

BCM School, Basant Avenue, Dugri Road, Ludhiana XI Economics (030) SEPTEMBER ASSIGNMENT		
Statistics for Economics		
1	State, giving reason, whether the following statements are true or false :	
(i)	Statistics is of no use to Economics without data.	1
(ii)	Statistics can only deal with quantitative data.	1
(iii)	Statistics is a study of single fact only.	1
(iv)	Choices of Assumed Mean does not affect the Actual Mean.	1
(v)	The value of Median occurs most frequently in a series.	1
2	Choose the correct alternative :	
(i)	Choose the correct sequence of steps of statistical tools : (a) Collection of data, Organisation of data, presentation of data, analysis of data, interpretation of data. (b) Organisation of data, presentation of data, collection of data, interpretation of data, analysis of data. (c) Collection of data, analysis of data, presentation of data, organisation of data, interpretation of data. (d) Collection of data, analysis of data, organisation of data, presentation of data, interpretation of data.	1
(ii)	Statistics is applied in _____ . (a) Economics (b) Business Management (c) Commerce and Industry (d) All of these	1
(iii)	The sum of deviations of items from arithmetic mean is always equal to _____ . (a) one (b) zero (c) infinity (d) None of these	1
(iv)	For calculating _____ , no adjustment is required, if frequency is of unequal size or magnitude. (a) Mean (b) Median (c) Mode (d) All of these	1
(v)	For a skewed distribution, Median=30 and Mean=27.5. What is the value of the Mode? (a) 30 (b) 35 (c) 32.5 (d) 27	1
3	In the following questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A). (c) Assertion (A) is true but Reason (R) is false. (d) Assertion (A) is false but Reason (R) is true.	
(i)	Assertion (A): Statistics is affected by multiple causes. Reason (R): Statistics of production of a crop; say rice is affected by rainfall, fertiliser, seeds, methods of cultivation etc.	1
(ii)	Assertion (A): Statistical Results are true only on an average.	1

	Reason (R): Statistics cannot be misused.																															
(iii)	Assertion (A): Arithmetic Mean cannot be calculated when open-end classes are there. Reason (R): Arithmetic Mean is a single value which represents the whole series.	1																														
(iv)	Assertion (A): Mode can be calculated through diagram. Reason (R): Mode is an arithmetic average.	1																														
4	State any 2 demerits of Mean.	1																														
5	Average wage of 50 workers of a factory was ₹200. Each worker is given a raise of ₹20. What is the new average daily wage?	1																														
6	Read the given case carefully and answer the following questions on the basis of the same. Median is one of the measures of central tendency which can be graphically presented. Median is a positional average and hence it is not influenced by the extreme values. So, median may be more representative. Since, Median is a positional average, so it is not based upon each and every item of the distribution and cannot be used for further algebraic treatment like it cannot be used for determining combined median.																															
(i)	Median is graphically presented through: (a) Histogram (b) Pie Diagram (c) Ogives (d) None of these	1																														
(ii)	Identify the value of Median of the given data: 18, 11, 14, 20, 22, 23, 12, 19, 16. (a) 22 (b) 18 (c) 20 (d) None of these	1																														
(iii)	Which of the following is affected by extreme values? (a) Mean (b) Median (c) Mode (d) Both (a) and (b)	1																														
(iv)	Less than Ogive is always _____ sloping. (a) upward (b) downward (c) horizontal (d) None of these	1																														
7	Discuss the limitations of Statistics.	3																														
8	The mean marks of combined sections A and B are 38 There are 60 and 40 students in sections A and B respectively. If mean marks of students in Section A are 40, find out the mean marks of students in Section B.	3																														
9	From the following data, calculate the average profit earned by a company. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Profit (₹ in crore)</th> <th>No. of companies</th> </tr> </thead> <tbody> <tr> <td>Less than 10</td> <td>10</td> </tr> <tr> <td>Less than 20</td> <td>30</td> </tr> <tr> <td>Less than 30</td> <td>60</td> </tr> <tr> <td>Less than 40</td> <td>80</td> </tr> <tr> <td>Less than 50</td> <td>90</td> </tr> <tr> <td>Less than 60</td> <td>100</td> </tr> </tbody> </table> <p style="text-align: center;">Or</p> <p>Locate the missing frequency, if the arithmetic mean of the series is 52.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Class Interval</th> <th>10-20</th> <th>20-30</th> <th>30-40</th> <th>40-50</th> <th>50-60</th> <th>60-70</th> <th>70-80</th> </tr> </thead> <tbody> <tr> <td>No. of students</td> <td>5</td> <td>3</td> <td>4</td> <td>7</td> <td>?</td> <td>6</td> <td>13</td> </tr> </tbody> </table>	Profit (₹ in crore)	No. of companies	Less than 10	10	Less than 20	30	Less than 30	60	Less than 40	80	Less than 50	90	Less than 60	100	Class Interval	10-20	20-30	30-40	40-50	50-60	60-70	70-80	No. of students	5	3	4	7	?	6	13	4
Profit (₹ in crore)	No. of companies																															
Less than 10	10																															
Less than 20	30																															
Less than 30	60																															
Less than 40	80																															
Less than 50	90																															
Less than 60	100																															
Class Interval	10-20	20-30	30-40	40-50	50-60	60-70	70-80																									
No. of students	5	3	4	7	?	6	13																									
10	"All Statistics are numerical statements of facts but all numerical statements of facts are not	4																														

	Assertion (A). (c) Assertion (A) is true but Reason (R) is false. (d) Assertion (A) is false but Reason (R) is true.																						
(i)	Assertion (A) : Scarcity is the root cause of all economic problems. Reason (R) : Scarcity and choice go hand in hand.	1																					
(ii)	Assertion : Social Welfare is the main aim of a centrally planned economy. Reason (R) : Profit Maximisation is the main aim of a free economy.	1																					
(iii)	Assertion (A) : Total Utility is the sum of Marginal Utility. Reason (R) : Total Utility increases at an increasing rate, when marginal utility falls but remains positive.	1																					
(iv)	Assertion (A) : A consumer attains equilibrium at a point where budget line is tangent to indifference curve. Reason (R) : At the point of tangency, indifference curve is convex to the origin.	1																					
(v)	Assertion (A) : A budget set is the collection of all bundles of goods that a consumer can afford to buy with his given income and the prices of the goods in the market. Reason (R) : In a budget set, the entire income may or may not be spent.	1																					
14	State, giving reason, whether the following statements are true or false :																						
(i)	Problem of choice would not arise, if resources do not have alternative uses.	1																					
(ii)	Normative Economics deals with 'what was'; 'what is' and 'what will be'.	1																					
(iii)	PPF is concave to the origin.	1																					
(iv)	Marginal Utility can never be negative.	1																					
(v)	Lower indifference curve represents higher level of satisfaction.	1																					
15	Analyse the given table and answer the following questions :																						
	<table border="1"> <thead> <tr> <th>Combinations</th> <th>Pineapples</th> <th>Mangoes</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0</td> <td>150</td> </tr> <tr> <td>B</td> <td>10</td> <td>140</td> </tr> <tr> <td>C</td> <td>20</td> <td>120</td> </tr> <tr> <td>D</td> <td>30</td> <td>90</td> </tr> <tr> <td>E</td> <td>40</td> <td>50</td> </tr> <tr> <td>F</td> <td>50</td> <td>0</td> </tr> </tbody> </table>	Combinations	Pineapples	Mangoes	A	0	150	B	10	140	C	20	120	D	30	90	E	40	50	F	50	0	
Combinations	Pineapples	Mangoes																					
A	0	150																					
B	10	140																					
C	20	120																					
D	30	90																					
E	40	50																					
F	50	0																					
(i)	Construct a PPC based on the above information.	1																					
(ii)	Indicate the following on the PPC diagram: (a) A production point that ensures fuller and efficient utilisation of resources and technology. (b) A production point that is unattainable.	1																					
(iii)	Mark the point (30,30) on your diagram. What does it represent?	1																					
(iv)	Calculate Marginal Rate of Transformation (MRT) of all production possibilities.	1																					
16	Discuss the central problem of 'How to produce'.	1																					
17	Explain the law of Diminishing Marginal Utility with a hypothetical schedule only.	3																					
18	Discuss the properties of Indifference Curve.	3																					
19	Can the PPF shift? Explain with diagram.	4																					

20	<p>Illustrate the Consumer's Equilibrium state when he consumes a single commodity. Use diagram to explain the concept.</p> <p style="text-align: center;">Or</p> <p>A consumer consumes only two goods X and Y whose prices are ₹4 and ₹5 per unit respectively. If the consumer chooses a combination of 2 goods with marginal utility of X=5 and Y=4, is the consumer in equilibrium? Give reasons. What will a rational consumer do in this situation? Use Utility Analysis.</p>	4
21	<p>How can a consumer strike his equilibrium using Indifference Curve Analysis.</p> <p style="text-align: center;">Or</p> <p>(a) Define a budget line. When can it shift to the right?</p> <p>(b) Explain the concept of MRS (Marginal Rate of Substitution) by giving an example.</p>	6 3 3