	Α	В	С	D	Е	F	G	Н		J	K
1	Marks distri	bution of 100	00 students f	ollows Norma	al distribution	with mean 6	60 and S.D. 1	0. From this	group		
2	one student	is selected at	random, coı	npute the pro	bability that n	nark of the st	udent lies				
3		i) below 70		ii) more that	n 65	iii)between :	55 to 65				
4	Also, estima	te the numbe	r of students	whose mark	is						
5		i) atleast 62		ii) atmost 70	)	iii) between	58 to 68				
6		•		•				•		•	
7	Solution : · L	et, x = Mark	s								
8	Here, we ha	ve									
9		Mean(µ)=	60		S.D.(σ)=	10	N=	1000			
10	First part										
11	i) Req. prob.	= p(x<70)=			0.8413	0.84134474	6				
12	ii) Req. prob	p. = p(x > 65) =	:		0.3085	0.30853753	9				
13	iii) Req. pro	b. = p(55 < x <	65)=		0.3829						
14					0.382924923	3	•		•		
15	Second part	•									
16	i) Req. No. =	= N*p(x≥62)=	=		421	420.740290	6				
17	ii) Req. No.	$= N*p(x \le 70)$	=		841	841.344746	1				
18	iii) Req. No.	= N*p(58 < x)	<68)=		367						
19					367.4043109	)					
20											
21				Name:Karir	ia Kc						
22				Roll No:15							1
23											

	Α	В	С	D	Е	F	G	Н	I	J	K
1	Marks distri	bution of 100	00 students f	ollows Norma	l distribution	with mean 6	60 and S.D. 1	0. From this	group		
2	one student i	is selected at	random, con	npute the prob	ability that n	nark of the st	udent lies				
3		i) below 70		ii) more than	n 65	iii)between 5	55 to 65				
4	Also, estima	te the numbe	r of students	whose mark	is						
5		i) atleast 62		ii) atmost 70	)	iii) between	58 to 68				
6											
7	Solution : L	et, x = Mark	S								
8	Here, we have	ve									
9		Mean(µ)=	60		S.D.(σ)=	10	N=	1000			
10	First part										
11	i) Req. prob.	= p(x < 70) =			0.8413	0.84134474	6				
	ii) Req. prob				0.3085	0.308537539	9				
13	iii) Req. pro	b. = p(55 < x <	(65)=		0.3829						
14					0.38292492	3					
15	Second part										
	, I					420.740290					
	ii) Req. No.				841	841.344746	1				
18	iii) Req. No.	= N*p(58 < x	<68)=		367						
19					367.404310	9					
20											
21				Name:Koya	Kc						
22				Roll No:16							
23		Roll No:16									

	Α	В	С	D	Е	F	G	Н	I	J	K	L	
1	Income dis	tribution of	f 1000 fami	lies follows	Normal distrib	oution with	Mean 4000	00 and S.D. 100	000. From t	his group or	ne family is		
2	selected at	random, co	mpute the	probability	that income of	this family	lies.						
3		i) below 45	5000 ii) mo	re than 420	00 iii) between	45000 to 5	50000						
4	Also estim	ate the num	ber of fami	lies whose	income lies								
5		i) atleast 40	6000 ii) atn	nost 50000	iii) between 35	000 to 500	00						
6													
7	Solution:-	Let, x=Inco	me										
	Here, we h			~~/	1000		10000						
9		Mean(μ)=	40000	S.D(σ)=	10000	N=	10000						
_	First Part												
		p = p(x < 450)					ST(45000,0						
		b. = $p(x>42)$			0.42074029		DIST(42000						
	iii) Req.pro	ob = p(4500)	0 <x<50000< td=""><td>))</td><td>0.14988228</td><td>NORM.DI</td><td>ST(50000,0</td><td>C9,E9,1)-NOR</td><td>M.DIST(45</td><td>5000,C9,E9</td><td>,1)</td><td></td></x<50000<>	))	0.14988228	NORM.DI	ST(50000,0	C9,E9,1)-NOR	M.DIST(45	5000,C9,E9	,1)		
14													
$\overline{}$	Second Pa				27.42								
-		0. = N*p(x>			2743			46000,C9,E9,1	))				
		b. = N*p(x<			8413			000,C9,E9,1)					
	iii) Req.pro	ob. = $N*p(3)$	5000 <x<50< td=""><td>0000)</td><td>5328</td><td>G9*(NOR</td><td>M.DIST(50</td><td>000,C9,E9,1)-</td><td>NORM.DI</td><td>ST(35000,C</td><td>(9,E9,1))</td><td></td></x<50<>	0000)	5328	G9*(NOR	M.DIST(50	000,C9,E9,1)-	NORM.DI	ST(35000,C	(9,E9,1))		
19													
20													
21						Name	Karina Kc						
22						Roll NO:	15						

	А	В	С	D	Е	F	G	Н	I
1	fit Poisson	distribution	n to followi	ng data.					
2	No. of Acc	eidents:-	0	1	2	3	4	5	6
3	Noo. Of D	ays:-	195	91	40	20	10	3	1
4									
5	Table for e	expected fre							
6	X	f	f*x	Е					
7	0	195	0	160	Here, mean	n(μ)=	0.811	C14/B14	
8	1	91	91	130		N=	360		
9	2	40	80	53		E=	G\$9*POIS	SON(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: Kai	rina kc		
17						Roll No: 1	5		

	Α	В	С	D	E	F	G	Н	
1	Fit binomia	al distrituti	on to given	data.					
2	No. of girls	:-	0	1	2	3	4		
3	No. of fam	ilies:-	20	112	244	115	21		
4									
5	Solution:-	Let x= Nun	nber of girls	5					
6	Here,we ha	ave							
7		n=	4	p=	0.5	N=	512		
8	Calculation	table of e	xpected fre	quencies					
9		x=r	x=r	x=r	x=r				
10		0	20	0.0625	32	Where,O=	observed fr	equency	
11		1	112	0.25	128	E=Expecte	d frequency	/	
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)=	BINOMDIS	T(B10,C\$7,I	E\$7,0)			
17			E=	G\$7*D11					
18									
19						Name= Kai			
20						Roll NO: 15			

	Α	В	С	D	Е	F	G	Н	ı
1					ntral moments.				
2	of centra	al tendency, N	Measures	of dispersion	on, skewness an	d kurtosis and	intrepret		
3	the resu								
4	45	50	60	70	75	50	80	85	70
5									
6	Solution	:- Calculation	n of first i	four central	moments				
7	X	(x-x*)	$(x-x^*)2$	$(x-x^*)3$	$(x-x^*)4$				
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				
	M	CA 5		10					
	Mean =	64.5	n =	10					
		t four central	1		_				
21	For	Value	Formula		For	Value	Formula		
22	m1 =	0	0		Mean =	64.5	64.5		
23	m2 =	167.25	167.25		<b>S.D.</b> =	12.93251716	12.933		
24	m3 =	13.5	13.5		β1 =	0.00004	4E-05		
25	m4 =	48213.5625	48214		<b>b</b> 2 =	1.723601922	1.7236		
26									
27					N 16 16				
28 29					Name: Karina Kc				
30									
50									

	Α	В	С	D	E	F	G	Н	I	J	K
1	Fit Poisson	distributio	n to follow	ng data.							
2	No. of Def	ects	0	1	2	3	4	5			
3	No. of page	es	135	109	40	12	3	1			
4		olution:- Let, x = No. of defects									
5	Solution:-	Let, $x = No$	of defects								
6		Table for e	xpected fre	quencies							
7	X	f	f*x	Е							
8	0	135	0	134	Here, Mea	n(μ)=	0.806667	C14/B14			
9	1	109	109	108		N=	300				
10	2	40	80	44		E=	133.903	G\$9*POIS	SON(A8,C	G\$8,0)	
11	3	12	36	12							
12	4	3	12	2							
13	5	1	5	0							
14		300	242	300							
15						Name:Kar	ina Kc				
16						Roll:15					

	А	В	С	D	Е	F	G	Н	Ī	J	K
1	A message	centre for	ward 4 mes	sages per r	ninute. Cor	npute the p	orobability <sup>·</sup>	that no. of	forwarded	message ar	e
2	i) Exactly 5	message ii	) less than	6 messages	iii) more t	han 8 mess	age in an ir	iterval of tw	vo minutes		
3	iv) atmost	10 message	e in an inte	rval of two	minutes v)	almost 13 n	nessages in	an interva	l of three m	ninutes	
4											
5	solution:-L	et ,x=Numl	per of mess	ages							
6	Here,we h	ave									
7		Average(λ	)=	4	per minute	2					
8	i) Req.prob	o. =p(x=5)=		0.156293							
9	ii) Req. pro	b. =p(x<6)=	=	0.78513							
10		Average(λ)	)=	8	For two m	intues					
11	iii) Req. pr	ob. =p(x>8)	=	0.407453							
12	iv)Req. pro	b. =p(x≤10	)=	0.815886							
13		Average(λ)	)=	12	For three i	mintues					
14	v) Req. pro	b. =p(x≥13	)=	0.424035							
15						Name: Kar	ina kc				
16						Roll:15					

	Α	В	С	D	Е	F	G	Н	I	J	K	L
1	Income dis	stribution of	f 1000 fami	lies follows	Normal distri	oution with	Mean 4000	00 and S.D. 100	000. From t	his group o	ne family is	
2	selected at	random, co	mpute the j	probability	that income of	this family	lies.					
3		i) below 45	5000 ii) mo	re than 420	00 iii) between	45000 to 5	50000					
4	Also estim	ate the num	ber of fami	lies whose	income lies							
5		i) atleast 4	6000 ii) atn	nost 50000	iii) between 35	000 to 500	00					
6												
7	Solution:-	Let, x=Inco	me									
8	Here, we h	ave										
9		Mean(μ)=	40000	$S.D(\sigma)=$	10000	N=	10000					
10	First Part											
11	i) Req.prol	b. = $p(x<450)$	000)		0.69146246	NORM.DI	IST(45000,0	C9,E9,1)				
12	ii) Req.pro	b = p(x > 42)	(000)		0.42074029	1-NORM.	DIST(4200	0,C9,E9,1)				
13	iii) Req.pr	ob = p(4500)	0 <x<50000< td=""><td>))</td><td>0.14988228</td><td>NORM.DI</td><td>IST(50000,0</td><td>C9,E9,1)-NOR</td><td>M.DIST(45</td><td>5000,C9,E9</td><td>,1)</td><td></td></x<50000<>	))	0.14988228	NORM.DI	IST(50000,0	C9,E9,1)-NOR	M.DIST(45	5000,C9,E9	,1)	
14												
15	Second Pa	rt										
16	i) Req.prol	b. = N*p(x>	=46000)		2743	G9*(1-NC	RM.DIST(	46000,C9,E9,1	))			
17	ii) Req.pro	b. = N*p(x<	<=50000)		8413	G9*NORN	M.DIST(500	000,C9,E9,1)				
18	iii) Req.pr	ob. $=N*p(3)$	5000 <x<50< td=""><td>0000)</td><td>5328</td><td>G9*(NOR</td><td>M.DIST(50</td><td>000,C9,E9,1)-</td><td>NORM.DIS</td><td>ST(35000,C</td><td>C9,E9,1))</td><td></td></x<50<>	0000)	5328	G9*(NOR	M.DIST(50	000,C9,E9,1)-	NORM.DIS	ST(35000,C	C9,E9,1))	
19												
20												
21						Name	Koyal Kc					
22						Roll NO:	16					

	А	В	С	D	Е	F	G	Н	I
1	fit Poisson	distribution	n to followi	ng data.					
2	No. of Acc	eidents:-	0	1	2	3	4	5	6
3	Noo. Of D	ays:-	195	91	40	20	10	3	1
4									
5	Table for e	expected fre							
6	X	f	f*x	Е					
7	0	195	0	160	Here, mean	n(μ)=	0.811	C14/B14	
8	1	91	91	130		N=	360		
9	2	40	80	53		E=	G\$9*POIS	SON(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: Ko	yal kc		
17						Roll No: 1	6		

	Α	В	С	D	E	F	G	Н	
1	Fit binomia	al distrituti	on to given	data.					
2	No. of girls	:-	0	1	2	3	4		
3	No. of fam	ilies:-	20	112	244	115	21		
4									
5	Solution:-	Let x= Nun	nber of girls	5					
6	Here,we ha	ave							
7		n=	4	p=	0.5	N=	512		
8	Calculation	table of e	xpected fre	quencies					
9		x=r	x=r	x=r	x=r				
10		0	20	0.0625	32	Where,O=	Where,O=observed frequenc		
11		1	112	0.25	128	E=Expecte	d frequency	/	
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)=	BINOMDIS	T(B10,C\$7,I	E\$7,0)			
17			E=	G\$7*D11					
18									
19						Name= Koyal Kc			
20						Roll NO: 16			

	Α	В	С	D	E	F	G	Н	I	J
1	From th	e given	data con	pute first fo	our central moi	nents. Also, co	mpute me	easures		
2	of centr	al tende	ncy, Mea	sures of dis	persion, skewn	ess and kurtosi	is and int	repret		
3	the resu	lt.								
4	45	50	60	70	75	50	80	85	70	60
5										
6	Solution				entral moments	S				
7	X	(x-x*)	, ,	$(x-x^*)3$	(x-x*)4					
8	45	-19.5	380.25		144590.0625					
9	50	-14.5	210.25		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					
	Mean									
19	=	64.5	n =	10						
20	For firs	t four ce	ntral mo	ments						
21	For	Value	Formula	l	For	Value	Formula			
22	m1 =	0	0		Mean =	64.5	64.5			
23	m2 =	167.25	167.25		<b>S.D.</b> =	12.93251716	12.933			
24	m3 =	13.5	13.5		β1 =	0.00004	4E-05			
25	m4 =	48214	48214		<b>b</b> 2 =	1.723601922	1.7236			
26										
27										
28 29					Name: Koyal Kc					
30										
50										

	Α	В	С	D	Е	F	G	Н	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	Х	f	f*x	Е							
8	0	135	0	134	Here, Mean(μ)=		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:Koyal Kc					
16						Roll:16					

	А	В	С	D	Е	F	G	Н	Ī	J	K
1	A message centre forward 4 messages per minute. Compute the probability that no. of forwarded message are										
2	) Exactly 5 message ii) less than 6 messages iii) more than 8 message in an interval of two minutes										
3	v) 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 h	ave									
7	Average(λ)=			4	per minute						
8	i) Req.prob	o. =p(x=5)=		0.156293							
9	ii) Req. prob. =p(x<6)=		0.78513								
10	Average(λ)=			8	For two mintues						
11	iii) Req. prob. =p(x>8)=		0.407453								
12	iv)Req. prob. =p(x≤10)=		0.815886								
13	Average(λ)=		12	For three mintues							
14	v) Req. prob. =p(x≥13)= 0.		0.424035								
15					Name: Koy	al kc					
16						Roll:16					