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India's Number 1 Education App

MATHS

BOOKS - UNITED BOOK HOUSE

Question Paper 2015

Exercise

1. If the values of arguments are not equispaced then which of the following interpolation formula would be appropriate

for finding an entry corresponding to a given argument?

A. Newton's forward interpolation formula

B. Newton's backward interpolation formula

C. Lagrange's interpolation formula

D. None of these

Answer:

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2. If f_i, F_i, F'_i are respectively the frequency less than type cumulative frequency, greater than type cumulative frequency of i-th class and N be the total freqnency then which of the following is correct?

A. $N = F_i + F'_i$

B. $N = F_i + F'_i + f_i$

C. $N = F_i + F'_i$ - f_i`

D. None of these

Answer:

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3. Two variables x and y are related as y = 3 - 7x and Q_1, Q_3 of x are respectively 5 and 11, then the value of Q_3 of y is

A. (-)74

B. 21

C. (-)32

D. None of these

Answer:

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4. The abscissa of the point of intersection of the less than and greater than ogives corresponds to

A. Arithematic mean

B. Median

C. Geometric mean

D. None of these

Answer:

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5. The polynomial $x^3 + 3x^2 - x - 3$ is divisible by

A. a) (x + 2)

B. b) (x + 3)

C. c) (x - 2)

D. d) None of these

Answer:

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6. Let f(x) be the polynomial of degree n, then Δ^{n-1} f(x) is a polynomial of degree.

A. a) 0

B. b) n

C. c) 1

D. d) (n - 1)

Answer:

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7. If E and F two events such that $P(E \cap F) = \frac{3}{5}$ and $P\left(EUF^{C}\right) = \frac{4}{5}$ then P(F) equals to

A. a) $\frac{1}{5}$

B. b) $\frac{3}{5}$

C. c) $\frac{2}{5}$

D. d)None of these

Answer:

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8. The price level of a country in a certain year has increased 25% over the base period. The index number is

A. 25

B. 125

C. 225

D. None of these

Answer:

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9. Measurement of population growth is

A. Vital index

B. SDR

C. TFR

D. None of these

Answer:

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10. State Fermat's theorem.

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11. Write down the situation where C.V. is the appropriate measure of dispersion.

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12. If the relation between two variables x and y is $2x - 3y = 4$, what is the relation between

their ranges?

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13. If the 1st and 3rd quartiles of a symmetrical distribution are 11 and 17 respectively, then what is the value of the median of that distribution?

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14. Write down the sample when a die is thrown repeatedly until 6 appears.

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15. Define exhausitive events.

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16. If for independent events A and B, P(A) = 0.3, P(B) = 0.6, then what will be the value of

$P(A \cap B)$?

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17. If A and B are independent events, then $P\left(\frac{A}{B^C}\right)$ = ...

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18. Draw the Venn-diagram of B^C.

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19. What is Vital index?

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20. Define Crude rate of Natural Increase.

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21. What are the tests proposed by Fisher for checking goodness of an index number?

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22. What do you mean by purchasing power of money?

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23. What is the effect of change of base and scale on central moments?

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24. What are the differences between primary data and secondary data?

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25. Distinguish between qualitative and quantitiative data.

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26. Find the G.M. of n observations a, ar, ar^2 , ... ar^{n-1}.

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27. Write down the classical definition of probability.

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28. Describe the different parts of table.

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29. For three distinct positive numbers a, b, c with a + b + c = 1, show that $8abc \leq \left(\frac{2}{3}\right)^3$.

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30. For three values a, $\frac{a+b}{2}$ and b(> a) find the value of (Range)/(Standard Deviation).

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31. State Lagrange's interpolation formula.

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32. The first two moments of a distribution about the value 5 are 3 and 25 respectively. If the mode is 6 obtain pearson's coefficients of skewness and coefficient of variation.

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33. In a certain distribution of the first three moments about the value 4 of a variable are 1, 4 and 10 respectively. Find the three moments about mean and β_1.

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34. State and prove Bayes Theorem of probability.

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35. If the events $E_1, E_2, \ldots\ldots\ldots\ldots E_n$ are independent and such that $P\left(E_i^C\right) = \frac{i}{i+1}$, i=1, 2,.....n, then find the probability that at least one of the n events occur.

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36. Define Laspeyre's and Paasche's price index formula.

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37. Define Pearson's 2nd measure of Skewness (SK_2). Show that -3

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38. Two boxes contain balls as under:

Box 1: 3 White and 2 Red balls

Box 2: 2 White and 4 Red balls

One ball is drawn at random from Box 2 and is put into Box 1. Then a ball is drawn from Box 1 at random. What is the probability that the ball drawn from Box 1 is white?

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39. State and prove Bayes Theorem of probability.

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40. Describe the different columns of a life table.

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