.07830+0.06655 = 0.62284
<b>T</b> (10)	
c)	Geometric Distribution
6) a	PMF Opexal=de Mil processor (a
	(X=1) = 1/3
	(x=1) = 1/3 (x=2) = 1/3 (x=3) = 1/3
	(x=3) = 1/3
	1 2 3 b
b)	Mean 3 2 3+1 = 2 (0
	3
c)	Discrete Unijorm Distribution.
	212800 - 300°(9-1)
	androgen d'at evingt tit (d
	1 = X
	21.0 : 21 0 "(21.0) -1)
	8 F G 1 · 0 · 1 2 · 8