FINAL ANSWER KEY

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Alphacode	A

Question1:-Drafting Committee chairman of Indian Constitution
 A:-Dr. Rajendra Prasad
 B:-Dr. B R Ambedkar
 C:-Jawaharlal Nehru
 D:-Sardar Vallabjhai Patel
 Correct Answer:- Option-B

Question2:-The President of India who officially issued a state of emergency in 1975
 A:-Zakir Huzain
 B:-V.V. Giri
 C:-Fakruddin Ali Ahmad
 D:-Neelam Sanjeev Reddy
 Correct Answer:- Option-C

Question3:-Right to Information Law was passed on
 A:-26 January 2005
 B:-15 June 2005
 C:-15 August 2005
 D:-2 October 2005
 Correct Answer:- Option-B

Question4:-The ruler who founded the first English school in Travancore
 A:-Chithira Thirunnal
 B:-Sree Moolam Thirunnal
 C:-Swathy Thirunnal
 D:-Vishakham Thirunnal
 Correct Answer:- Option-C

Question5:-First travelogue in Malayalam
 A:-London Note Book
 B:-Varthamana Pustakam
 C:-Vazhiyorakazchakal
 D:-Israel Yatra
 Correct Answer:- Option-B

Question6:-Founder of Prathyaksha Raksha Sabha
 A:-Joseph Parekkattil
 B:-Benjamin Bailee
 C:-Charls Mart
 D:-Poykayil Yohannan
 Correct Answer:- Option-D

Question7:-Travancore State Congress was formed in
 A:-1932
 B:-1936
 C:-1938
 D:-1939
 Correct Answer:- Option-C

Question8:-The leader of Ezhava Memorial
 A:-G.P. Pillai
 B:-Dr. Palpu
 C:-Nataraja Guru
 D:-Kumaran Asan
 Correct Answer:- Option-B

Question9:-Paliyam Satyagraha was in the year
 A:-1924
 B:-1931
 C:-1948
 D:-1959
 Correct Answer:- Option-C

Question10:-Who started the monthly publication Gramadeepam ?
 A:-K. Kelappan
 B:-T.N. Gangadharan
 C:-K.M. Mathew
 D:-K. Balakrishnan
 Correct Answer:- Option-A

Question11:-Who among the following started a branch of Brahma Samaj at Kozhikode in 1898 ?
 A:-Ayyathan Gopalan
 B:-K. Ayyappan
 C:-T.K. Madhavan
 D:-P. Narayanan Nair
 Correct Answer:- Option-A

Question12:-Seethamuthal Sathyavathivare is a work of
 A:-Balamani Amma
 B:-Lalithambika Antharjanam
 C:-Dr. M. Leelavathy
 D:-Kamala Surayya
 Correct Answer:- Option-B

Question13:-The Malayali who delivered his speech in Malayalam at Oxford University in 1959
 A:-V.K. Krishna Menon
 B:-Mannathu Padmanabhan
 C:-K.P. Kesava Menon
 D:-Captain Lekshmi
 Correct Answer:- Option-B

Question14:-The leader of the Yachana Yatra in 1931
 A:-A.K. Gopalan
 B:-M.P. Manmathan

    C:-V.T. Bhattathiripad

    D:-Ayyankali

    Correct Answer:- Option-C

Question15:-Who organized a Misrabhojanam in 1917 at Kozhikode

    A:-K.P. Vallon

    B:-C. Krishnan

    C:-Chovvara Parameswaran

    D:-Sahodaran Ayyappan

    Correct Answer:- Option-D

Question16:-Who is popularly known as Kerala Vyasan ?

    A:-Vallathol Narayana Menon

    B:-A.R. Rajaraja Varma

    C:-Kodungalloor Kunjikkuttan Thampuran

    D:-Keralavarma Valiyakoyi Thampuran

    Correct Answer:- Option-C

Question17:-The birth palace of Ulloor S. Parameswara Iyer

    A:-Kilimanoor

    B:-Pattom

    C:-Mavelikkara

    D:-Changanacherry

    Correct Answer:- Option-D

Question18:-Temple Entry Proclamation was declared on

    A:-1 November 1935

    B:-12 November 1935

    C:-1 November 1936

    D:-12 November 1936

    Correct Answer:- Option-D

Question19:-The Pope who canonized Mar Kurikos Elias Chavara on 23 November 2014

    A:-Pope John Paul I

    B:-Pope John Paul II

    C:-Pope Francis

    D:-Pope Benedict XVI

    Correct Answer:- Option-C

Question20:-Founder of Bachpan Bachao Andolan

    A:-Medha Padkar

    B:-Kailash Satyarthi

    C:-Sundarlal Bahuguna

    D:-Arundhathi Roy

    Correct Answer:- Option-B

Question21:-Who among the following is the real giant in the development of the theory of Statistics?

    A:-I. Fisher

    B:-Prof. R.A. Fisher

    C:-P.C. Mahalanobis

    D:-C.R. Rao

    Correct Answer:- Option-B

Question22:-A suitable method of collecting data in cases where the informants are literate and spread over a vast area:

    A:-Direct personal interview

    B:-Mailed questionnaire method

    C:-Sample method

    D:-Primary method

    Correct Answer:- Option-B

Question23:-The point of intersection of ogives correspond to:

    A:-Mean

    B:-Geometric mean

    C:-Mode

    D:-Median

    Correct Answer:- Option-D

Question24:-In a ratio graph, the vertical scale starts with:

    A:-0

    B:--1

    C:-1

    D:-Any positive number

    Correct Answer:- Option-D

Question25:-Out of 19 students appeared for a test only 10 students are qualified and their scores are respectively 36, 45, 58, 63, 39, 43, 47, 34, 41 and 50. The median mark of all students is :

    A:-45

    B:-39

    C:-34

    D:-41

    Correct Answer:- Option-C

Question26:-The arithmetic mean and harmonic mean of certain data set are respectively 90 and 40. Then the geometric mean is :

    A:-50

    B:-60

    C:-80

    D:-Data is not sufficient

    Correct Answer:- Option-B

Question27:-The arithmetic mean of two sample observations is greater than the smallest by their :

    A:-Standard error

    B:-Variance

    C:-Range

    D:-None of these

    Correct Answer:- Option-A

Question28:-The harmonic mean of certain data set is 25 and if each observation is multiplied by 2. Then the harmonic mean of new data set is :

    A:-25/2

    B:-25

    C:-100

    D:-50

    Correct Answer:- Option-D

Question29:-In Lorenz curve , the diagonal line y=x is known as:

    A:-Coefficient of determination

    B:-Line of unequal distribution
    C:-Line of equal distribution
    D:-Line of poverty
    Correct Answer:- Option-C
Question30:-If 25% of the items in a distribution are less than 10 and 25% are more than 40, the quartile deviation is :
    A:-25
    B:-20
    C:-15
    D:-5
    Correct Answer:- Option-C
Question31:-The standard deviation of the observations x and y is :
    A:-Absolute value of (x-y)/2
    B:-Absolute value of (x-y)
    C:-(x-y)
    D:-None of these
    Correct Answer:- Option-A
Question32:-The coefficient of variation of first four natural numbers is :

    A:-$5\frac{1}{2}$
    B:-sqrt(0.4)
    C:-sqrt(0.2)
    D:-sqrt(2.5)
    Correct Answer:- Option-C
Question33:-The distribution of mortality rates with respect to the age after ignoring the accidental deaths will give:
    A:-Positively skewed distribution
    B:-Negatively skewed distribution
    C:-Symmetric distribution
    D:-None of these
    Correct Answer:- Option-A
Question34:-Which one of the following is true for a discrete distribution?
    A:-$\beta_2 > 1$
    B:-$\beta_2 > 3$
    C:-$\beta_2 < 3$
    D:-$\beta_2 > 2$
    Correct Answer:- Option-A
Question35:-The sum of squares of deviations is least when measured from :
    A:-Median
    B:-Mean
    C:-Mode
    D:-None of these
    Correct Answer:- Option-B
Question36:-The axiomatic approach to probability was proposed by:

    A:-Karl Pearson
    B:-Laplace
    C:-A. Kolmogorov
    D:-A.N. Kolmogorov
    Correct Answer:- Option-D
Question37:-10 persons are seated on 10 chairs at a round table. The probability that two specified persons are sitting next to each other is:
    A:-$\frac{2}{10}$
    B:-$\frac{1}{10}$
    C:-$\frac{2}{9}$
    D:-$\frac{1}{9}$
    Correct Answer:- Option-C
Question38:-Which of the following statement is most correct:
    A:-$P(AB) \leq P(A)$
    B:-$P(AB) \leq P(B)$
    C:-$P(AB) \leq \min(P(A),P(B))$
    D:-$P(AB) \leq \max(P(A),P(B))$
    Correct Answer:- Option-C
Question39:-A random sample of 10 different observations is given. How many samples of $\{(x, y): x < y\}$ can be formed is:
    A:-45
    B:-90
    C:-60
    D:-30
    Correct Answer:- Option-A
Question40:-If P(A)=P(B)=P(C)=0.5, P(AB)=P(AC)=P(BC)=0.2 and P(ABC)=0.1, then P(A-B-C) is :
    A:-0.15
    B:-0.20
    C:-0.10
    D:-0
    Correct Answer:- Option-B
Question41:-The probability of choosing a square of dimension 2 from a chess board of dimension 8 is:
    A:-$\frac{1}{64}$
    B:-$\frac{2}{64}$
    C:-$\frac{4}{64}$
    D:-None of these
    Correct Answer:- Option-D
Question42:-If A and B are exhaustive and equally likely events with P(AB)=0.2, then P(A) is:
    A:-0.6
    B:-0.4
    C:-0.8

D:-None of these

Correct Answer:- Option-B

Question43:-A problem in statistics is given to 3 students A, B and C whose chances of solving it are $\frac{1}{2}$, $\frac{3}{4}$ and $\frac{1}{4}$ respectively. The probability that exactly one solves the problem is:

A:-$\frac{19}{32}$

B:-$\frac{29}{32}$

C:-$\frac{3}{32}$

D:-$\frac{13}{32}$

Correct Answer:- Option-D

Question44:-Which of the following statement is true ?

A:-Disjoint events are independent

B:-Independent events may be disjoint

C:-Both options 1 and 2

D:-None of these

Correct Answer:- Option-B

Question45:-Five events are said to be mutually independent if they have to satisfy .... conditions:

A:-26

B:-30

C:-28

D:-32

Correct Answer:- Option-A

Question46:-Two friends decided to meet between 2pm and 3pm with the proviso that one waits the other for at most 20 minutes. The chance of their meeting is:

A:-$\frac{1}{9}$

B:-$\frac{2}{9}$

C:-$\frac{4}{9}$

D:-$\frac{5}{9}$

Correct Answer:- Option-D

Question47:-Bayes' formula is used to obtain the probabilities of:

A:-Posterior events

B:-Likelihood events

C:-Prior events

D:-None of these

Correct Answer:- Option-A

Question48:-The distribution which holds the property non correlation of random variables implies independence is:

A:-Bivariate normal

B:-Bivariate exponential

C:-Bivariate Cauchy

D:-None of these

Correct Answer:- Option-A

Question49:-The Union Minister of Statistics and Program Implementation is:

A:-Dr. V. K. Singh

B:-Rajnath Singh

C:-Smriti Irani

D:-Venkia Naidu

Correct Answer:- Option-A

Question50:-The mean sum of squares is obtained by dividing the sum of squares by:

A:-Size of the sample

B:-Degrees of freedom

C:-Squared degrees of freedom

D:-Squared sample size

Correct Answer:- Option-B

Question51:-The method of moment estimator for Θ in a uniform distribution over [-Θ, Θ] with sample mean 10 and sample variance 4 is:

A:-$2\sqrt{3}$

B:-24

C:-10

D:-0

Correct Answer:- Option-A

Question52:-A consistent estimator of Θ^2 in a Poisson distribution with parameter θ is:

A:-Square of sample mean

B:-Sample mean

C:-Sample variance

D:-Sample mean- sample variance

Correct Answer:- Option-A

Question53:-The degrees of freedom associated to error sum of squares in one-way ANOVA having n observations and k treatments is:

A:-n-1

B:-k-1

C:-n-k

D:-k+1

Correct Answer:- Option-C

Question54:-The sum of all two digit numbers formed using the digits 1, 2, 3 and 4 if each digit is used exactly once is:

A:-110

B:-284

C:-330

D:-None of these

Correct Answer:- Option-C

Question55:-The moment generating function M(t) of a random variable X exists at:

A:-Any real value of t

B:-t=0

C:-Neighborhood of zero

D:-Deleted neighborhood of zero

Correct Answer:- Option-C

Question56:-If x=rcosΘ and y=rsinΘ with r>0, $0 < \Theta < \frac{\pi}{2}$, then dxdy is:

A:-r^2 drdΘ

B:-θ drdΘ

C:-drdΘ

D:-rdrd Θ

Correct Answer:- Option-D

Question57:-The characteristic function of a standard normal variate is:

A:-$e^{-\frac{t^2}{2}}$

B:-$e^{\frac{t^2}{2}}$

C:-$e^{-\frac{|t|}{2}}$

D:-1

Correct Answer:- Option-A

Question58:-Francis Galton is pioneered in the study of:

A:-Biometry

B:-Genetics

C:-Regression

D:-Correlation

Correct Answer:- Option-C

Question59:-The correlation coefficient of the bi variate data: (1,10), (2,9), (3,8) and (4,7) is

A:-1

B:--1

C:-0.6

D:-None of these

Correct Answer:- Option-B

Question60:-Let $r(x, y)$=0.8. Then the explained variation in y due to x is:

A:-80%

B:-64%

C:-81%

D:-70%

Correct Answer:- Option-B

Question61:-If both regression coefficients are positive, then their sum is always:

A:-$\geq$ 1

B:-Lies between 1 and 2

C:-$\geq$ 2

D:-None of these

Correct Answer:- Option-D

Question62:-The line of best fit can be obtained by the principle of:

A:-Least squares

B:-Moments

C:-Mixed moments

D:-Minimum chi-sqare

Correct Answer:- Option-A

Question63:-The coefficients of determination is the square of:

A:-r

B:-1-r

C:-1+r

D:-$\frac{1-r}{1+r}$

Correct Answer:- Option-A

Question64:-If r(x,y)=0.6, then r($\frac{-x+3}{2}, \frac{y-5}{8}$) is:

A:--1

B:--0.6

C:-+0.6

D:-0.36

Correct Answer:- Option-B

Question65:-Probable error is used to test:

A:-Observed correlation coefficient

B:-Regression coefficients

C:-Rank correlation

D:-Consistency

Correct Answer:- Option-A

Question66:-Let X be the number of successes follow B(n,p), then the distribution of failures follow:

A:-B(n,p)

B:-B(n, 1-p)

C:-B(2n, 1-p)

D:-None of these

Correct Answer:- Option-B

Question67:-Let X follows B(n,p) is positively skewed if :

A:-p<$\frac{1}{2}$

B:-p>$\frac{1}{2}$

C:-p=$\frac{1}{2}$

D:-o<p<1

Correct Answer:- Option-A

Question68:-Correlation coefficient between the number of successes and failures in B(n,p) is:

A:-1

B:--1

C:-0

D:-None of these

Correct Answer:- Option-B

Question69:-Let X follows B(n,p) and define Y=$\frac{X - np}{\sqrt{npq}}$. Then Var(Y) is:

A:-npq

B:-$\frac{q}{p^2}$

C:-1

D:-$\frac{p^2}{q}$

Correct Answer:- Option-C

Question70:-If X and Y are two independent Poisson variates with parameters 2 and 3 respectively and let U=X+Y. Then P(U=0) is:

A:-e^{-5}

B:-e^{-3}

C:-e^{-2}

D:-$e^{-2}+e^{-3}$

Correct Answer:- Option-A

Question71:-Referring to Question 50, E(X/U=3) is:

A:-1

B:-$\frac{2}{3}$

C:-$\frac{5}{3}$

D:-$\frac{6}{5}$

Correct Answer:- Option-D

Question72:-$\lim_{n \to \infty} \left(1 - \frac{x^2}{n^2}\right)^n$ is:

A:-e^{-x}

B:-e^{x}

C:--1

D:-None of these

Correct Answer:- Option-D

Question73:-Which of the following statement about B(n,p) is always true?

A:-It is under dispersed

B:-It is over dispersed

C:-Neither option1 nor option 2

D:-Both options 1 and 2 depend on values of p

Correct Answer:- Option-A

Question74:-If X follows N(10, $\sigma^2 = 4$), then the standard deviation of aX is:

A:-2a

B:-4a

C:-$2a^2$

D:-None of these

Correct Answer:- Option-D

Question75:-If X follows U(0,1), then Var(1-X) is:

A:-$\frac{1}{12}$

B:-$\frac{1}{6}$

C:-$\frac{1}{2}$

D:-$\frac{1}{4}$

Correct Answer:- Option-A

Question76:-The maximum height of N(0,1) curve is :

A:-e

B:-$\sqrt{e}$

C:-$\frac{1}{\sqrt{\pi}}$

D:-$\frac{1}{\sqrt{2\Pi}}$

Correct Answer:- Option-D

Question77:-As the scale parameter of normal curve increases, the distribution retains symmetry and becomes:

A:-Flatter

B:-Peaked

C:-Neither 1 nor 2

D:-None of these

Correct Answer:- Option-A

Question78:-If X and Y are independent N(0,1) random variates, then P(X<Y) is :

A:-$\frac{1}{2}$

B:-0

C:-1.96

D:-1.65

Correct Answer:- Option-A

Question79:-The Normal curve has an area about ....within one unit of SD from mean:

A:-65%

B:-68%

C:-33%

D:-67%

Correct Answer:- Option-B

Question80:-The mgf of a random variable X is M(t)=$\frac{1}{1-2t}$,|t|<$\frac{1}{2}$. Then E(X) is :

A:-2

B:-6

C:-8

D:-4

Correct Answer:- Option-A

Question81:-The square of t distribution is an F distribution for:

A:-2 df

B:-1 df

C:-n df

D:-None of these

Correct Answer:- Option-B

Question82:-The ratio of two independent N(0,1) variates is a:

A:-t_1

B:-t_2

C:-t_n

D:-χ^2

Correct Answer:- Option-A

Question83:-If T_1 and T_2 are two unbiased estimates of parameter θ, then $(2\,T_1+5T_2)/(7)$ is :

A:-Unbiased for θ

B:-Biased for θ

C:-Consistent for θ

D:-None of these

Correct Answer:- Option-A

Question84:-The random variable X has mean 5 and variance 9. Then P[|X-5|>4] is:

A:-$>\frac{9}{16}$

B:-$>\frac{4}{9}$

C:-$<\frac{9}{16}$

D:-$<\frac{4}{9}$

Correct Answer:- Option-C

Question85:-The statistical error associated to the statement "An innocent person is proved as guilty" is :

A:-Type 1 error

B:-Type 2 error

C:-Power

D:-Critical region

Correct Answer:- Option-A

Question86:-To test $H_0:\mu=1$ against $H_0:\mu\neq1$ based on large sample, the test statistic Z has a value 2. Then p-value associated to the test is:

A:-P[|Z|<2]

B:-P[|Z|>2]

C:-P[Z<2]

D:-P[Z>2]

Correct Answer:- Option-B

Question87:-Let X and Y be random variables with Cov(X,Y)=-0.25, then which of the following is true:

A:-Var(X+Y)>Var(X-Y)

B:-Var(X+Y)<Var(X-Y)

C:-Var(X+Y)=Var(X-Y)

D:-None of these

Correct Answer:- Option-B

Question88:-The degrees of freedom associated to t-test for the difference of the means of two samples having sizes m, n based on large sample is:

A:-m+n-1

B:-m+n-mn

C:-m+n

D:-m+n-2

Correct Answer:- Option-D

Question89:-If F follows F(7,8), then 1/F follows:

A:-F(7,8)

B:-F(1,8)

C:-F(7,1)

D:-F(8,7)

Correct Answer:- Option-D

Question90:-The distribution function F(x) of a random variable X lies between:

A:-0 and 1

B:--1 and 1

C:-0 and ∞

D:-None of these

Correct Answer:- Option-A

Question91:-The probability mass function of a discrete random variable X is $f(x)=\frac{x}{10}$ for x=1,2,3,4 and 0 for other values of X. Let F(x) denote the distribution function of X. Then F(4)-F(3) is:

A:-$\frac{4}{10}$

B:-$\frac{2}{10}$

C:-$\frac{3}{10}$

D:-$\frac{1}{10}$

Correct Answer:- Option-A

Question92:-let X be a random variable with distribution function F(x). The distribution function of 2X+3 is:

A:-F(x)

B:-$F(\frac{x+3}{2})$

C:-$F(2x+3)$

D:-$F(\frac{x-3}{2})$

Correct Answer:- Option-D

Question93:-A continuous random variable X is symmetric about a real number a (a $\in$ R) if the distribution function X-a is same as the distribution function of:

A:-a-X

B:-X+a

C:--X-a

D:--X+a

Correct Answer:- Option-A

Question94:-Let X be a random variable with pdf $f(x)=\frac{e^{-|x|}}{2}$,-∞<x<∞ . The median of the distribution is at:

A:-X=1

B:-X=10

C:-X=0

D:-Any number greater than zero

Correct Answer:- Option-C

Question95:-Let X be a random variable for which E(X) exists and A is any real number. Then E|X-A| is minimum if:

A:-A=E(X)

B:-A=Med(X)

C:-A=Mod(X)

D:-None of these

Correct Answer:- Option-B

Question96:-The joint distribution function of (X,Y) is given by F(x,y)=(1-e^{-x})(1-e^{-y}), x>0,y>0. The marginal distribution function of Y is:

A:-Exp(1)

B:-Exp(2)

C:-Gamma(2)

D:-None of these

Correct Answer:- Option-A

Question97:-The function f(x)=x^2 , x $\in R$ is:

A:-Increasing

B:-Decreasing

C:-Neither increasing nor decreasing

D:-Constant

Correct Answer:- Option-C

Question98:-$\lim_{n \to \infty} \sum_{k=0}^{n} \frac{n^k e^{-n}}{k!}$ is:

A:-$\frac{1}{3}$

B:-$\frac{1}{5}$

C:-$\frac{1}{4}$

D:-$\frac{1}{2}$

Correct Answer:- Option-D

Question99:-Let $x_1,x_2,...,x_n$ be n discrete values with corresponding frequencies $f_1,f_2,...,f_n$. Also let $F_1, F_2,...,F_n$ be the corresponding greater than cumulative frequencies. Then $\frac{\sum_{i=1}^{n} F_i}{N}$ gives:

A:-3rd quartile

B:-Median

C:-Mode

D:-Mean

Correct Answer:- Option-D

Question100:-According to Prof. Sturge's rule, the relation between the number of classes (k) and total number of observations in the data (N) is:

A:-k=1+3.322$\log_{10}$ N

B:-k=1+2.333$\log_{10}$ N

C:-k=1+2.333$\log_e$ N

D:-k=1+3.223$\log_e$ N

Correct Answer:- Option-A