

I B.Sc STATISTICS Semester-2
DESCRIPTIVE STATISTICS (MAJOR PAPER - I)
Question Bank

S.NO	Short Questions	BT	PO'S	CO'S												
1	Illustrate function of statistics.	BT1	PO2	CO1												
2	Describe importance of statistics.	BT3	PO3	CO1												
3	Evaluate median of the following data <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>C.I</th> <th>20-30</th> <th>30-40</th> <th>40-50</th> <th>50-60</th> <th>60-70</th> </tr> </thead> <tbody> <tr> <td>FRE</td> <td>3</td> <td>5</td> <td>20</td> <td>10</td> <td>5</td> </tr> </tbody> </table>	C.I	20-30	30-40	40-50	50-60	60-70	FRE	3	5	20	10	5	BT2	PO2	CO2
C.I	20-30	30-40	40-50	50-60	60-70											
FRE	3	5	20	10	5											
4	Explain about limitation of statistics.	BT1	PO1	CO2												
5	Determine about frequency distribution.	BT3	PO4	CO3												
6	Explain about types of frequency distribution.	BT2	PO2	CO3												
7	Analyze about nominal and ordinal measurement of scale.	BT2	PO3	CO3												
8	Explain about properties of A.M	BT1	PO2	CO3												
9	Explain about classification of data.	BT3	PO5	CO2												
10	Describe about features of good average.	BT3	PO3	CO3												
11	Explain about sheppards correction for moments.	BT2	PO1	C04												
12	Explain about kurtosis and types.	BT2	PO2	C04												
13	Describe about law moments in terms of central moments.	BT1	PO3	CO5												
14	Show that Bowley's coefficient of skewness lies between ± 1	BT3	PO1	CO5												
15	Show that Karl pearson coefficient of skewness lies between ± 3 .	BT3	PO2	CO5												
16	Show that for discrete distribution $\beta_2 > 1$.	BT2	PO2	C04												
17	State and prove additional theorem for two events.	BT1	PO3	CO5												
18	State and prove multiplication theorem for 2events.	BT3	PO1	CO5												
19	Define (a)sample space (b) exhaustive events (c) exclusive events (d) favorable outcomes.	BT3	PO2	CO5												
20	Define Mathematical ,Statistical and axiomatic definitions of probability	BT3	PO2	CO5												

S.NO	Long Questions	BT	PO'S	CO'S					
1	Explain about scope of Statistics.	BT1	PO2	C01					
2	Write about Primary and secondary data.	BT3	PO3	C01					
3	Describe about Presentation of data..	BT2	PO2	C02					
4	Illustrate about graphical representation of data.	BT1	PO1	C02					
5	Explain about diagram representation of data.	BT3	PO4	C03					
6	Describe briefly about measures of central tendency.	BT2	PO2	C03					
7	Calculate mean to the following data	BT2	PO3	C03					
	Marks				10-20	20-30	30-40	40-50	50-60
	Frequency				5	8	25	22	10
8	Explain in detailed about measures of dispersion	BT1	PO2	C03					
9	Calculate mean derivation about median to the following data	BT3	PO4	C03					
	C.I				10-20	20-30	30-40	40-50	50-60
	F				5	10	15	10	5
10	Explain about skewness and measures of skewness.	BT4	PO5	C04					
11	State and prove booles in equality.	BT3	PO3	C03					
12	Explain about Baye's theorem.	BT2	PO1	C04					
13	State and prove additional theorem for n events.	BT2	PO2	C04					
14	State and prove multiplication theorem for n events	BT1	PO3	C05					

I B.Sc STATISTICS Semester-2

Question Bank

RANDOM VARIABLES AND MATHEMATICAL EXPECTATIONS (MAJOR PAPER 2) Question Bank

S.NO	Short Questions	BT	PO'S	CO'S
1	Explain about random variables and its types .	BT1	PO2	C01
2	Describe the important properties of a random variable.	BT3	PO3	C01
3	Demonstrate P.M.F and P.D.F.	BT2	PO2	C02
4	Explain about bi variate discrete random variable.	BT1	PO1	CO2
5	Describe about continuous random variable	BT3	PO4	CO3
6	Write about EDF in bi variate random variable	BT2	PO2	CO3
7	Explain about MDF in bi variate random variable	BT2	PO3	CO3
8	State and prove additional theorem in expectation	BT1	PO2	CO3
9	State and prove multiplication theorem in expectation for two events	BT3	PO5	CO2
10	State and prove Cauchy-schwartz in equalities.	BT3	PO3	CO3
11	Explain about moment generating function and definition	BT2	PO1	C04
12	Define characteristic function and write its properties	BT2	PO2	C04
13	Describe about weak-law of large number	BT1	PO3	CO5
14	Describe about strong-law of large numbers	BT3	PO1	CO5
15	Write about statement of central limit theorem	BT3	PO2	CO5
16	Demonstrate relation between CLT and WLLN	BT3	PO1	CO5
17	Explain about statement of Lyapunov's CLT	BT1	PO1	CO2

S.NO	Long Questions	BT	PO'S	CO'S														
1	For a continuous random variable x $F(x) = kx^2 e^{-x}, x \geq 0$ (i) K (ii) S.D (iii) Mean (iv) variance	BT1	PO2	CO1														
2	Define distribution function in uni variate random variable and explain properties	BT2	PO3	CO3														
3	A random variable x has the following probability function <table border="1" style="margin-left: 20px;"> <tr> <td>x</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>P(x)</td> <td>0.1</td> <td>k</td> <td>0.2</td> <td>2k</td> <td>0.3</td> <td>k</td> </tr> </table> Find (i) K (ii) Mean and variance	x	-2	-1	0	1	2	3	P(x)	0.1	k	0.2	2k	0.3	k	BT1	PO2	CO3
x	-2	-1	0	1	2	3												
P(x)	0.1	k	0.2	2k	0.3	k												
4	The joint probability distribution of x and y is given below find (i) Marginal distributions (ii) Conditional distribution of y given x=2 (iii) $P(x+y < 4)$ (iv) $P(x > 1), P(y < 2)$ <table border="1" style="margin-left: 20px;"> <tr> <td>y/x</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>1</td> <td>0.1</td> <td>0.1</td> <td>0.2</td> </tr> <tr> <td>2</td> <td>0.2</td> <td>0.3</td> <td>0.1</td> </tr> </table>	y/x	1	2	3	1	0.1	0.1	0.2	2	0.2	0.3	0.1	BT3	PO3	CO1		
y/x	1	2	3															
1	0.1	0.1	0.2															
2	0.2	0.3	0.1															
5	Describe about distribution function of bi variate random variables	BT2	PO2	CO2														
6	Write about stochastically independent of random variables	BT1	PO1	CO2														
7	State and prove additional theorem of expectation for n events	BT3	PO4	CO3														
8	Define variance and explain its properties.	BT2	PO2	CO3														
9	Describe co-variance and explain its properties	BT2	PO3	CO3														
10	State and prove a multiplication theorem of expectation for n events	BT1	PO2	CO3														
11	State and prove chebyshev in equality	BT3	PO4	CO3														
12	Explain about moments generating function and its properties	BT2	PO5	CO4														
13	Describe about moment cumulative generating and its properties	BT3	PO3	CO3														
14	Define about moment probability generating and its properties	BT2	PO1	CO4														
15	Explain about convergency in distribution and probability	BT2	PO2	CO4														
16	Explain the following (i) Population (ii) Sample (iii) Parameter (iv) statistic (v) sampling distribution (vi) standard error	BT1	PO3	CO5														
17	State and prove lindberg-levy theorem	BT3	PO1	CO5														
18	Describe about applications of central limit theorem	BT3	PO2	CO5														