MATHS

BOOKS - UNITED BOOK HOUSE

Question Paper 2017

Exercise

1. The least Fermat number is

A. 1

B. 3

C. 5

D. none of these

Answer:

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2. Indicate the type of data : 'Blood group of any person'

A. Attribute

B. Discrete variable

C. Continuous variable

D. none of these

Answer:

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3. Quartiles of a frequency distribution obtained from

A. Frequency polygon

B. Histogram

C. Ogive

D. none of these

Answer:

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4. Frequency density is necessary for drawing

A. Ogive

B. Step diagram

C. Histogram

D. Bar diagram

Answer:

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5. Sum of the absolute deviation is minimum when it is taken about

A. mean

B. median

C. mode

D. none of these

Answer:

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6. If $P(A) = \frac{1}{4}, P(B) = \frac{1}{3}$ then maximum possible value of $P(A \cup B)$ is

A. $\frac{1}{2}$

B. $\frac{5}{6}$

C. $\frac{7}{12}$

D. none of these

Answer:

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7. The number of condition for three events A, B and C are to be mutually independent is

A. 3

B. 4

C. 7

D. none of these

Answer:

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8. In a life table d_x means

A. $1_x + 1 - 1_x$

B. $1_x - 1x + 1$

C. Δd_x

D. $\frac{1_x + 1_x + 1}{2}$

Answer:

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9. Mention one situation where Harmonic Mean will be a suitable average.

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10. If $x + 3y - 7 = 0$ is the relation between x and y and s.d. (y) = 7 then find the s.d.(x)

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11. Write sample space when a coin is tossed until first head appears.

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12. Write down two cases when mean deviation about mean and standard deviations are equal.

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13. If a, b and c are three positive real numbers, then show that $a^3 + b^3 + c^3 > 3abc.$

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14. If P(A) = a and P(B) = b, then show that $P\left(\frac{A}{B}\right) \leq \frac{a}{b}.$

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15. Define Real Wage.

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16. Define Real Wage.

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17. State the Factor Reversal Test of index number.

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18. Show that for a set of first $n(\leq 2)$ natural number $n < \left[n + \frac{1}{2}\right]^n$

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19. What is the difference between cross sectional data and Time series data?

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20. If A and B are two events then show that $P(B) = P(A).P\left(\frac{B}{A}\right) + P\left(A^C\right).P\left(\frac{B}{A^C}\right).0 < P(A) < 1$

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21. If A^c and B^c are two independent events, then show that A and B are also independent.

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22. x and y are two variables, such that $y = (3)^{\frac{1}{x}}$. If the harmonic mean of x is 3, find the geometric mean of y.

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

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24. What is mail questionnaire method? When this method is useful?

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25. If two positive values of a variable be x_1 and x_2 and the arithmetic mean be A, geometric mean be G and the harmonic mean be H, then prove that $G^2 = AH$

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26. State and prove that Cauchy-Schwarz inequality.

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27. Derive the expression of 4th order central moments in terms of raw moment.

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28. If three numbers are drawn are drawn at random from the frist 30 natural numbers, then the probability that they are in A.P.

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29. The harmonic mean of 4,8,16 is

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30. What is Family budget enquiry?

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31. What is real life application of Life Table?

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32. State Lagrange's interpolation formula.

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33. If s and R are respectively the standard deviation and range of set of n values of a variable x, then prove that $\frac{R^2}{2n} \leq s^2$.

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34. Prove that mean deviation will be minimum when deviation are taken from median.

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35. A problem of Statistics is given to three students A, B and C, where chances of solving the problem individually are 1/2, 1/3 and 1/4 respectively. Find the probability that exactly one of them solve the problem.

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