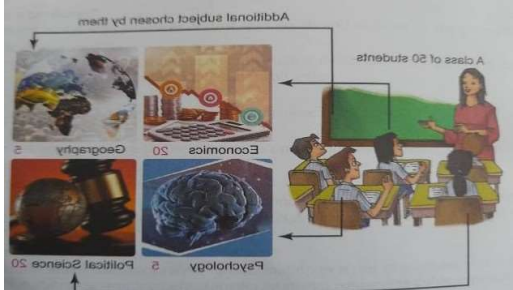




Part A: Statistics for Economics

Chapter 1 : Introduction

Q. NO	QUESTION	MARKS
1	<p>In singular sense, "statistics" means:</p> <ul style="list-style-type: none"> a) Statistical data b) Statistical methods c) Inductive statistics <p>Descriptive statistics</p>	1
2	<p>Assertion and reason:-</p> <p>In the following question a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct alternative given below.</p> <ul style="list-style-type: none"> a) Both A and R are true and R is the correct explanation of A. b) Both A and R are true but R is NOT the correct explanation of A. c) A is true. R is false. d) A is false. R is true. <p>Assertion (A) : Scarcity is the root cause of all economic problems.</p> <p>Reason (R) : Alternative uses of resources give rise to economical problem.</p>	1
3	<p>Choose the correct alternative for the given statements.</p> <p>Alternatives:-</p> <ul style="list-style-type: none"> a) Both statements are true. b) Both statements are false. c) Statement 1 is true , 2 is false d) Statement 2 is true, 1 is false. <p>Statement 1 : All numerical statements are statistics.</p> <p>Statistics 2 : Statistics refers to quantitative information capable of some meaningful conclusions.</p>	1
4	<p>Data /picture based questions:</p> <p>Stage IV of statistical study is known as _____.</p> <ul style="list-style-type: none"> a) Layering of data b) Analysis of data c) Classification of data <p>Layout of data</p>	1

5	<p>A : Riya's weight is 50 kg. B : The height of this book shelf is 3 feet. C : This book costs Rs 500.</p>	1
	<p>D : My weekly average pocket allowance is Rs 500. Study the information given above and answer the following. Identify which of these can be termed as Statistics? A b) B c) C d) D</p>	
6	<p>Concept based questions : Define distribution.</p>	1
7	<p>Analyse the given image in context of the statement, "All statistics are data, but all data are not statistics."</p> 	1
8	<p>Fill in the blanks with correct alternatives: _____ deals with economic issues at the level of economy as a whole. (Micro economics / Macro economics)</p>	1
9	<p>According to _____, "Economics is the science of wealth." a) Adam Smith b) Alfred Marshall c) Prof. Samuelson Lionel Robbins</p>	1
10	<p>Choose the correct statement: a) According to Adam Smith, " Economics is a study of life." b) Production is a non- economic activity. c) In non-economic activities , there is an expectation of benefit Growth oriented definition was given by Samuelson.</p>	1
11	<p>Distrust of statistics is due to: (a) Misuse of statistics (b) Insufficient statistical methods (c) Scope of statistics is limited (d) Limitations of statistics</p>	1
12	<p>Among the following statements which cannot be considered as statistics: a) Average height of the students of class XII is 5 feet as compared 4.5 feet in class X. b) Over the past 10 years, India has won 60 test matches in cricket and lost 50 c) Tajmahal is one of the most beautiful creation of India. d) Literacy rate in India is 77.70% as on 2021-22 which is much higher than the literacy rates the year 1947, which was only 18%.</p>	1

13	Assertion (A): Ravi scored 65 in Economics, Rajib scored 87 in Statistics and Ranjita scored 55 in Mathematics. The given data is statistical data. Reason (R): The statistical data needs to be numerical in nature.	1
	(a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.	
14	Marks of one student of a class does not constitute statistics, but the average marks have statistical relevance. In this statement about which important characteristics we are talking about? (a) Statistics does not deal with individuals (b) Statistical results are true only on average (c) Statistical laws are not exact (d) Both (a) and (b)	1
15	Statement I: Housewives working in the house is termed as non-economic activities. Statement II: A shopkeeper's wife taking care of the shop for few hours in the absence of the shopkeeper to help him, is termed as economic activities. (a) Both the statements I and II are true. (b) Statement I is true but Statement II is false. (c) Statement I is false but Statement II is true. (d) Both the statements I and II are false.	1
16	The term 'Statistics' means the collection, presentation, analysis and interpretation of numerical data. (True/False)	1
17	Statistical data should be _____ and _____. (Fill in the blanks from the correct option): (a) Uniform, homogeneous (b) Different, homogeneous (c) Uniform, heterogeneous (d) Different, heterogeneous	1
18	Assertion (A): Statement like annual rate of inflation in a country is 10%, is more convincing than statement like prices are rising. Reason (R): Quantitative facts can easily be believed and trusted in comparison to abstract and qualitative facts. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.	1
19	Which of the following is/are not an economic activity/ activities? (a) Treatment of a patient by a doctor. (b) A teacher teaching her own son in a school, where she is working. (c) Social services rendered by an NGO to flood victims. (d) A person selling cold drinks on the station.	1
20	Match the following table and choose the correct option:	1

	Column I	Column II	
	(A) Wealth definition of Economics	(i) Lionel Robbins	
	(B) Welfare definition of Economics	(ii) Alfred Marshall	
	(C) Scarcity definition of Economics	(iii) Paul A. Samuelson	
	(D) Growth oriented definition	(iv) Adam Smith	
	(a) (A)-(i), (B)-(ii), (C)-(iii), (D)-(iv) (D)-(iii)	(b) (A)-(ii), (B)-(i), (C)-(iv), (D)-(iii)	
	(c) (A)-(iv), (B)-(ii), (C)-(i), (D)-(iii) (D)-(ii)	(d) (A)-(iii), (B)-(iv),(C)-(i), (D)-(ii)	
21	Statistical data are affected by.....cause/causes. a) A single b) Multiple c) Both d) All of these		1
22	Scarcity of resources applies to all: a) Individuals b) Organizations c) Countries d) All of these		1
23	Read the following statement Assertion (A) and Reason (R). Choose one of the correct alternatives given below: Assertion (A): Statistical results are correct only on an average due to the presence of personal bias. Reason (R): Statistics helps in enhancing human knowledge by using its method of interpretation of Primary data. 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 the incorrect explanation of Assertion (A). c) Assertion(A) is true, but Reason (R) is false. d) Assertion (A) is false, but Reason (R) is true.		1
24	Which activity is the base of all production activities? A) Production B) Consumption C) Investment D) Exchange		1

29	Which of the following is not used in statistics? a) Calculating average of the data	1
	b) Calculating trend of the data c) Both (a) and (b) d) Neither (a) nor (b)	
30	Among the following statements which cannot be considered as statistics: a) Average height of the 26 plus male people in India is 6 feet as compared to 5 feet in Nepal b) A young lady was run over by a speeding truck at 100 km. per hour. c) Birth rate in India is 18 per thousand compared to 8 thousand in the USA d) Over the past 10 years, India has won 60 test matches in cricket and lost 50. 50. Homogeneous data	1
31	Statistics in Economics D. Human Wants One Mark Questions-- 1. The word 'Statistics' is used as: A Singular B. Plural C. Both C. None of these	1
32	2. The characteristics of statistics in plural sense are: A. Aggregate of facts B. Collection for a pre-determined purpose C. Affected by multiplicity of causes. D. All of the above.	1
33	3. All figures are statistics. True/False.	1
34	4. A single observation is not Statistics. True/False	1
35	5. In----- sense, Statistics means a collection of numerical facts.	1
36	6. Statistics doesn't study----- phenomenon.	1
37	7. Mention two limitations of Statistics.	1
38	8. Give two examples of qualitative data.	1
39	9. Why is statistics used in Economics?	1
40	10. Mention the name of any Statistician.	1
41	11. Point out any three characteristics of statistics.	3
42	12. Statistics used as plural sense, why?	3
43	13. Distinguish between Quantitative and Qualitatively.	3
44	Scarcity causes economic problems. How?	3
45	Explain any three functions of statistics.	3
46	Distinguish between economic and non economic activities.	3
47	Read the following passage and answer the questions that follow: Activities involved in production (manufacturing), distribution (transportation) and consumption (retail) are constantly seeking economies to improve their competitiveness and increase their market share. The consumption of goods and services is a primary component of economic well-being and, as such, a primary indicator of living standards. Wealth and income are available to support	3

	<p>consumption, today and in the future. Production, in the market and at home, supports consumption.</p> <p>Economies of transportation relate to the benefits that lower transport costs may grant to specific activity sectors and are derived from a locational choice. For production, it relates to a location that minimizes total transport costs and thus lowers production unit costs. Some are elements of transport costs in production while others are elements of transport costs in consumption.</p> <p>Economies of scope relate to the benefits derived by expanding the range of goods and services. For production, they are commonly based on product diversification and flexible manufacturing systems able to produce a variety of products in view of changes in the demand and consumer preferences.</p> <p>For distribution, economies of scope are very important and commonly achieved when a transporter is able to bundle several different loads into fewer loads. For consumption, activities offering a wider range of goods or services are usually able to attract more customers since they have more choices. Economies of scale and economies of scope are highly related.</p> <p>Q.(i) Economics is a _____ science which studies economic behaviour of a man. (a) Social (b) Physical (c) Both (a) and (b) (d) none of these</p> <p>Q.(ii) Assertion (A): Economies of scale and economies of scope are highly related. Reason (R): Both economies of scale and economies of scope result in the savings in cost. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.</p> <p>Q.(iii) When we want to know how the consumer decides, given his income and many alternative goods to choose from, what to buy when he knows the prices. This is the study of_____. (a) production (b) consumption (c) distribution (d) Both (a) and (b)</p>	
48	‘Statistics is affected by multiplicity of causes’. Explain this statement with the help of an example.	3
49	‘It is impossible to think of a situation where economic planning can be done without the use of statistical techniques’ ----- Justify the statement.	3
50	Explain the study of consumption, production, distribution.	3
51	Identify the following statements as statistics in singular sense and plural sense	3

	<p>i) Statistics are numerically expressed. ii) Statistics include presentation of data. iii) Statistics are collected in a systematic manner for predetermined purposes and placed in relation to each other. iv) Statistics involve interpretation of quantitative information. v) Statistics are affected to a marked extent by multiplicity of causes. vi) Statistics study of collection of data.</p>	
52	<p>Mark the following statements as “true or false” and explain. (i) Statistics can only deal with quantitative aspect. (ii) Statistics solve economic problems. (iii) Statistics is of no use to Economics without data.</p>	3
53	<p>Read the following news and articles and answer the following questions on the basis of same:</p> <p>The Index of Industrial Production (IIP) is an index which shows the growth rates in different industry groups of the economy over a stipulated period of time. The IIP index is computed and published by the Central Statistical Organisation (CSO) on a monthly basis. Index of Industrial Production (IIP) is an index which helps us understand the growth of various sectors in the Indian economy such as mining, electricity and manufacturing. The base year of the index is given the value of 100. The current base year of the IIP series in India is 2011-12. So, if the current IIP reads 180, it means that there has been 80% industrial growth compared to the base year, i.e., 2011-12.</p> <p>1) _____ index is computed and published by a central statistical organisation. (a) Industrial planning (b) Industrial production (c) Industrial policy (d) Consumer price</p> <p>2) Change in Index value of industrial production from 100 in base year to 80 in the current year implies. (a) 20% rise in industrial production (b) 80% rise in industrial production (c) 20% fall in industrial production (d) 80% fall in industrial production</p> <p>3) Industrial production index is a _____ index: (a) quantity (b) quality (c) value (d) all of these</p> <p>4) Read the following statements carefully and choose the correct alternatives from the following: Statement 1. Statistics are an aggregate of facts. A single observation is not statistics.</p>	4

	<p>Statement 2. Index of industrial production is an index which shows the growth rates in different industry groups of an economy in a stipulated period of time.</p> <p>Alternatives:</p> <p>(a) Both the statements are true. (b) Both the statements are false. (c) Statement 1 is true and statement 2 is false. (d) Statement 1 is false and statement 2 is true.</p>	
54	<p>ANSWER ANY FOUR —</p> <p>Read the following statement Assertion (A) and Reason (R). Choose one of the correct alternatives given below:</p> <p><i>a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).</i></p> <p><i>b) Both Assertion (A) and Reason (R) are true, but Reason (R) is the incorrect explanation of Assertion (A).</i></p> <p><i>c) Assertion(A) is true, but Reason (R) is false.</i></p> <p><i>d) Assertion (A) is false, but Reason (R) is true.</i></p> <p>I) Assertion (A): Statistics are a number of facts. Reason (R): Single and isolated figures are not Statistics such as figures cannot be compared.</p> <p>II) Assertion (A): Only experts can make the best possible use of techniques of statistics. Reason (R): The technique of statistics is complicated in nature.</p> <p>III) Assertion (A): In the plural sense, statistics means a collection of numerical facts. Reason (R): Statistics should be enumerated according to a reasonable standard of accuracy.</p> <p>IV) Assertion (A): Statistics data should be uniform and homogeneous. Reason (R): Homogeneous data is not comparable.</p> <p>V) Assertion (A): In the singular sense, the term statistics means statistical methods. Reason (R): Qualitative characteristics are not suitable for statistical analysis.</p>	4

OR

ANSWER ANY FOUR —

Read the following statements carefully and choose the correct alternatives from the following:

(a) Both the statements are true.

(b) Both statements are false.

(c) Statement 1 is true & statement 2 is false.

(d) Statement 1 is false & Statement 2 is true.

I)

Statement 1: A single figure can never be called statistics.

Statement 2: Qualitative characteristics like intelligence and beauty can be easily included in statistics.

II)

Statement 1: For the purpose of comparison, data must be heterogeneous in statistics.

Statement 2: In Statistics, if the figures collected are not comparable, then they lose a large part of their significance.

III)

Statement 1: The purpose of collecting statistical data needs to be decided in advance.

Statement 2: In plural sense, the term 'Statistics' means statistical term.

IV)

Statement 1: Statistics in plural sense means collection of numerical facts.

Statement 2: A high degree of accuracy is not insisted upon in statistics as mass of data is involved.

V)

Statement 1: The techniques of statistics are so simple that they can be used by any layman.

Statement 2: Statistical laws are probabilistic in nature and not exact.

55

Case based questions —

Read the following case study paragraph carefully & answer the questions on the basis of the same.

4

	<p>Statistics in the Plural sense refers to collection of numerical facts whereas in the singular sense, it refers to all Statistical methods. Statistics play an important role in economic policies as well as in economics laws like law of demand, law of supply.</p> <p>Government uses various statistical information related to macroeconomics issues like poverty, unemployment, etc. However, it is open to criticism as it does not deal with individual facts and results are true only on an average. Various tools are used to analyse their different components like central tendency, measures of variations, correlations and index number.</p> <p>D) Arrange the following stage of Statistics- i. Organisation ii. Collection iii. Interpretation iv. Presentation Choose from the options below — a) i., ii., iv., and iii. b) ii., i., iv. and iii. c) Both d) None of these</p> <p>II) Which of the following is/are known as positional averages? a) Mean b) Median c) Mode d) Both (b) and (c)</p> <p>III) tool is used to calculate Mode graphically. a) Histogram b) More than Ogive c) Pie chart d) None of these</p> <p>IV) Why is statistical information related to criticism?</p>	
56	14. Mention main function of statistics. Explain any one.	4
57	15. Explain Distrust of Statistics	4
58	16. Statistics can use Singular Sense How?	4
59	Can statistics help in evaluating the impact of government policies on the economy? Explain.	4
60	<p>“Once a family of four persons (husband, wife and two children) set out to cross a river. The father knew the average depth of the river. So, he calculated the average height of his family members. Since the average height of his family members was greater than the average depth of the river, he thought they could cross safely. Consequently, some members of the family (children) drowned while crossing the river.”</p> <p>What was the fault in this case? Is it write to say that “Statistical methods are no substitute for common sense”? Explain.</p>	4
61		4

	State whether the following statements are true or false with reason: a. Statistics should be enumerated or estimated according to a reasonable standard of accuracy. b. Statistics study the quantitative as well as the qualitative phenomena. c. Statistics are collected in a systematic manner for a pre-determined purpose. d. Anyone can make the best possible use of statistics.	
62	'The Government and the policy makers use statistical data to formulate suitable policies of economic development.' Illustrate with two examples.	4
63	"All numerical data cannot be called as statistics, but all statistics can be called as numerical data." Explain.	4
64	"Statistics is a tool which can be used only by experts otherwise it is prone to misuse." Do you agree? Explain.	4
65	Identify the features of statistics in plural sense.	6
66	"Statistics is considered as an lifeline of economists in any economy." Do you agree? Explain.	6
67	"Statistics is a tool to quantify economic problems. However it suffers from numerous limitations." Explain in detail.	6
68	Statistics is full of advantages and does not suffer from a single limitation. Do you agree? Explain why if yes or if not.	6
69	How the problems of distrust of statistics can be overcome?	6
70	'Statistics is of great significance considering the various economic activities'- Justify the statement.	6
71	"Statistical methods are no substitute for common sense." Comment.	6
72	Explain the concept of 'Distrust of Statistics'.	6
73	What are your reasons for studying Economics?	6
74	17. Explain briefly the importance of Statistics in Economics.	6
75	18. Explain the main limitations of Statistics	6
76	19. Explain the function of statistics in Economics.	6

ANSWER

1	Option (b)
2	Option (a)

3	Option (d)
4	Option (b)
5	Option (d)
6	Distribution is that economic activity which studies how income generated & is distributed among the factors of production.
7	The given statement contains two segments. The first one shows a class having 50 students, this is not statistics as no conclusions drawn from it. On the other hand, in the second segment conveys meaningful information as in the class 20 have chosen Economics, 20 have chosen political science, 5 have chosen geography and the remaining 5 have chosen psychology.
8	Macro Economics
9	Option (a)
10	Option (d)
11	(a) Misuse of statistics
12	(c) Tajmahal is one of the most beautiful creation of India. Explanation: As it's a qualitative phenomenon not quantitative.
13	(d) A is false but R is true. Explanation: The given data is not statistical data as it is not uniform and homogeneous.
14	(d) Both (a) and (b)
15	(b) Statement I is true but Statement II is false. Explanation: Working in husband's shop for few hours to help husband will not generate any extra income for wife. So, this can't be considered as economic activity.
16	False Explanation: In plural sense 'Statistics' means aggregate of numerical facts.
17	(a) Uniform, homogeneous
18	(a) Both A and R are true and R is the correct explanation of A.
19	(c) Social services rendered by an NGO to flood victims. Explanation: As Social services are not performed by profit motive.
20	(c) (A)-(iv), (B)-(ii), (C)-(i), (D)-(iii)
21	b) Multiple
22	d) All of these
23	d) Assertion (A) is false, but Reason (R) is true
24	B) Consumption
25	III) Scarcity
26	a) 3 4 2 1
27	a) Social
28	a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
29	d) Neither (a) nor (b)
30	b) A young lady was run over by a speeding truck at 100 km. per hour.
31	1. C
32	2. D
33	3. False

34	4. True
35	5. Plural
36	6. Qualitative
37	7. Study only Aggregate Study only Numerical facts
38	8. Honestly & Beauty
39	9. Statistics used Economics because it has several data
40	10. Karl Pearson & Fishers
41	11. Three characteristics are as follows:- (i) Statistics study Aggregate of facts ii) Affected by multiplicity of causes iii) Statistics are expressed in Numerical
42	12. While we are using Statistics as plural sense, it refers as:- i) Aggregate of facts not in a Singular data like 30 years old of a person ii) Statistics Affected a multiplicity of causes i.e. a variety of factors not a single factor. iii) Statistics always expressed their ideas in numbers that will be Quantitative expressions not a Qualitative expressions
43	ANS.13. Distinguish between Quantitative and Qualitatively 1. Statistics always expressed ideas in Quantitative ways it doesn't expressed ideas in Qualitative ways. 2. Quantitative means Numerically where as Quantitative means say that Quality of scores 3. Quantitative for example Age of Ram, Mohan & Shyam are 45, 48 & 50 years where as Qualitative expressed as Beauty, Honestly etc.
44	➤ Resources are always scarce in supply in relation to demand. ➤ Again resources have alternative uses. E.g. a ten rupee note may be spent on a cup of coffee or a cold drink. ➤ We cannot escape from the allocation of limited means to alternative uses. ➤ This is what we call economic problem or the problem of choice. Thus according to Robbins, "Economics as a science that studies human behavior as a relationship between ends and scarce means which have alternative uses."
45	➤ To simplify complex facts: • It is very difficult for an individual to understand and conclude from huge numerical data. • Statistical methods try to present the great mass of complex data into simple understandable form. ➤ To present facts in definite forms : • Quantitative facts can easily be believed and trusted in comparison to abstract and qualitative facts. • It summarises the generalized facts and presents them in definite form. • For example : statement like annual rate of inflation in a country is 10% is more convincing than the statement like prices are rising.

	<p>➤ To make comparison of facts :</p> <p>For comparison of data, various statistical methods like average, percentage, ratio etc. are used.</p>
46	<p>➤ Economic activities :</p> <ul style="list-style-type: none"> • These activities are undertaken to earn a living. • Every economy has three economic activities, such as consumption, production & distribution. • There is expectation of monetary reward. • For example : A teacher teaching in a school, a doctor attending patients in clinics. <p>➤ Non economic activities :</p> <ul style="list-style-type: none"> • Those activities which are not concerned with creation of money. • These are performed out of love, sympathy, sentiments etc. • There is no expectation of monetary reward or benefit. • For example : A teacher teaching his own son, a doctor treating his own relative.
47	<p>(i) (a) Social (ii) (a) Both A and R are true and R is the correct explanation of A. (iii) (b) Consumption</p>
48	<p>Statistics are affected by multiplicity of causes as numerical figures or data are influenced by variety of factors. For example, Statistics of production of a crop, say rice is affected by the rainfall, fertilizer, seeds, method of cultivation, etc. It is not possible to study separately the effect of each of these forces on the production of rice.</p>
49	<p>(i) At every stage of economic planning, there is a need for figures and statistical methods. (ii) Using statistical techniques, it is possible to assess the amounts of various resources available in the economy and accordingly determine whether the specified rate of growth is sustainable or not. (iii) Statistical analysis of data regarding an economy may reveal certain crucial areas, like increasing rate of inflation, which may require immediate attention.</p>
50	<p>Economics is often discussed in three parts: consumption, production and distribution.</p> <p>i.) We want to know how the consumer decides, given his income and many alternative goods to choose from, what to buy when he knows the prices. This is the study of Consumption.</p> <p>ii.) We also want to know how the producer, similarly, chooses what and how to produce for the market. This is the study of Production.</p> <p>iii. Finally, we want to know how the national income or the total income arising from what has been produced in the country (called the Gross Domestic Product or GDP) is distributed through wages (and salaries), profits and interest. This is the study of Distribution.</p>
51	<p>Statistics in singular sense: — (ii), (iv), (vi) Statistics in plural sense: — (i), (iii), (v)</p>
52	<p>(i) Statistics can only deal with quantitative data — False.</p>

	<p>Statistics deals with both quantitative data as well as with qualitative data. Statistics not only reveals quantitative information but also reflects the qualitative aspect of data like better, worse off, highly skilled, etc. Although the qualitative aspects can neither be easily measured nor can be expressed in quantitative terms, statistics describe the attributes of these variables.</p> <p>(ii) Statistics solves economic problem — True Statistics acts as a tool in the hands of economists that enables them to understand and evaluate an economic problem. The causes of a problem are identified through statistical tools and methods and policies and rectification measures are formulated accordingly.</p> <p>(iii) Statistics is of no use to economics without data — True Data enables economists to present economic facts in a precise and concise form. Data itself is self-explanatory. For example, if the per capita monthly income in India has increased from Rs 300 to Rs 600 during 1974 to 1984, then just by looking at the figures an economist would not only understand the quantitative increase in the per capita income but also can assess the implicit qualitative aspects associated with this increase like higher standard of living, low level of poverty, higher level of savings, etc.</p>
53	<p>14- 1) (b) Industrial production 14- 2) (c) 20% fall in industrial production 14- 3) (a) quantity 14- 4) (a) Both the statements are true.</p>
54	<p>Assertion (A) and Reason (R): ---- 1) a, II) a, III) b, IV) c, V) b</p> <p>OR</p> <p>Statement 1 and Statement 2: ----- I) b, II) d, III) c, IV) a, V) d</p>
55	<p>I) b) ii., i., iv. and iii. II) b) Median III) a) Histogram IV) Statistical information related to criticism because macroeconomics issues like poverty, unemployment, etc. are open to criticism as it does not deal with individual facts and results are true only on an average.</p>
56	<p>ANS 14.</p> <p>Function of statistics-</p> <p>i) To simply complexity of the facts ii) To present the facts in definite form iii) To make comparisons iv) To help forecasting</p>

	v) To Facilitate planning and policy formulation- on the basis of numerical data and their analysis plan their future activities and shap their policies.
57	<p>ANS 15.</p> <p>Distrust of Statistics means lack of confidence in Statistical methods and statements. Undoubtedly, Statistical methods have yielded important results in almost every field of knowledge. It occurs due to-</p> <ul style="list-style-type: none"> i) Incomplete knowledge ii) Unrealistic assumptions iii) Deliberately misuse. iv) Ignorance of limitation v) Wrong application
58	<p>To solve this problem of Distrust-</p> <ul style="list-style-type: none"> i) Limitation of statistics should be kept in mind ii) Only Expert should use iii) Data should use carefully iv) Great care and caution v) It should be impartial.
59	<p>Yes, Statistics help in evaluating the impact of government policies on the economy.</p> <ul style="list-style-type: none"> (i) In the present scenario, Government collects the largest amount of statistics for various purposes. The role of government has increased and requires much greater information in the form of numerical figures, to fulfill the welfare objectives in addition to the efficient running of their administration. (ii) Popular statistical methods such as time-series analysis, index numbers, forecasting and demand analysis are extensively used in formulating economic policies. (iii) In a democratic country like India, the ruling party or the Government guided by the statistical analysis regarding the popularity of different policies in the masses and on the basis of the acceptance of the policies among the citizens, Government use to modify the existing policy or introduce a new policy. (iv) With the help of the statistical analysis, the economists and the policy makers can evaluate the short-term as well as long-term impact of different government policies on the economy and accordingly provide suggestions to Government to achieve development goals.
60	<p>In the given case, the fault is not with the statistical method of calculating average, but with the misuse of average. The Statistics has been misused by the father as he has drawn wrong conclusions.</p> <p>Yes, it is rightly said that “Statistical methods are no substitute for common sense” as in reality like the above mentioned case, statistical average can’t be used or applied. The real life situations are more based on common sense and it can’t be substituted by statistical method.</p>

61	<p>(a) True, as in statistics mass data is involved, a high degree of accuracy can't be achieved, but the process of generalization can be achieved with a reasonable standard of accuracy only.</p> <p>(b) False, as statistics deals with only the quantitative phenomena, not with qualitative phenomena.</p> <p>(c) True, as data collected in an unsystematic manner and without complete awareness of the purpose will be confusing and cannot be made on the basis of valid conclusion.</p> <p>(d) False, as the techniques of Statistics are not so simple to be used by any layman. These techniques can only be used by the experts as they are complicated in nature.</p>
62	<ul style="list-style-type: none"> ➤ Once the magnitude of the economic problem has been studied & analysed, the next step is to come up with different suggestive measures. ➤ It is through the statistical investigations that the economists advised the government with regard to the formulation of economic policies. ➤ For example : <ul style="list-style-type: none"> • Policies are formulated related to taxation structure in the economy. <p>Minimum support price policies are implemented by government after collecting the information related to farmer's produce in the market.</p>
63	<ul style="list-style-type: none"> ➤ The given statement highlights the following features of statistics. ➤ Aggregates of facts : <ul style="list-style-type: none"> • A single number doesn't constitute statistics as no conclusion can be drawn from it. • Statistics is considered as aggregates of facts only when it is in terms of numbers, facilitates comparisons and conclusions can be drawn from it. • Example : Ram has Rs 500 as his pocket money, has no statistical significance. However, if it is stated that the pocket money of Ram is twice than that of the class average, then it is considered as statistics. ➤ Numerically expressed: <ul style="list-style-type: none"> • Statistics are expressed in terms of numbers. <p>Qualitative aspects like friendship, personality, intelligence etc. are not called statistics.</p>
64	<ul style="list-style-type: none"> ➤ Statistics must be used by experts : <ul style="list-style-type: none"> • Statistics can be used only by those people who have special knowledge of the statistical methods. • Those who are ignorant about the methods cannot use sensible use of statistics. • Prone to misuse : • Data in statistics can be manipulated or changed. • Data can be biased in order to support the pre drawn conclusions.
65	<ul style="list-style-type: none"> ➤ Aggregates of facts : <ul style="list-style-type: none"> • A single number does not constitute statistics as no conclusion can be drawn from it. • Statistics is considered as aggregates of facts only when it is in terms of numbers, facilitates comparisons and conclusions can be drawn from it. ➤ Numerically expressed : <ul style="list-style-type: none"> • Statistics are expressed in terms of numbers. • Qualitative aspects like friendship, personality, intelligence are not called statistics. ➤ Affected by multiple causes : <ul style="list-style-type: none"> • Statistics is influenced by multiple factors or causes.

	<ul style="list-style-type: none"> • For example : Increase in the price of the commodity can be attributed to multiple factors like shortage in crop supply, increase in demand, change in government policies etc. <p>➤ Enumeration vs Estimation :</p> <ul style="list-style-type: none"> • When information is collected from each and every unit of population, then the method is known as Enumeration. This method has limited use in the field of investigation. <p>When information is collected from a small group but it is generalized for the remaining population, it is termed as Estimation. This method is used when the field of investigation is large.</p>
66	<ul style="list-style-type: none"> ➤ Yes, I agree with the statement. ➤ This is explained through importance of statistics. ➤ Quantitative Expression of Economic problem : <ul style="list-style-type: none"> • The first task of the economists to understand the magnitude of the problem through quantitative expression. • Each and every economy experiences various problems like poverty, unemployment etc. ➤ Formulation of policies : <ul style="list-style-type: none"> • Once the magnitude of the economic problem has been assessed, the next step is to come up with different suggestive measures. ➤ Economic Forecasting : <ul style="list-style-type: none"> • It refers to future prediction about various economic variables based on the present scenario in the economy. • It is done with the help of different statistical methods and techniques. • This helps government in future planning. ➤ Working of cause and effect relationship : <ul style="list-style-type: none"> • Economists try to find out the cause & effect relationship between different sets of data. • This enables them to attempt an effective diagnosis of the problem. ➤ Inter Sectoral and Inter Temporal Comparisons : <ul style="list-style-type: none"> • Inter Sectoral Comparisons means the comparisons across the different sectors of the economy for the same time period. • Inter Temporal Comparisons means the comparisons done across the time period for the same variable. ➤ Economic Equilibrium : <p>It refers to a state of rest or balance which provides the maximum profits to producers, maximum satisfactions to consumers & ensure overall welfare of the society.</p>
67	<ul style="list-style-type: none"> ➤ Limitations of statistics are as follows : ➤ Study of numerical Facts only : <ul style="list-style-type: none"> • Statistics deals with only numerical facts. • It doesn't take into account various quantitative attributes like friendship, honesty etc : ➤ Study of Aggregates only. <ul style="list-style-type: none"> • Statistics studies only the aggregates of quantitative facts. • It doesn't study any particular unit. ➤ Results are true only on an average : <ul style="list-style-type: none"> • Most statistical findings are true on an average. • They are not valid under all circumstances.

	<ul style="list-style-type: none"> ➤ Without Reference, Results may prove to be wrong : <ul style="list-style-type: none"> • It is necessary that the circumstances and the conditions in which they have been drawn must be studied; otherwise, the results may prove to be wrong. ➤ Can be used only by Experts : <ul style="list-style-type: none"> • Statistics can be used only by those people who have special knowledge of the statistical methods. • Those who are ignorant about the methods cannot make sensible use statistics. ➤ Prone to Misuse : <ul style="list-style-type: none"> • Data can be altered in order to support the pre drawn conclusions. • Data can be manipulated or changed.
68	<p>No, I do not agree with the given statement. Statistics suffers from the following limitations:</p> <ul style="list-style-type: none"> (i) Statistics does not study qualitative phenomena (ii) Statistics does not deal with individuals. (iii) Statistics can be misused. (iv) Statistical results are true only on average. (v) Statistical data should be uniform and homogeneous. (vi) Statistical laws are not exact. <p>Only experts can make the best possible use of statistics.</p>
69	<p>To overcome the problems of distrust, following precautions should be taken;</p> <ul style="list-style-type: none"> (i) Limitations of statistics should be kept in mind (ii) Only Experts should make use of the statistics (iii) Data should be used after a careful enquiry (iv) Great care and caution should be exercised while using statistics <p>The user should be impartial</p>
70	<p>The Statement is true as:</p> <ul style="list-style-type: none"> (i) In the study of 'Consumption', Statistics help to find out the ways in which different groups of people spend their income on necessities, comforts and luxuries. Such statistics is very helpful for determining standard of living and taxable capacity of the people. (ii) In the study of 'Production', Statistics help to measure and compare productivity of different factors of production (land, labour, capital and enterprise). Statistics also help to adjust the supply according to demand. (iii) In the study of 'Exchange' price determination through market forces of demand and supply is studied. Statistics help to study the theory of price determination. <p>In the study of 'Distribution' we study how national income generated is distributed among different factors of production. Statistical data helps in solving various problems that arise due to unequal distribution of national income and wealth.</p>
71	<p>“Statistical methods are no substitute for common sense.”</p> <p>A statement of attention to the students of statistics is being referred to here. Statistical data should not be believed blindly as it can be misinterpreted or misused. The statistical data may be politically influenced, may involve personal biases or may have undergone data mining (manipulations). Moreover, statistical data and methods fail to reveal the errors committed by an investigator while surveying and collecting data. Thus, the students are advised to use their common sense while working with the statistical data. This point can be better understood with the help of the following example. According to a survey that was conducted on the Death Rate, it was found that the number of deaths per 1,000 people was more in doctors accessible regions compared to the death rate in the remote areas. Such statistical data violate common sense and thereby is misleading.</p>

	<p>Therefore, the students are advised not to have lopsided beliefs on the statistical data and methods but simultaneously should evaluate the statistical results logically and should offend the results if it violates their common sense. Thus, it can be concluded that statistics is like clay that can be transformed in either good or bad ways in order to draw right or wrong conclusions. Hence, the numerical data should not be deliberately used without applying common sense.</p>
72	<p>Distrust of statistics means lack of confidence in statistical methods and statements. In spite of the services provided by statistics, considerable distrust exists in the minds of people with regards to its reliability and usefulness. The reason for the distrust is improper use of statistical tools by unscrupulous, irresponsible, inexperienced and dishonest persons. Undoubtedly statistical tools have yielded important results in almost every field of knowledge. Statistics does not prove or disprove a thing. It is merely a tool.</p> <p>Cause of Distrust: The distrust of statistics occurs due to following reasons-</p> <ul style="list-style-type: none"> (i) incomplete knowledge of statistical methods; ii) unrealistic assumptions; (iii) Deliberate misuse of statistics; (iv) ignoring limitations of statistics; (v) wrong application of statistical methods. <p>Removal of Distrust To overcome the problems of distrust, following precautions should be taken-</p> <ul style="list-style-type: none"> (i) limitations of statistics should be kept in mind; (ii) Only experts should make use of statistics; (iii) Data should be used after a careful enquiry; (iv) Great care and caution should be exercised while using statistics; (v) The user should be impartial. <p>Conclusion From the above observations, it has become clear that fault does not lie with statistics. These techniques are innocent techniques which may be used for the betterment of the society. A knife may be used in cutting one's throat instead of cutting fruits and vegetables. Fault is not with a knife but with a person who handles it. Similarly, if the statistician misuses data, then the fault purely lies on the statistician and not on the data.</p>
73	<p>The need to study economics stems from the basic problem of scarcity and choice. The basic concern of economics is to allocate the scarce resources to the best possible use in the face of unlimited wants. Consequent to the scarce availability of resources, an economy needs to make a choice to allocate the scarce resources to the areas with maximum possible and optimum returns. Thus, the study of economics is very important. The following are the reasons that make the study of economics inevitable.</p> <p>1. To study the Theory of Consumption www.ncrtsolutions.in www.ncrtsolutions.in The Theory of Consumption deals with the study of the behaviour of the consumers in different types of market. The basic concern of this theory is how a rational consumer makes his/her</p>

	<p>preferences to get the maximum possible satisfaction in the facet of fixed level of income, given prices of the goods, etc.</p> <p>2. To study the Theory of Production, studies the production decisions of the producers in different types of market. The theory investigates how a producer takes production decisions. The theory highlights how a producer combines different inputs (given their prices) in order to minimise the cost of production and to maximise the profits.</p> <p>3. To study the Theory of Distribution The study of economics makes us aware about the distribution of national income. In other words, how the income arising from the total production of an economy is distributed in the form of wage, profit, rent and interest to different factor owners (like, labour, entrepreneur, land, capital).</p> <p>4. To study the basic macroeconomic problems faced by an economy, Economics proves as the most powerful tool to understand and analyse the root cause of basic macroeconomic problems faced by an economy like, poverty, unemployment, income disparity, etc. Economics helps us not only in understanding the interrelationship among these problems (like the relationship between poverty and unemployment) but also to take various corrective measures.</p>
74	<p>ANS 17</p> <p>Statistics has been playing a vital role in the economics in the absence of statistics, economics cannot be explain with their theories and principles , so that the following points proved the role of statistics in Economics-</p> <ul style="list-style-type: none"> i) Formulations of Economics Law ii) Help in understanding and solving of Economic problems. iii) Study of market structure iv) Help in establishing mathematical relation. v) Useful to study behaviors of different economic activities. vi) Price analysis
75	<p>ANS 18</p> <p>The main limitation of statistics are as follows-</p> <ul style="list-style-type: none"> i) Statistics doesn't study qualitative phenomenon. ii) Statistics doesn't deal with an individual. iii) Statistics can be misused. iv) Statistical results are true only on average. v) Statistical laws are not exactly. vi) Only expert can make a best possible use of statistics. vii) Statistical data should be uniform and homogeneous
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Statistics perform many functions successfully to human beings and the main functions of statistics are as follows:-

- i) To simplify complex facts .
- ii) To present facts in definite forms.
- iii) To make comparison of facts.
- iv) To facilitate planning and policy formulation.
- v) To help forecasting.
- vi) Formulation and Testing of Hypothesis.
- vii) To inlarge individual knowledge and experience.

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