St. Aloysius College (Autonomous) Jabalpur

B.Com III Semester

Subject : Management

Paper I Principles of Statistics

<u>UNIT 1</u>

MULTIPLE CHOICE QUESTIONS:

Q1) The term Statistics was first used in-
   A. In 1739
   B. In 1749
   C. In 1759
   D. In 1769

   Answer. B. In 1749

Q2) Function of statistics is to -
   A. Enhance individual knowledge
   B. Suggest solution of problems
   C. Study individual units
   D. All of the above

   Answer. A. Enhance individual knowledge

Q3) Utility of statistics is -
   A. Increasing
   B. Decreasing
   C. Neither increasing or decreasing
   D. None of these

   Answer. A. Increasing

Q4) Statistics is -
   A. An art
   B. A science
   C. Both science and art
   D. None of these

   Answer. C. Both science and art

Q5) "Statistics is not a science, it is also a scientific method." Who's statement is this?
   A. Croxton and Cowden
   B. Simpson and Kafka
   C. Wallis and Roberts
   D. Yule and Kendall

   Answer. A. Croxton and Cowden

Q6) The job of statistics is to -
   A. Help classification of data
   B. Test a hypothesis
   C. Indicate trend behaviour
   D. All of these

Answer. D. All of these

Q7) "Statistics is the science of counting" is stated by -
    A. Bowley
    B. Kendall
    C. Boddington
    D. King

Answer. A. Bowley

Q8) Which one of the following statements is not of Bowley?
    A. Statistics is the science of counting
    B. Statistics is the science of estimates and probabilities
    C. Statistics may rightly be called the science of averages
    D. None of these

Answer. B. Statistics is the science of estimates and probabilities

Q9) From the following points which one is correct -
    A. Statistics is helpful in administration
    B. Statistics is helpful in business
    C. Statistics is helpful in economic analysis
    D. Statistics is helpful in above all activities

Answer. D. Statistics is helpful in above all activities

Q10) How the term 'statistics' is called in terms of lies?
    A. White lies
    B. Black lies
    C. Rainbow lies
    D. Multichomatic lies

Answer. C. Rainbow lies

Q11) Which of the following is considered in a statistical investigation?
    A. Definition of problem
    B. Purpose of investigation
    C. Sources of Information
    D. All the above

Answer. D. All the above

Q12) The objects and scope of statistical investigation are decided -
    A. Before the compilation of data
    B. After the compilation of data
    C. During the compilation of data
    D. Never

Answer. A. Before the compilation of data

Q13) How many stages are there of statistical investigation?
    A. Six
    B. Four
    C. Two
    D. Ten

Answer. A. Six

Q14) How many types of statistical units are there?
   A. Five
   B. Three
   C. Two
   D. None

   Answer. C. Two

Q15) In which investigation each unit of population is studied -
   A. Sample investigation
   B. Census investigation
   C. Statistical investigation
   D. All of these

   Answer. B. Census investigation

Q16) In which investigation only a selected group of individuals is studied -
   A. Census investigation
   B. Statistical investigation
   C. Sample investigation
   D. None of these

   Answer. C. Sample investigation

Q17) How many methods are there for sampling?
      A. Three
      B. Two
      C. Four
      D. Five

      Answer. A. Three

Q18) Essential of a sample is not -
   A. Dissimilarity
   B. Independence
   C. Representativeness
   D. All of these

   Answer. A. Dissimilarity

Q19) Disadvantage of collection of primary data are -
   A. Unsuitable foe wide scope
   B. Very expensive
   C. Time consuming
   D. All of these

   Answer. D. All of these
Q20) Secondary data should be used -
   A. After careful checking
   B. Without any checking
   C. Not at all

D. None of these

Answer. A. After careful checking

Q21) Questionnaire should have following number of questions -
   A. 20
   B. 30
   C. 40
   D. According to the need of survey

Answer. D. According to the need of survey

Q22) Which one of the following is not a method of collection of primary data?
   A. Direct personal investigation
   B. Indirect oral investigation
   C. Economic survey
   D. Mailed questionnaire

Answer. C. Economic survey

Q23) Which of the following is a source of collection of secondary data?
   A. International publications
   B. Government publications
   C. Both A. & B.
   D. None of these

Answer. C. Both A. & B.

Q24) On the basis of structure, how many types of questionnaire are there?
   A. Five
   B. Four
   C. Three
   D. Two

Answer. D. Two

Q25) Sample is the representative of :
       A. Universe
       B. Investigation
       C. Data
       D. None of these

       Answer. A. Universe

Q26) General purpose table is also called a _____ table.
   A. Primary
   B. Reference
   C. Repository
   D. All of these

Answer. D. All of these

TURE AND FALSE QUESTIONS

Q27) Statistical laws are always perfectly true.
Answer. False

Q28) Statistics is more important in commerce.
Answer. True

Q29) There are certain limitations of Statistics.
Answer. True

Q30) Statistics are affected to a market extent by multiplicity of causes.
Answer. True

Q31) Statistics studies only quantitative data.
Answer. True

Q32) Statistical method is the only method of studying a problem.
Answer. False

Q33) Statistical investigation may be for a special purpose.
Answer. True

Q34) A census investigation is one which is suitable for homogeneous units.
Answer. False

Q35) Sample investigation is not a complete scientific method.
Answer. False

Q36) Data are necessary material for statistical analysis.
Answer. True

Q37) Data collected by the investigator is never biased.
Answer. False

Q38) Secondary data are original.
Answer. False

Q39) Primary data are like raw material.
Answer. True

Q40) Secondary data are easily available from secondary sources.
Answer. True

Q41) Direct personal investigation is also called Interviews.
Answer. False

Q42) There are four types of classification of data.

Answer. True

Q43) There are two types of Statistical series.
Answer. False

Q44) Cencus method is used when high degree of accuaracy is expected.
Answer. True

Q45) Sampling theory is based on probability theory.
Answer. True

Q46) In a series with equal class intervals, frequency of each class is equal
Answer. False

Q47) Classification and tabulation are complementary to each other.
Answer. True

Fill in the blanks

Q48) ____ is the next stage after Presentation of data.
   A. Editing of data
   B. Analysis of data

   Answer. B. Analysis of data

Q49) ____ is the technique in which samples are selected partly by objective sampling and partly like a purposive sampling.
   A. Mixed sampling
   B. Stratified sampling

   Answer. A. Mixed sampling
Q50) Government publications are the source of ____ data.
   A. Primary data
   B. Secondary data

   Answer. B. Secondary data
Q51) The ____ is a list of questions along with a space for answers.
   A. Questionnaire
   B. Statistical survey

   Answer. A. Questionnaire
Q52) ____ means that facts are presented in true form or measurements are true.
   A. Approximation
   B. Accuracy

   Answer. B. Accuracy
Q53) Classification on the basis of time periods is called ____ .
   A. Geographical classification
   B. Chronological classification
     Answer. B. Chronological classification

Q54) The _____ is written on the upper side of a table to give some explanation.
   A. Footnote
   B. Headnote

   Answer. B. Headnote
Q55) A table which represents the data in the same form as it was collected is called _____.
   A. Original table
   B. Derivative table

   Answer. A. Original table
Q56) The value being half way between the lower and upper class limits of a class interval is called its _____.
   A. Upper value
   B. Mid value

   Answer. B. Mid value

Q57) In _____ class intervals, upper limit of class is included in the next higher class.
   A. Inclusive
   B. Exclusive

   Answer. B. Exclusive

Q58) A note regarding the source of the data is called _____.
   A. Foot note
   B. Source note

   Answer. B. Source note

Q59) The difference between true and observed estimated value is known as _____.
   A. Statistical errors
   B. Sampling errors

   Answer. A. Statistical errors

Q60) The formula for Relative error is
   A. A.E./e
   B. A – E

   Answer. A. A.E. / e

Short Answer Type Questions
1. Difference between statistical data and Statistical Methods.
1. सांख्यिकीय डेटा और सांख्यिकीय विधियों के बीच अंतर बताइए।
2. Explain the characteristics of statistics.
 आँकड़ों की विशेषताएँ बताइए।
3. Importance of statistics in economic planning and managerial decision- making.
आर्थिक नियोजन और प्रबंधकीय निर्णय में आँकड़ों का महत्व बताइए।

5. What is meant by Statistical Investigation?
सांख्यिकीय जांच का क्या मतलब है?

6. What do you understand by Statistical unit?

6. सांख्यिकीय इकाई से आप क्या समझते हैं?

7. Mention the types of statistical Investigation.

सांख्यिकीय जांच के प्रकारों का उल्लेख करें।

8. Explain the importance of statistical investigation.

सांख्यिकीय जांच के महत्व को समझाएं।

9. Mention three differences between Primary and Secondary data.

प्राथमिक और माध्यमिक डेटा के बीच तीन अंतर का उल्लेख करें।

10. what precautions should be taken in using secondary data.

माध्यमिक डेटा का उपयोग करने में क्या सावधानियां बरतनी चाहिए।

11. what do you mean by published and unpublished sources?

प्रकाशित और अप्रकाशित स्रोतों से आपका क्या तात्पर्य है?

12. what is the difference between Parameter and Statistics?

पैरामीटर और सांख्यिकी के बीच अंतर क्या है?

13. Explain the sampling methods.

नमूने लेने के तरीके बताइए।

14. what is meant by sampling?

नमूने से क्या अभिप्राय है?

15. Explain Statistical series.

सांख्यिकीय श्रृंखला की व्याख्या कीजिए।

16. mention the objects of Tabulation.

सारणीकरण की वस्तुओं का उल्लेख करें।

Long Answer Type Questions

1. Explain the Scope, utility and limitations of statistics.

सांख्यिकी की स्कोप, उपयोगिता और सीमाएँ स्पष्ट करें।

2."Statistics is not a science, it is a scientic method." Discuss it critically and explain the scope and limitations of statistics.

"सांख्यिकी एक विज्ञान नहीं है, यह एक वैज्ञानिक पद्धति है।" इसकी गंभीर रूप से चर्चा करें और आंकड़ों के दायरे और सीमाओं की व्याख्या करें।

3. Explain the use of statistics for economic analysis and planning.

आर्थिक विश्लेषण और योजना के लिए आँकड़ों के उपयोग की व्याख्या कीजिए।

4. Define statistics and explain its characteristics.

आँकड़ों को परिभाषित करें और इसकी विशेषताओं की व्याख्या करें।

5. what is statistical inquiry? Describe the main stage of statistical inquiry.

सांख्यिकीय जांच क्या है? सांख्यिकीय जांच के मुख्य चरण का वर्णन करें।

6. What do you mean by Statistical unit? What are the various types of Statistical units? Explain with examples.

सांख्यिकीय इकाई से आपका क्या तात्पर्य है? सांख्यिकीय इकाइयों के विभिन्न प्रकार क्या हैं? उदाहरण सहित स्पष्ट कीजिए।

7. What do you understand by statistical investigation? How you make a plan for statistical investigation.

सांख्यिकीय जांच से आप क्या समझते हैं? आप सांख्यिकीय जांच के लिए एक योजना कैसे बनाते हैं।

8.Examine critically the important methods of collection of primary data. Can any one method be called the best under all circumstances.

गंभीर रूप से प्राथमिक डेटा के संग्रह के महत्वपूर्ण तरीकों की जाँच करें। क्या किसी एक विधि को सभी परिस्थितियों में सर्वश्रेष्ठ कहा जा सकता है।

9. Compare the merits and demerits of the census and sampling methods of collection of data.

आंकड़ों के संग्रह की जनगणना और नमूना लेने के तरीकों की गुणों और अवगुणों की तुलना करें।

10. state the meaning of secondary data. What precautions should be taken before using secondary data for further investigation?

माध्यमिक डेटा का अर्थ बताएं। आगे की जांच के लिए माध्यमिक डेटा का उपयोग करने से पहले क्या सावधानियां बरतनी चाहिए?

13. Why is sampling? What are its objects? Discuss the various methods of selecting samples.

नमूना क्यों है? इसकी वस्तुएं क्या हैं? नमूने चुनने के विभिन्न तरीकों पर चर्चा करें।

14. Why is sampling necessary in statistical investigations? Explain the important methods of sampling commonly used.

सांख्यिकीय जांच में नमूना लेना क्यों आवश्यक है? आमतौर पर इस्तेमाल किए जाने वाले नमूने के महत्वपूर्ण तरीकों के बारे में बताएं।

15. A good sample must be based on random selection." Discuss.

अच्छा नमूना यादृच्छिक चयन पर आधारित होना चाहिए। " चर्चा करें।

16. What is statistical sampling? Explain the various methods of statistical sampling.

सांख्यिकीय नमूनाकरण क्या है? सांख्यिकीय नमूने लेने के विभिन्न तरीकों के बारे में बताएं।

17. Discuss the objects, methods and importance of classification.

वर्गीकरण की वस्तुओं, विधियों और महत्व पर चर्चा करें।

18. Explain limits of classification and essentials of an ideal classification.

एक आदर्श वर्गीकरण की वर्गीकरण और अनिवार्यताओं की व्याख्या करें।

UNIT 2

MULTIPLE CHOICE QUESTIONS

Q1) Statistics is the science of averages" is a statement given by -
   A. Bowley
   B. Cowden
   C. Kendall
   D. Seligman

   Answer- A. Bowley

Q2) Which of the following is not a mathematical average?
   A. Arithmetic mean
   B. Geometric mean
   C. Harmonic mean
   D. Mode

   Answer- D. Mode

Q3) Which of the following is the average of position?
   A. Median
   B. Arithmetic mean
   C. Geometric mean
   D. None of these

   Answer-A. Median

Q4) In which series, the formula of **N/2** is used for median number?
  A. Individual
  B. Discrete
  C. Continuous
  D. None of these

  Answer-C. Continuous

Q5) In which of the following equal interval of each class is must?
  A. Arithmetic mean
  B. Median
  C. Mode
  D. Harmonic mean

  Answer-C. Mode

Q6) Which of the following cannot be obtained by graphical method?
  A. Arithmetic mean
  B. Median
  C. Mode
  D. Quartiles

  Answer-A. Arithmetic mean

Q7) The sum of deviations from. ……in an individual series is equal to zero.
  A. Mode
  B. Median
  C. Geometric mean
  D. None of these

  Answer -None of these

Q8) One of the methods to find out mode is:
  A. Mode=3Median+2Mean
  B. Mode =2Median-3Mean
  C. Mode=3Median-2Mean
  D. Mode=3Median-3Mean

  Answer-C. Mode=3Median-2Mean

Q9) Which average is affected most by extreme values?
  A. Mode
  B. Arithmetic mean
  C. Median
  D. Geometric mean

  Answer-D. Geometric mean

Q10) The most useful average for qualitative facts is:
  A. Mean

B. Median
C. Mode
D. None of these

Answer-B. Median

Q11) Which of the following is the most suitable average for the average size ready-made garments?
A. Arithmetic mean
B. Median
C. Mode
D. Geometric mean

Answer-C. Mode

Q12) In which of the following average grouping method is used?
A. Mean
B. Median
C. Mode
D. Weighted mean

Answer. C. Mode

Q13) The data set is arrayed in the calculation of median:
A. In ascending order
B. In descending order
C. First in ascending then in descending order
D. Ascending or descending any order

Answer-D. Ascending or descending any order

Q14) Density Test is applied in:
A. Mean
B. Median
C. Mode
D. None of these

Answer-C. Mode

Q15) Median mean:
A. 50th Percentile
B. 4th Percentile
C. 6th Octile
D. None of these

Answer-A. 50th Percentile

Q16) What is the value of mode in the following distribution?
X : 5 10 15 20 25
f   : 2 3 15 4 1
A. 14.8
B. 15

C. Median
D. None of these

Answer-B. 15

Q17) Data are arranged in ascending or descending order in the calculation of:
   A. Arithmetic mean
   B. Geometric mean
   C. Median
   D. Mode

Answer-C. Median

Q18) Mid-value of 50-60 is:
   A. 50
   B. 55
   C. 60
   D. 54

Answer-B. 55

Q19) Which of the following is the most uncertain average?
   A. Mode
   B. Median
   C. Geometric mean
   D. Harmonic mean

Answer-A. Mode

Q20) If the value of mode is 25.5 and median is 16.5, the value of arithmetic mean will be:
   A. 13.5
   B. 18
   C. 12.5
   D. 12

Answer-D. 12

Q21) A median is :
   A. A value having maximum frequencies
   B. A figure obtained by dividing the total of values by the number of values
   C. A value of the middle item
   D. A root of the product of all values

Answer-C. A value of the middle term

Q22) Mode is a:
   A. Middle value
   B. Middle most value
   C. Most frequent value
   D. None of these

Answer-C. Most frequent value

Q23) For the calculation of arithmetic mean, the class intervals shall be:
   A. Middle value
   B. Middle most value
   C. Most frequent value
   D. None of these

   Answer-D. None of these

Q24) The mean of 15 numbers is 15,if the two numbers 18 and 12 are excluded, then the mean of the remaining numbers is:
   A. 15
   B. 10
   C. 25
   D. 12

   Answer-A. 15

TRUE AND FALSE QUESTIONS

Q25) No mean is unweighted.
   Answer-True

Q26) The sum of deviations from median is equal to zero.
   Answer-False

Q27) Combined median may also be calculated like combined mean.
   Answer-False

Q28) The sum of absolute deviations from median is minimum.
   Answer -True

Q29) Mode cannot be ascertained graphically.
   Answer-False

Q30) The value most often repeated in a data set is called the arithmetic mean.
   Answer-False

Q31) Arithmetic mean is always the best measure of central tendency.
   Answer-False

Q32) Mode divides the series into two equal parts.
   Answer-False
C. **Short Answer Type Question**

Q111. Explain the mathematical properties of arithmetic mean.
Q.112. Mention the special uses of geometric mean.
Q113. Discuss the merits of harmonic mean.
Q114. Discuss the essentials of an ideal average.
Q115. Differentiate between simple and weighted arithmetic mean.
Q111। अंकगणित माध्य के गणितीय गुणों की व्याख्या कीजिए।
प्र .12। ज्यामितीय माध्य के विशेष उपयोगों का उल्लेख करें।

प्रश्न 113। हार्मोनिक मतलब के गुणों पर चर्चा करें।
Q114। एक आदर्श औसत की अनिवार्यता पर चर्चा करें।
Q115। सरल और भारित अंकगणितीय माध्य के बीच अंतर करना।

Long Answer Type Question

Q116. Calculate GM and HM from the following data:
48, 192, 128, 512, 144, 576.

Q117. Calculate GM of the following data:

Class	100-110	110-120	120-130	130-140	140-150	150-160
F	14	16	30	20	15	5

Q118. Calculate arithmetic mean, Median and Mode from the following data:

Less than	10	20	30	40	50	60	70	80
F	15	30	53	75	100	110	115	125

Q119. Calculate arithmetic mean, Median and Mode from the following data:

More than	0	5	10	15	20	25	30
F:	100	95	85	71	51	16	1

Q120. Compute arithmetic mean, Median and Mode from the following data:

Value :	0-10	0-20	0-30	0-40	0-50	0-60
F	8	18	25	37	42	45

Q121. Calculate mean, Median and Mode

Age group:	14-15	16-17	18-20	21-24	25-29	30-34	35-39
F:	60	140	150	110	110	100	90

Q122. Calculate mean, Median and Mode

Class:	2	3	4	5-7	7-10	10-15	15-20	20-25
F:	1	2	2	3	5	10	8	4

Q125. Calculate mean, Median and Mode

MV :	5	15	25	35	45	55	65	75
F:	15	20	25	24	12	31	71	52