

	A	B	C	D	E	F	G	H	I	J	K	L	
1	Income distribution of 1000 families follows Normal distribution with Mean 40000 and S.D. 10000. From this group one family is												
2	selected at random, compute the probability that income of this family lies.												
3	i) below 45000 ii) more than 42000 iii) between 45000 to 50000												
4	Also estimate the number of families whose income lies												
5	i) atleast 46000 ii) atmost 50000 iii) between 35000 to 50000												
6													
7	Solution:- Let, x=Income												
8	Here, we have												
9	Mean( $\mu$ )=		40000		S.D( $\sigma$ )=		10000		N=		10000		
10	First Part												
11	i) Req.prob. = $p(x<45000)$				0.69146246		=NORM.DIST(45000,C9,E9,1)						
12	ii) Req.prob. = $p(x>42000)$				0.42074029		=1-NORM.DIST(42000,C9,E9,1)						
13	iii) Req.prob = $p(45000<x<50000)$				0.14988228		=NORM.DIST(50000,C9,E9,1)-NORM.DIST(45000,C9,E9,1)						
14													
15	Second Part												
16	i) Req.prob. = $N*p(x\geq 46000)$				2743		=G9*(1-NORM.DIST(46000,C9,E9,1))						
17	ii) Req.prob. = $N*p(x\leq 50000)$				8413		=G9*NORM.DIST(50000,C9,E9,1)						
18	iii) Req.prob. = $N*p(35000<x<50000)$				5328		=G9*(NORM.DIST(50000,C9,E9,1)-NORM.DIST(35000,C9,E9,1))						
19													
20													
21						Name	Karina Kc						
22						Roll NO:	15						

	A	B	C	D	E	F	G	H	I
1	fit Poisson distribution to following data.								
2	No. of Accidents:-	0	1	2	3	4	5	6	
3	Noo. Of Days:-	195	91	40	20	10	3	1	
4									
5	Table for expected frequencies								
6	x	f	f*x	E					
7	0	195	0	160	Here, mean( $\mu$ )=		0.811	C14/B14	
8	1	91	91	130		N=	360		
9	2	40	80	53		E=	G\$9*POISSON(A8,G\$8,0)		
10	3	20	60	14					
11	4	10	40	3					
12	5	3	15	0					
13	6	1	6	0					
14		360	292	360					
15									
16						Name: Karina kc			
17						Roll No: 15			

	A	B	C	D	E	F	G	H
1	Fit binomial distribution to given data.							
2	No. of girls:-		0	1	2	3	4	
3	No. of families:-		20	112	244	115	21	
4								
5	Solution:-	Let x= Number of girls						
6	Here,we have							
7		n=	4	p=	0.5	N=	512	
8	Calculation table of expected frequencies							
9		x=r	x=r	x=r	x=r			
10		0	20	0.0625	32	Where,O=observed frequency E=Expected frequency		
11		1	112	0.25	128			
12		2	244	0.375	192			
13		3	115	0.25	128			
14		4	21	0.0625	32			
15			512	1	512			
16			P(x=r)=	BINOMDIST(B10,C\$7,E\$7,0)				
17			E=	G\$7*D11				
18								
19						Name= Karina Kc		
20						Roll NO: 15		

	A	B	C	D	E	F	G	H	I
1	From the given data compute first four central moments. Also, compute measures								
2	of central tendency, Measures of dispersion, skewness and kurtosis and interpret								
3	the result.								
4	45	50	60	70	75	50	80	85	70
5									
6	Solution:- Calculation of first four central moments								
7	x	(x-x*)	(x-x*) <sup>2</sup>	(x-x*) <sup>3</sup>	(x-x*) <sup>4</sup>				
8	45	-19.5	380.25	-7414.875	144590.0625				
9	50	-14.5	210.25	-3048.625	44205.0625				
10	60	-4.5	20.25	-91.125	410.0625				
11	70	5.5	30.25	166.375	915.0625				
12	75	10.5	110.25	1157.625	12155.0625				
13	50	-14.5	210.25	-3048.625	44205.0625				
14	80	15.5	240.25	3723.875	57720.0625				
15	85	20.5	420.25	8615.125	176610.0625				
16	70	5.5	30.25	166.375	915.0625				
17	60	-4.5	20.25	-91.125	410.0625				
18		0	1672.5	135	482135.625				
19	Mean =	64.5	n =	10					
20	For first four central moments								
21	For	Value	Formula		For	Value	Formula		
22	m1 =	0	0		Mean =	64.5	64.5		
23	m2 =	167.25	167.25		S.D. =	12.93251716	12.933		
24	m3 =	13.5	13.5		β1 =	0.00004	4E-05		
25	m4 =	48213.5625	48214		b2 =	1.723601922	1.7236		
26									
27									
28					Name: Karina Kc				
29									
30									

	A	B	C	D	E	F	G	H	I	J	K
1	Fit Poisson distribution to following data.										
2	No. of Defects		0	1	2	3	4	5			
3	No. of pages		135	109	40	12	3	1			
4											
5	Solution:- Let, x = No. of defects										
6		Table for expected frequencies									
7	x	f	f*x	E							
8	0	135	0	134	Here, Mean( $\mu$ )=		0.806667	C14/B14			
9	1	109	109	108		N=	300				
10	2	40	80	44		E=	133.903	G\$9*POISSON(A8,G\$8,0)			
11	3	12	36	12							
12	4	3	12	2							
13	5	1	5	0							
14		300	242	300							
15						Name:Karina Kc					
16						Roll:15					

	A	B	C	D	E	F	G	H	I	J	K
1	A message centre forward 4 messages per minute. Compute the probability that no. of forwarded message are										
2	i) Exactly 5 message ii) less than 6 messages iii) more than 8 message in an interval of two minutes										
3	iv) atmost 10 message in an interval of two minutes v)almost 13 messages in an interval of three minutes										
4											
5	solution:-Let ,x=Number of messages										
6	Here,we have										
7		Average( $\lambda$ )=		4		per minute					
8	i) Req.prob. =p(x=5)=		0.156293								
9	ii) Req. prob. =p(x<6)=		0.78513								
10		Average( $\lambda$ )=		8		For two mintues					
11	iii) Req. prob. =p(x>8)=		0.407453								
12	iv)Req. prob. =p(x≤10)=		0.815886								
13		Average( $\lambda$ )=		12		For three mintues					
14	v) Req. prob. =p(x≥13)=		0.424035								
15						Name: Karina kc					
16						Roll:15					

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7	Solution:- Let, x=Income											
8	Here, we have											
9		Mean( $\mu$ )=	40000	S.D( $\sigma$ )=	10000	N=	10000					
10	First Part											
11	i) Req.prob. =p(x<45000)				0.69146246	=NORM.DIST(45000,C9,E9,1)						
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15	Second Part											
16	i) Req.prob. =N*p(x>=46000)				2743	=G9*(1-NORM.DIST(46000,C9,E9,1))						
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19												
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21						Name	Koyal Kc					
22						Roll NO:	16					

	A	B	C	D	E	F	G	H	I
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