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O.M.R. Serial No. | | | | | | | |

Question Booklet Number

B.Com. (Hons.) (SEM.-II) (NEP) EXAMINATION, 2025-26

(Back Paper)

COMMERCE

(Statistical Methods)

[CODE : BCH-201]

Paper Code							
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Question Booklet Series

A

Time : 1 : 30 Hours **Max. Marks : 75**

Instructions to the Examinee :

1. Do not open the booklet unless you are asked to do so.
2. The booklet contains 100 questions. Examinee is required to answer 75 questions in the OMR Answer-Sheet provided and not in the question booklet. All questions carry equal marks.
3. Examine the Booklet and the OMR Answer-Sheet very carefully before you proceed. Faulty question booklet due to missing or duplicate pages/questions or having any other discrepancy should be got immediately replaced.
4. Four alternative answers are mentioned for each question as - A, B, C & D in the booklet. The candidate has to choose the correct / answer and mark the same in the OMR Answer-Sheet as per the direction :

(Remaining instructions on last page)

परीक्षार्थियों के लिए निर्देश :

1. प्रश्न-पुस्तिका को तब तक न खोलें जब तक आपसे कहा न जाए।
2. प्रश्न-पुस्तिका में 100 प्रश्न हैं। परीक्षार्थी को 75 प्रश्नों को केवल दी गई OMR आन्सर-शीट पर ही हल करना है, प्रश्न-पुस्तिका पर नहीं। सभी प्रश्नों के अंक समान हैं।
3. प्रश्नों के उत्तर अंकित करने से पूर्व प्रश्न-पुस्तिका तथा OMR आन्सर-शीट को सावधानीपूर्वक देख लें। दोषपूर्ण प्रश्न-पुस्तिका जिसमें कुछ भाग छपने से छूट गए हों या प्रश्न एक से अधिक बार छप गए हों या उसमें किसी अन्य प्रकार की कमी हो, उसे तुरन्त बदल लें।
4. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार सम्भावित उत्तर- A, B, C एवं D हैं। परीक्षार्थी को उन चारों विकल्पों में से सही उत्तर छाँटना है। उत्तर को OMR उत्तर-पत्रक में सम्बन्धित प्रश्न संख्या में निम्न प्रकार भरना है :

(शेष निर्देश अन्तिम पृष्ठ पर)

1. Statistics in plural sense refers to:
   (A) Mathematical formulas
   (B) Numerical facts systematically collected and arranged
   (C) Individual observations
   (D) Random information

2. One limitation of statistics is that it:
   (A) Cannot analyze numerical data
   (B) Cannot summarize data
   (C) Cannot measure dispersion
   (D) Studies aggregates rather than individuals

3. Secondary data are:
   (A) Collected directly by investigator
   (B) Raw observations
   (C) Already collected and published by others
   (D) Collected through experiments

4. The most suitable method when respondents are widely scattered is?
   (A) Direct interview
   (B) Observation
   (C) Questionnaire method
   (D) Census investigation

5. Histogram differs from bar diagram because:
   (A) Bars represent categories
   (B) Bars are separated
   (C) Bars represent percentages
   (D) Rectangles are continuous without gaps

6. The midpoint of a class interval is:
   (A) Frequency
   (B) Class mark
   (C) Class boundary
   (D) Class width

7. In a discrete series:
   (A) Class intervals exist
   (B) Continuous values exist
   (C) Midpoints exist
   (D) Frequencies correspond to specific values

8. Data presented without grouping is called:
   (A) Continuous series
   (B) Discrete series
   (C) Cumulative series
   (D) Individual series

9. The arithmetic mean of 10 observations is 50. If one observation 80 was wrongly recorded as 60, the correct mean is:

(A) 48

(B) 52

(C) 50

(D) 54

10. If mean = 40 and coefficient of variation = 20%, the standard deviation equals:

(A) 8

(B) 10

(C) 6

(D) 12

11. Mean of first 20 natural numbers equals:

(A) 10.5

(B) 11

(C) 9.5

(D) 12

12. If Q1 = 15 and Q3 = 45, quartile deviation equals:

(A) 10

(B) 15

(C) 20

(D) 30

13. The geometric mean of 4, 16 and 64 equals:

(A) 12

(B) 16

(C) 10

(D) 8

14. The harmonic mean of 4 and 12 equals:

(A) 6

(B) 8

(C) 4

(D) 5

15. Range of 12, 18, 30, 40 equals:

(A) 28

(B) 22

(C) 30

(D) 25

16. Mean of numbers 10, 20, 30, 40, 50 equals:

(A) 30

(B) 25

(C) 35

(D) 40

17. If variance = 16, standard deviation equals:

(A) 4

(B) 8

(C) 2

(D) 16

18. If mean = 60 and SD = 12, coefficient of variation equals:

(A) 20%

(B) 15%

(C) 25%

(D) 18%

19. Range equals:

(A) Mean deviation

(B) Variance

(C) Standard deviation

(D) Maximum value - Minimum value

20. Quartile deviation equals:

(A) Q3 - Q1

(B) (Q3 - Q1)/2

(C) Q1 + Q3

(D) Mean deviation

21. Standard deviation measures:

(A) Central tendency

(B) Skewness

(C) Kurtosis

(D) Spread of observations around mean

22. Coefficient of variation measures:

(A) Relative dispersion

(B) Absolute dispersion

(C) Skewness

(D) Kurtosis

23. If mean > median > mode:

(A) Symmetrical

(B) Positively skewed

(C) Negatively skewed

(D) Kurtotic

24. If mean < median < mode:

(A) Positive skew

(B) Negative skew

(C) Symmetrical

(D) Random

25. If mean = median = mode:

(A) Positive skew

(B) Negative skew

(C) Random

(D) Symmetrical distribution

26. Kurtosis measures:

(A) Dispersion

(B) Skewness

(C) Central tendency

(D) Peakedness of distribution

27. A distribution flatter than normal is:

(A) Platykurtic

(B) Mesokurtic

(C) Leptokurtic

(D) Skewed

28. A more peaked distribution than normal is:

(A) Platykurtic

(B) Leptokurtic

(C) Mesokurtic

(D) Symmetrical

29. Mean of 6, 12, 18, 24 equals:

(A) 15

(B) 12

(C) 18

(D) 20

30. Median of 4, 6, 8, 10, 12 equals:

(A) 6

(B) 8

(C) 10

(D) 12

31. Range of 20, 25, 35, 45 equals:

(A) 25

(B) 20

(C) 30

(D) 35

32. Mean of 5, 15, 25 equals:

(A) 15

(B) 10

(C) 20

(D) 18

33. If SD = 0 then:

(A) All observations equal

(B) Data widely spread

(C) Data skewed

(D) Random data

34. Mean of 3, 6, 9, 12 equals:

(A) 7.5

(B) 8

(C) 9

(D) 6

35. Median of 7, 9, 11, 13, 15 equals:

(A) 9

(B) 11

(C) 12

(D) 13

36. Mean of 8, 16, 24 equals:

(A) 16

(B) 14

(C) 18

(D) 20

37. Range if max = 90 and min = 30 equals:

(A) 60

(B) 55

(C) 50

(D) 65

38. Mean of 12, 18, 24 equals:

(A) 18

(B) 16

(C) 20

(D) 22

39. Arithmetic mean uses:

(A) Median values

(B) Mode values

(C) Frequencies only

(D) All observations

40. Median represents:

(A) Highest value

(B) Middle value of distribution

(C) Average value

(D) Lowest value

41. Mode represents:

(A) Mean value

(B) Median value

(C) Quartile value

(D) Most frequent value

42. Quartiles divide data into:

(A) Three equal parts

(B) Five equal parts

(C) Four equal parts

(D) Two equal parts

43. Range measures:

(A) Mean deviation

(B) Variance

(C) Relative dispersion

(D) Extreme dispersion

44. Standard deviation is:

(A) Mean deviation

(B) Square root of variance

(C) Quartile deviation

(D) Range

45. If CV of A = 10% and B = 20%, consistency is higher in:

(A) A

(B) B

(C) Both equal

(D) Cannot say

46. Mean > median > mode indicates:

(A) Positive skewness

(B) Negative skewness

(C) Symmetrical distribution

(D) Kurtotic distribution

47. Mean < median < mode indicates:

(A) Positive skew

(B) Negative skew

(C) Symmetrical

(D) Random

48. If mean = median = mode distribution is:

(A) Positive skew

(B) Negative skew

(C) Random

(D) Symmetrical

49. Kurtosis of normal distribution is:

(A) Platykurtic

(B) Mesokurtic

(C) Leptokurtic

(D) Skewed

50. Standard deviation becomes zero when:

(A) Data widely spread

(B) Data skewed

(C) Mean = median

(D) All observations identical

51. The correlation coefficient always lies between:

(A) –1 and +1

(B) –2 and +2

(C) 0 and 1

(D) $-\infty$ and $+\infty$

52. If r = +1, the relationship between variables is:

(A) No correlation

(B) Perfect positive correlation

(C) Perfect negative correlation

(D) Random relationship

53. If r = 0, it indicates:

(A) Perfect positive correlation

(B) Perfect negative correlation

(C) No linear correlation

(D) Perfect functional relation

54. If covariance = 20, $\sigma x = 5$ and $\sigma y = 4$, then correlation coefficient is:

(A) 0.5

(B) 1.0

(C) 0.8

(D) 0.6

55. If r = –0.75, the variables have:

(A) Strong negative correlation

(B) Weak positive correlation

(C) No correlation

(D) Perfect positive correlation

56. In scatter diagram method, if points lie close to a straight upward line, correlation is:

(A) Negative

(B) Zero

(C) Positive

(D) Random

57. Spearman's rank correlation is used when data are?

(A) Quantitative

(B) Ranks or ordinal data

(C) Continuous data

(D) Grouped data

58. Spearman's formula is:

(A) $r = \Sigma xy / n$

(B) $1 - (6\Sigma d^2 / n(n^2 - 1)$

(C) $\Sigma x^2 + \Sigma y^2$

(D) $\sqrt{(\Sigma xy)}$

59. If n = 5 and $\sum d^2 = 10$, Spearman's rank correlation equals:

(A) 0.5

(B) 0.6

(C) 0.7

(D) 0.4

60. Regression analysis is mainly used for:

(A) Measuring dispersion

(B) Measuring skewness

(C) Estimating relationship between variables

(D) Classification of data

61. Regression equation represents:

(A) Average relationship between variables

(B) Exact functional relationship

(C) Dispersion of data

(D) Frequency distribution

62. If regression coefficients are bxy = 0.6 and byx = 0.6 then correlation coefficient r equals:

(A) 0.6

(B) 0.36

(C) 0.8

(D) 0.5

63. If regression coefficients are bxy = –0.4 and byx = –0.9 then r equals approximately:

(A) –0.6

(B) –0.5

(C) –0.6

(D) –0.7

64. If correlation coefficient is zero, regression lines are:

(A) Parallel

(B) Coincident

(C) Perpendicular

(D) Random

65. The point where both regression lines intersect is?

(A) Median

(B) Mode

(C) Mean point $(\overline{x}, \overline{y})$

(D) Origin

66. If r = 0.8 and σ x = 6 and σ y = 3, regression coefficient byx equas:

(A) 0.4

(B) 0.8

(C) 0.6

(D) 0.2

(byx = r(σ y/σ x) = 0.8×3/6 = 0.4)

67. If r = 0.5, σ x = 4 and σ y = 10, bxy equals:

(A) 1.25

(B) 2

(C) 1

(D) 1.5

(bxy = r(σ x/σ y) = 0.5×4/10 = 0.2)

68. If r = ±1, regression lines:

(A) Intersect at right angles

(B) Are parallel

(C) Coincide

(D) Diverge

69. Correlation measures:

(A) Dispersion

(B) Cause-effect relation

(C) Probability

(D) Degree of relationship

70. Regression analysis helps in:

(A) Measuring dispersion

(B) Calculating frequency

(C) Determining quartiles

(D) Prediction of dependent variable

71. If r = 0.9 then coefficient of determination equals:

(A) 0.81

(B) 0.90

(C) 0.72

(D) 0.95

72. If r = –0.8 then r^2 equals:

(A) –0.80

(B) –0.64

(C) 0.80

(D) 0.64

73. If regression coefficient byx = 1.2 and bxy = 0.3 then r equals:

(A) 0.6

(B) 0.36

(C) 0.9

(D) 0.5

74. If r = 0 then regression coefficients are:

(A) Undefined

(B) 1

(C) –1

(D) 0

75. If correlation coefficient increases, regression lines become:

(A) More scattered

(B) Parallel

(C) Closer to each other

(D) Random

76. If two events A and B are mutually exclusive with P(A) = 0.3 and P(B) = 0.4, then P(A $\cup$ B) equals:

(A) 0.7

(B) 0.12

(C) 0.3

(D) 0.5

77. If P(A) = 0.5 and P(B|A) = 0.4 then P(A $\cap$ B) equals:

(A) 0.5

(B) 0.20

(C) 0.10

(D) 0.40

78. If two events are independent and P(A) = 0.6 and P(B) = 0.5 then P(A $\cap$ B) equals:

(A) 0.60

(B) 0.50

(C) 0.30

(D) 0.10

79. The number of permutations of 7 objects taken 2 at a time equals:

(A) 42

(B) 14

(C) 21

(D) 49

80. The number of combinations of 10 objects taken 2 at a time equals:

(A) 20

(B) 45

(C) 50

(D) 55

81. If a fair coin is tossed twice, the probability of getting exactly one head equals:

(A) 1/2

(B) 1/4

(C) 3/4

(D) 1

82. If P(A) = 0.7 then P(A') equals:

(A) 0.7

(B) 0.3

(C) 0.5

(D) 0.2

83. In a binomial distribution with n = 4 and p = 0.5, the mean equals:

(A) 1

(B) 2

(C) 3

(D) 4

84. In a binomial distribution with n = 5 and p = 0.4, variance equals:

(A) 1.2

(B) 2

(C) 1

(D) 0.8

85. In a Poisson distribution with mean λ = 3, the variance equals:

(A) 3

(B) 9

(C) 6

(D) 1

86. If X follows Poisson distribution with λ = 1, then P(X = 0) equals:

(A) e^{-1}

(B) e

(C) 1

(D) 0

87. In a normal distribution the total area under the curve equals:

(A) 0

(B) 1

(C) 2

(D) Infinite

88. In a standard normal distribution the mean equals:

(A) 0

(B) 1

(C) –1

(D) 0.5

89. In a normal distribution mean, median and mode are:

(A) Different

(B) Equal

(C) Random

(D) Independent

90. If the probability of an event is 0, the event is:

(A) Certain

(B) Likely

(C) Impossible

(D) Random

91. Time series analysis is mainly used to study:

(A) Changes in data over time

(B) Relationship between variables

(C) Dispersion of data

(D) Probability distribution

92. Which of the following is NOT a component of time series?

(A) Trend

(B) Seasonal variation

(C) Cyclical variation

(D) Mean deviation

93. If the 4-year moving total of a time series is 240, the 4-year moving average equals:

(A) 60

(B) 50

(C) 40

(D) 80

94. Seasonal variations usually repeat within:

(A) One year

(B) Five years

(C) Ten years

(D) Twenty years

95. In least squares method the trend equation is generally expressed as:

(A) $y = a + bx^2$

(B) $y = a + bx$

(C) $y = ax + b^2$

(D) $y = ab + x$

96. If the price of a commodity in base year = 50 and in current year = 75, the price index equals:

(A) 120

(B) 140

(C) 150

(D) 175

97. A chain base index compares current year with:

(A) Fixed base year

(B) Immediately preceding year

(C) Average year

(D) Future year

98. If CPI increases from 120 to 150, the percentage increase in cost of living equals:

(A) 25%

(B) 20%

(C) 30%

(D) 15%

99. If a composite index number of prices equals 125, it indicates that prices increased by:

(A) 20%

(B) 25%

(C) 30%

(D) 15%

100. If the average of seasonal indices for four quarters equals 100, each quarter on average equals:

(A) 100

(B) 25

(C) 50

(D) 75

Rough Work / रफ कार्य

Example :

Question :

Q.1 Ⓐ ● Ⓒ Ⓓ

Q.2 Ⓐ Ⓑ ● Ⓓ

Q.3 Ⓐ ● Ⓒ Ⓓ

5. Each question carries equal marks. Marks will be awarded according to the number of correct answers you have.

6. All answers are to be given on OMR Answer Sheet only. Answers given anywhere other than the place specified in the answer sheet will not be considered valid.

7. Before writing anything on the OMR Answer Sheet, all the instructions given in it should be read carefully.

8. After the completion of the examination, candidates should leave the examination hall only after providing their OMR Answer Sheet to the invigilator. Candidate can carry their Question Booklet.

9. There will be no negative marking.

10. Rough work, if any, should be done on the blank pages provided for the purpose in the booklet.

11. To bring and use of log-book, calculator, pager & cellular phone in examination hall is prohibited.

12. In case of any difference found in English and Hindi version of the question, the English version of the question will be held authentic.

Impt. On opening the question booklet, first check that all the pages of the question booklet are printed properly. If there is any discrepancy in the question Booklet, then after showing it to the invigilator, get another question Booklet of the same series.

उदाहरण :

प्रश्न :

प्रश्न 1 Ⓐ ● Ⓒ Ⓓ

प्रश्न 2 Ⓐ Ⓑ ● Ⓓ

प्रश्न 3 Ⓐ ● Ⓒ Ⓓ

5. प्रत्येक प्रश्न के अंक समान हैं। आपके जितने उत्तर सही होंगे, उन्हीं के अनुसार अंक प्रदान किये जायेंगे।

6. सभी उत्तर केवल ओ०एम०आर० उत्तर-पत्रक (OMR Answer Sheet) पर ही दिये जाने हैं। उत्तर-पत्रक में निर्धारित स्थान के अलावा अन्यत्र कहीं पर दिया गया उत्तर मान्य नहीं होगा।

7. ओ०एम०आर० उत्तर-पत्रक (OMR Answer Sheet) पर कुछ भी लिखने से पूर्व उसमें दिये गये सभी अनुदेशों को सावधानीपूर्वक पढ़ लिया जाये।

8. परीक्षा समाप्ति के उपरान्त परीक्षार्थी कक्ष निरीक्षक को अपनी OMR Answer Sheet उपलब्ध कराने के बाद ही परीक्षा कक्ष से प्रस्थान करें। परीक्षार्थी अपने साथ प्रश्न-पुस्तिका ले जा सकते हैं।

9. निगेटिव मार्किंग नहीं है।

10. कोई भी रफ कार्य, प्रश्न-पुस्तिका में, रफ-कार्य के लिए दिए खाली पेज पर ही किया जाना चाहिए।

11. परीक्षा-कक्ष में लॉग-बुक, कैल्कुलेटर, पेजर तथा सेल्युलर फोन ले जाना तथा उसका उपयोग करना वर्जित है।

12. प्रश्न के हिन्दी एवं अंग्रेजी रूपान्तरण में भिन्नता होने की दशा में प्रश्न का अंग्रेजी रूपान्तरण ही मान्य होगा।

महत्वपूर्णः प्रश्नपुस्तिका खोलने पर प्रथमतः जाँच कर देख लें कि प्रश्नपुस्तिका के सभी पृष्ठ भलीभाँति छपे हुए हैं। यदि प्रश्नपुस्तिका में कोई कमी हो, तो कक्षनिरीक्षक को दिखाकर उसी सिरीज की दूसरी प्रश्नपुस्तिका प्राप्त कर लें।