

Rajiv Gandhi Institute of Petroleum Technology, Jais

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Department of Mathematical Sciences

(गणितीय विज्ञान विभाग)

Subject: Statistical Methods & Data Analysis (MA 231)

Instructor: C. Kundu

Answer-key of Practice Sets (2024-25)

Practice Set # 1&2

Q.	1	2	3	4	5	6	8	9	10	11	12	13	14	16
A.	0.167	0.302	0.90625	0.72	.4, .5,.8	.585, .78	.656	.2, .2,.6	.7,.3125, .5,.1875	0.5833 0.636	3.62 2.2156	Yes	n	170

Practice Set # 3

Q.	1	2	3	4	5	6	7	8	9	10	11	12
A.	0.5339 0.4661	22	0.0197	11	$\binom{2n-i}{n} \left(\frac{1}{2}\right)^{2n-i+1}$	0.022 .859 33.33	0.185 0.608 0.593	0.2231 0.1912	9802 9998 2	0.9998	8.75	0.08 1 0.99

Practice Set # 4

Q.	1	2	3	4	5	6	7	8	9	10	11
A.	0.5 0.3 0.4	34.64 0.042 0.125	.3935 .2231 .3834	.393 .993	.1587 .06357	0.2266	.2537 .121 .1489	50.1744 19.3798	.0749 .9097	.1003 1.65 4.482,128.33	$e^{\mu+\sigma^2/2}$ $e^{2\mu+\sigma^2} (e^{\sigma^2} - 1)$

Practice Set # 5

Q.	4	5	6	7	8	9	10
A.	148gm 1.45gm	34 45	3.47 3.441 3.454, .2256	Y	A B	97.85 111.6 123.44, -0.07	.10389 1.8242 3.0627

Practice Set # 6

Q.	1	2	3	4	5	6	7	8	9	10
A.	0.4681 0.4168	0.7498	$1/\bar{x}$	\bar{x}	$k = \beta, \alpha = X_{(1)}$ $\beta = 1/(\bar{X} - X_{(1)})$	64.425 1.87	(14.62, 19.18)	(68.58, 75.42)	(4.0, 4.6)	(27.93,33.19) (19.25,74.92)

Practice Set # 8

Q.	1	2	4	4
A.	$y = 181.15 + 1.26x$ $y = 197.53$ for $x = 13^\circ C$ $r = 0.99$ and $S_e = 61.13$	$PV^{1.45} = 19498.446$ $P = 24.54$ for $V = 100$	$y = 238.55 + 0.33x_1 - 2.71x_2$ $y = 109.65$ for $x_1 = 90\%, x_2 = 80\%$	$y = 46.93 + 7.775A - 1.655B$ $y = 46.0075$