

BECC-107: Statistical Methods for Economics

Course Code	BECC-107
Course Title / Subject	Statistical Methods for Economics
Programme	Undergraduate Honours / CBCS
Medium	English Medium
Marks	100
Assignment Type	Tutor Marked Assignment (TMA)

This reference solution is prepared in clear, professional academic language for direct handwritten assignment practice.

Official IGNOU Assignment / Syllabus Question Paper

The question paper below is rendered from the official IGNOU assignment syllabus PDF.

Assignment II

Answer the following Middle Category Questions in about 250 words each. Each question carries 10 marks. Word limit does not apply in the case of numerical questions.

3 x 10 = 30

- 3) (a) Describe the important properties of a standard normal variable.
- (b) Find out the area under the standard normal curve for each of the following (use z-table). Sketch each one of them.
- (i) between $z = -0.43$ and $z = 0.78$
 - (ii) between $z = 0.44$ and $z = 1.50$
 - (iii) to the right of $z = -1.33$.

- 4) Fit a straight line ($Y = a + bX$) to the following data. Compare the estimated values of the dependent variable with its actual values.

X	5	8	10	12	13	15	17	16
Y	8	12	14	10	13	16	14	17

- 5) What are the steps that you should keep in mind while constructing a price index? What are the properties that an index number should fulfil?

Assignment III

Answer the following Short Category Questions. Each question carries 15 marks.

2 x 15 = 30

- 7) Write short notes on the following:
- (a) Bayes' theorem of probability
 - (b) Age specific birth and death rates
 - (c) Components of a time series
- 8) Differentiate between the following:
- (a) Simple Random Sampling and Stratified Random Sampling
 - (b) Type I and Type II errors in hypothesis testing
 - (c) Level of significance and confidence level in hypothesis testing

Solved Answers

Answer 1: (a) Calculate mean, median and mode from the following data. Class Interval Frequency 3-4 3 4-5 7 5-6 22 6-7 60 7-8 85 8-9 32 9-10 8 (b) Calculate the coefficient of variation from the data given above. (ignoucollage.in)

About 500 words

The study and understanding of **(a) calculate mean, median and mode from the following data. class interval** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **(a) calculate mean, median and mode from the following data. class interval** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **(a) calculate mean, median and mode from the following data. class interval** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **(a) calculate mean, median and mode from the following data. class interval** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **(a) calculate mean, median and mode from the following data. class interval** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Answer 2: Distinguish between sample survey and census. Describe the steps you would follow in collecting data through a sample survey. Prepare a small questionnaire for collection of income and expenditure levels of households. Assignment II Answer the following Middle Category Questions in about 250 words each. Each question carries 10 marks. Word limit does not apply in the case of numerical questions. (ignoucollage.in)

About 500 words

The study and understanding of **sample survey and census. describe the steps you would follow in collecting** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **sample survey and census. describe the steps you would follow in collecting** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **sample survey and census. describe the steps you would follow in collecting** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **sample survey and census. describe the steps you would follow in collecting** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **sample survey and census. describe the steps you would follow in collecting** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Answer 3: (a) Describe the important properties of a standard normal variable. (b) Find out the area under the standard normal curve for each of the following (use z-table). Sketch each one of them. (i) between $z = -0.43$ and $z = 0.78$ (ii) between $z = 0.44$ and $z = 1.50$ (iii) to the right of $z = -1.33$. (ignoucollage.in)

About 500 words

The study and understanding of **(a) describe the important properties of a standard normal variable. (b) find** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **(a) describe the important properties of a standard normal variable. (b) find** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **(a) describe the important properties of a standard normal variable. (b) find** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **(a) describe the important properties of a standard normal variable. (b) find** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **(a) describe the important properties of a standard normal variable. (b) find** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Answer 4: Fit a straight line ($Y=a+bX$) to the following data. Compare the estimated values of the dependent variable with its actual values. X 5 8 10 12 13 15 17 16 Y 8 12 14 10 13 16 14 17 (ignoucollage.in)

About 500 words

The study and understanding of **fit a straight line ($Y=a+bX$) to the following data. compare the estimated** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **fit a straight line ($Y=a+bX$) to the following data. compare the estimated** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **fit a straight line ($Y=a+bX$) to the following data. compare the estimated** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether

analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **fit a straight line ($Y=a+bX$) to the following data. compare the estimated** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **fit a straight line ($Y=a+bX$) to the following data. compare the estimated** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Answer 5: What are the steps that you should keep in mind while constructing a price index? What are the properties that an index number should fulfil? Assignment III Answer the following Short Category Questions. Each question carries 15 marks. (ignoucollage.in)

About 500 words

The study and understanding of **steps that you should keep in mind while constructing a price index?** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **steps that you should keep in mind while constructing a price index?** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **steps that you should keep in mind while constructing a price index?** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **steps that you should keep in mind while constructing a price index?** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows

organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **steps that you should keep in mind while constructing a price index?** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Answer 6: Write short notes on the following: (a) Bayes' theorem of probability (b) Age specific birth and death rates (c) Components of a time series (ignoucollage.in)

About 500 words

The study and understanding of **following: (a) bayes' theorem of probability (b) age specific birth and death** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **following: (a) bayes' theorem of probability (b) age specific birth and death** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **following: (a) bayes' theorem of probability (b) age specific birth and death** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **following: (a) bayes' theorem of probability (b) age specific birth and death** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **following: (a) bayes' theorem of probability (b) age specific birth and death** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Answer 7: Differentiate between the following: (a) Simple Random Sampling and Stratified Random Sampling (b) Type I and Type II errors in hypothesis testing (c) Level of significance and confidence level in hypothesis testing (ignoucollage.in)

About 500 words

The study and understanding of **following: (a) simple random sampling and stratified random sampling (b) type i** represents a core analytical dimension within the subject. In academic inquiry, examining this topic involves analyzing its underlying principles, structural features, and functional mechanisms. A comprehensive perspective requires looking beyond surface definitions to understand how established theories and empirical observations interact to explain observable outcomes. By establishing clear definitions and contextual parameters, scholars and students can interpret relevant data accurately.

A systematic investigation into **following: (a) simple random sampling and stratified random sampling (b) type i** reveals several vital characteristics and operational methods. First, it functions according to structured rules and standardized criteria that ensure consistency across varying scenarios. Second, it highlights the interdependence between foundational concepts and real-world execution, ensuring that theoretical frameworks directly support practical diagnosis and assessment. Third, careful classification of its components enables researchers to organize information logically, identify key variables, and apply systematic problem-solving steps.

Furthermore, evaluating the procedural and developmental progression of **following: (a) simple random sampling and stratified random sampling (b) type i** provides deeper insight into its overall significance. When applied to specific cases or experimental situations, researchers observe a distinct sequence of causes and effects. Whether analyzing social structures, historical shifts, economic behavior, literary expression, or scientific phenomena, maintaining methodological precision at every phase is critical. Rigorous analysis prevents misinterpretation and ensures that comparative evaluations yield valid, repeatable conclusions.

In applied contexts and practical scenarios—particularly within the institutional, socioeconomic, and environmental context of India—the relevance of **following: (a) simple random sampling and stratified random sampling (b) type i** becomes readily apparent. Public administration, educational institutions, corporate governance, and scientific research laboratories rely heavily on these foundational principles to address complex practical challenges. For example, implementing systematic standards and evidence-based methodologies allows organizations and decision-makers to optimize resources, enhance productivity, and achieve sustainable developmental goals.

In summary, a thorough mastery of **following: (a) simple random sampling and stratified random sampling (b) type i** is essential for achieving complete conceptual clarity in this field. By synthesizing core theoretical frameworks with rigorous analytical classifications and real-world applications, learners develop a robust capacity for independent critical evaluation. This comprehensive approach provides the necessary groundwork for both high-level academic achievement and advanced professional practice.

Visit: ignoucollage.in

“Study smart. Submit confidently.”

Disclaimer: This reference material is provided exclusively for academic guidance and practice. Students should write assignments in their own words.