

PROVISIONAL ANSWER KEY

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Question1:-S N D P Yogam was established in the year
A-1903
B-1906
C-1907
D-1914
Correct Answer:- Option-A

Question2:-Which one of the following is not a fundamental right ?
A-Right against exploitation
B-Right to property
C-Right to equality
D-Right to freedom of religion
Correct Answer:- Option-B

Question3:-The Article related with special privilege of Jammu and Kashmir
A-Article 370
B-Article 60
C-Article 352
D-Article 316
Correct Answer:- Option-A

Question4:-Who was the founder of Sadhu Jana Paripalana Sangham ?
A-Pandit Karuppan
B-Sree Narayana Guru
C-Chattampi Swamikal
D-Ayyankali
Correct Answer:- Option-D

Question5:-The temple entry proclamation of 1936 was issued by
A-Sri Mulam Thirunal
B-Sri Chithira Thirunal
C-Sri Uthradam Thirunal
D-Sri Swathi Thirunal
Correct Answer:- Option-B

Question6:-The poem 'Jathikummi' was written by
A-Kumaran Asan
B-G Sankara Kuruppu
C-Vallathol Narayana Menon
D-Pandit K P Karuppan
Correct Answer:- Option-D

Question7:-The Malayalam novelist who used the pen name 'Vilasi'
A-M K Menon
B-P C Kutikrishnan
C-Vaikom Muhammed Basheer
D-S K Pottakkad
Correct Answer:- Option-A

Question8:-Human Rights Day is celebrated on
A-October 24
B-November 14
C-December 10
D-December 21
Correct Answer:- Option-C

Question9:-The father of White Revolution in India
A-Sundarlal Bahuguna
B-M S Swaminathan
C-Varghese Kurian
D-V K Krishna Menon
Correct Answer:- Option-C

Question10:-ISRO Space craft 'Mangalayan' entered in the martian orbit in ____
A-29 August 2014
B-30 June 2014
C-24 October 2014
D-24 September 2014
Correct Answer:- Option-D

Question11:-Who is the founder of social networking site 'Facebook' ?
A-Bill Gates
B-Julian Assange
C-Mark Zuckerberg
D-Richard M Stallman
Correct Answer:- Option-C

Question12:-In which District Edakkal caves are situated ?
A-Kozhikode
B-Wayand
C-Palakkad
D-Malappuram
Correct Answer:- Option-B

Question13:-Kerala Kalamandalam was established in
A-1925
B-1928
C-1930
D-1932
Correct Answer:- Option-C

Question14:-The Channar agitation is mainly for
A-Right for Educational rights
B-Right for Employment opportunities
C-Right for Temple entry
D-Right to wear upper body cloth
Correct Answer:- Option-D

Question15:-Who is the author of the drama 'Adukkalilinninum Arangathekku' ?
A-V T Bhattathiripad
B-K P Keshava Dev
C-Ponkunnam Varkey
D-C V Raman Pillai
Correct Answer:- Option-A

Question16:-Who was the editor of the literary journal 'Vivekodyam' which started publication in Kerala in 1904 ?
A-Swadeshbhimani Ramakrishna Pillai
B-Kesari Balakrishna Pillai
C-Vakkom Abdul Khadar Maulavi
D-Kumaran Asan
Correct Answer:- Option-D

Question17:-The father of Library movement in Kerala
A-Kavalam Madhava Panicker
B-Puthuvayil Narayana Panicker
C-Nalappattu Narayana Menon
D-Kavalam Narayana panicker
Correct Answer:- Option-B

Question18:-Who among the following is not related with the 'Abstention movement' ?
A-A K Gopalan
B-T M Varghese
C-N V Joseph
D-C Kesavan
Correct Answer:- Option-A

Question19:-The Indian who won the Nobel Prize for peace in 2014
A-Malala Yousafzai
B-Amarthya Sen
C-Kailash Satyarthi
D-Mother Teresa
Correct Answer:- Option-C

Question20:-The Right to Information Act came into force in ____
A-5 June 2005
B-12 October 2005
C-24 November 2005
D-10 December 2005
Correct Answer:- Option-B

Question21:-Which measure of location will be suitable to compare heights of students in two classes?
A-Mean
B-Median
C-Mode
D-None of these

- Correct Answer:- Option-A
- Question22:-The geometric mean of 2, 4, 16 and 32 is
 A:-6
 B:-7
 C:-8
 D:-9
 Correct Answer:- Option-C
- Question23:-The strength of seven colleges in a city are 385,1748,1343,1935,786,2874 and 2108. Then the median strength is
 A:-1935
 B:-1748
 C:-1343
 D:-2874
 Correct Answer:- Option-B
- Question24:-The mean and median of 100 items are 50 and 52 respectively. The value of the largest item is 100. It was later found that it is actually 110. Therefore, the true mean is ____ and the true median is _____.
 A:-50.1, 52
 B:-50.9, 53
 C:-51.1, 52
 D:-50, 53
 Correct Answer:- Option-A
- Question25:-10 is the mean of a set of 7 observations and 5 is the mean of a set of 3 observations. The mean of a combined set is given by
 A:-15
 B:-10
 C:-8.5
 D:-7.5
 Correct Answer:- Option-C
- Question26:-A distribution with more than two modes is called
 A:-unimodal
 B:-bimodal
 C:-multimodal
 D:-none of these
 Correct Answer:- Option-C
- Question27:-The algebraic sum of the deviations of a set of n values from their arithmetic mean is
 A:-n
 B:-0
 C:-1
 D:-none of these
 Correct Answer:- Option-B
- Question28:-When x_i and y_i are two variables ($i=1,2,\dots,n$) with geometric means G_1 and G_2 respectively then the geometric mean of $\frac{x_i}{y_i}$ is
 A:- $\frac{G_1}{G_2}$
 B:- $\text{antilog} \frac{G_1}{G_2}$
 C:- $n(\log G_1 - \log G_2)$
 D:- $\text{Antilog} \left(\frac{\log G_1 - \log G_2}{2n} \right)$
 Correct Answer:- Option-A
- Question29:-The mean of the distribution, in which the value of x are 1,2,...,n, the frequency of each being unity is
 A:- $\frac{n(n+1)}{2}$
 B:- $\frac{n}{2}$
 C:- $\frac{n+1}{2}$
 D:-none of these
 Correct Answer:- Option-C
- Question30:-The mean of 20 observations is 15. On checking it was found that two observations were wrongly copied as 3 and 6. If wrong observations are replaced by correct values 8 and 4, then the correct mean is
 A:-15.15
 B:-16.15
 C:-17.15
 D:-14.15
 Correct Answer:- Option-A
- Question31:-Sum of absolute deviations about median is
 A:-least
 B:-greatest
 C:-zero
 D:-equal
 Correct Answer:- Option-A
- Question32:-If each of a set of observations of a variable is multiplied by a constant (non-zero) value, the variance of the resultant variable
 A:-is unaltered
 B:-increases
 C:-decreases
 D:-is unknown
 Correct Answer:- Option-B
- Question33:-The standard deviation of a distribution is 5. The value of the fourth central moment μ_4 in order that the distribution be mesokurtic should be
 A:-equal to 3
 B:-greater than 1875
 C:-equal to 1875
 D:-less than 1875
 Correct Answer:- Option-C
- Question34:-In a frequency curve of scores the mode was found to be higher than the mean. This shows that the distribution is
 A:-symmetric
 B:-negatively skewed
 C:-positively skewed
 D:-normal
 Correct Answer:- Option-B
- Question35:-The probability of drawing any one spade card from a pack of cards is
 A:- $\frac{1}{52}$
 B:- $\frac{1}{13}$
 C:- $\frac{4}{13}$
 D:- $\frac{1}{4}$
 Correct Answer:- Option-D
- Question36:-A coin is tossed three times in succession, the number of sample points in sample space is
 A:-6
 B:-8
 C:-3
 D:-4
 Correct Answer:- Option-B
- Question37:-A single letter is selected at random from the word 'probability'. The probability that it is a vowel is
 A:- $\frac{3}{11}$
 B:- $\frac{1}{3}$
 C:- $\frac{4}{11}$
 D:-0
 Correct Answer:- Option-C
- Question38:-A number is chosen at random among the first 120 natural numbers. The probability of the number chosen being a multiple of 5 or 15 is
 A:- $\frac{1}{5}$
 B:- $\frac{1}{8}$
 C:- $\frac{1}{16}$
 D:-none of these
 Correct Answer:- Option-A
- Question39:-If A and B are two independent events, the probability that both A and B occur is $\frac{1}{8}$ and the probability that neither of them occurs is $\frac{3}{8}$. The probability of the occurrence of A is
 A:- $\frac{1}{2}$
 B:- $\frac{1}{3}$
 C:- $\frac{1}{4}$
 D:- $\frac{1}{5}$
 Correct Answer:- Option-A
- Question40:-An urn contains 9 balls, two of which are red, three blue and four black. Three balls are drawn at random. The chance that they are of the same colour is

A: $\frac{5}{84}$
 B: $\frac{3}{9}$
 C: $\frac{2}{7}$
 D: $\frac{7}{17}$

Correct Answer: Option-A

Question41:-In the simultaneous tossing of two perfect coins, the probability of having atleast one head is

A: $\frac{1}{2}$
 B: $\frac{1}{4}$
 C: $\frac{3}{4}$
 D: 1

Correct Answer: Option-C

Question42:-For two events E_1, E_2 if $P(E_1) = \frac{1}{2}, P(E_2) = \frac{1}{3}, P(E_1 \cap E_2) = \frac{2}{3}$ then $P(E_1 \cup E_2)$ is equal to

A: $\frac{1}{4}$
 B: $\frac{1}{6}$
 C: $\frac{2}{5}$
 D: $\frac{1}{3}$

Correct Answer: Option-B

Question43:-If $P(A|B) = \frac{1}{4}$ and $P(B|A) = \frac{1}{3}$, then $\frac{P(A)}{P(B)}$ is equal to

A: $\frac{3}{4}$
 B: $\frac{7}{12}$
 C: $\frac{4}{5}$
 D: $\frac{1}{12}$

Correct Answer: Option-A

Question44:-If $P_1(x)$ and $P_2(y)$ be the marginal probability functions of two independent discrete random variables X and Y, then their joint probability function $P(x,y) =$

A: $\frac{P_1(x)}{P_2(y)}$
 B: $P_1(x)P_2(y)$
 C: $\frac{P_2(y)}{P_1(x)}$
 D: None of these

Correct Answer: Option-B

Question45:-The function $f(x)$ defined as $f(x) = \begin{cases} |x| & \text{if } -1 < x < 1 \\ 0 & \text{elsewhere} \end{cases}$ is a possible

- A: density function
 B: distribution function
 C: expectation
 D: none of these

Correct Answer: Option-A

Question46:-For two random variables X and Y, the relation $E(XY) = E(X)E(Y)$ holds good

- A: if X and Y are statistically independent.
 B: for all X and Y.
 C: if X and Y are identical.
 D: none of these.

Correct Answer: Option-A

Question47:- $\text{Var}(2X - 3)$ if $\text{Var}(X) = 1$ is

A: 5
 B: 13
 C: -4
 D: none of these.

Correct Answer: Option-C

Question48:- $E(X - k)^2$ is minimum when

- A: $k < E(X)$
 B: $k > E(X)$
 C: $k = E(X)$
 D: none of these

Correct Answer: Option-C

Question49:-The height of persons in a country is a random variable of the type

- A: continuous random variable
 B: discrete random variable
 C: neither discrete nor continuous random variable
 D: continuous as well as discrete random variable

Correct Answer: Option-A

Question50:-If X is a random variable, $E(e^{tX})$ is known as

- A: characteristic function
 B: moment generating function
 C: probability generating function
 D: none of these

Correct Answer: Option-B

Question51:-The mean and variance of a binomial distribution are 8 and 4 respectively. Then $P(X=1)$ is equal to

A: $\frac{1}{2^8}$
 B: $\frac{1}{2^4}$
 C: $\frac{1}{2^6}$
 D: $\frac{1}{2^{12}}$

Correct Answer: Option-D

Question52:-A probability distribution in which mean is equal to variance is

- A: Binomial
 B: Gamma
 C: Normal
 D: Poisson

Correct Answer: Option-D

Question53:-An experiment succeeds twice as often as it fails. The chance that in the next six trials, there shall be atleast four successes is

A: $\frac{240}{729}$
 B: $\frac{489}{729}$
 C: $\frac{389}{729}$
 D: $\frac{496}{729}$

Correct Answer: Option-D

Question54:-The skewness in a binomial distribution will be zero, if

A: $p < \frac{1}{2}$
 B: $p > \frac{1}{2}$
 C: $p < q$
 D: $p = \frac{1}{2}$

Correct Answer: Option-D

Question55:-The characteristic function of Poisson distribution is

A: $e^{m(t-1)}$
 B: e^{mit}
 C: $e^{m(e^{t-1})}$
 D: none of these

Correct Answer: Option-C

Question56:-The coefficient of variation of Poisson distribution with mean 4 is

A: $\frac{1}{4}$
 B: $\frac{2}{4}$
 C: -4

D:-2
Correct Answer:- Option-B

Question57:-If X is a normal variate representing the income in Rs. per day with mean=50 and S.D=10. If the number of workers in a factory is 1200, then the number of workers having income more than Rs. 62.00 per day is (given $\int_0^{1.2} f(z) dz = 0.3849$ where Z is a standard normal variate)

A:-462
B:-738
C:-138
D:-none of the above.

Correct Answer:- Option-C

Question58:-If $X \sim \text{Exp}(5)$, then the probability density function of X is

A:- $5e^{-5x}, x>0$
B:- $e^{-5x}, x>0$
C:- $5e^{-x}, x>0$
D:- $\frac{1}{5}e^{-5x}, x>0$

Correct Answer:- Option-A

Question59:-The distribution for which mode does not exist is

A:-normal
B:-t-distribution
C:-continuous rectangular distribution
D:-F distribution

Correct Answer:- Option-C

Question60:-Assume that the height of students is distributed as $N(\mu, \sigma^2)$. Out of a large number of students, 5 percent are above 72 inches and 10 percent are below 60 inches. The mean and S.D. of the normal distribution are

(given $\varphi(z_1) = 0.45, z_1 = 1.64, \varphi(z_2) = 0.4, z_2 = 1.28$ where $\varphi(z) = \int_0^z f(x) dx$)

A:- $\mu = 0, \sigma = 1$
B:- $\mu = 65, \sigma = 5$
C:- $\mu = 66, \sigma = 4$
D:- $\mu = 65, \Sigma = 4$

Correct Answer:- Option-D

Question61:-A box contains 12 items out of which 4 are defective. A person selects 6 items from the box. The expected number of defective items out of his selected items is

A:-2
B:-3
C:- $\frac{3}{2}$
D:-none of the above.

Correct Answer:- Option-A

Question62:-If X is a normal variate with mean 20 and variance 64, the probability that X lies between 12 and 32 is

(Given z :-1.0 1.5
 $\varphi(z) : 0.3143 0.4332$)

A:-0.4332
B:-0.1189
C:-0.7475
D:-0.5

Correct Answer:- Option-C

Question63:-If Z is a standard normal variate, the proportion of items lying between $z=-0.5$ and $z=3.0$ is

A:-0.4987
B:-0.1915
C:-0.3072
D:-0.3098

Correct Answer:- Option-C

Question64:-Factorization theorem for sufficiency is known as

A:-Rao-Blackwell theorem
B:-Cramer-Rao theorem
C:-Chapman-Robins theorem
D:-Fisher-Neyman theorem

Correct Answer:- Option-D

Question65:-If the expected value of an estimator is not equal to its parametric function $\tau(\theta)$, it is said to be a

A:-unbiased estimator
B:-biased estimator
C:-consistent estimator
D:-none of the above.

Correct Answer:- Option-B

Question66:-An estimator T_n of θ is said to be more efficient than any other estimator T'_n of θ if and only if

A:- $\text{Var}(T_n) < \text{Var}(T'_n)$
B:- $\frac{\text{Var}(T_n)}{\text{Var}(T'_n)} < 1$
C:- $\frac{\text{Var}(T'_n)}{\text{Var}(T_n)} > 1$
D:-All the above

Correct Answer:- Option-D

Question67:-If σ^2 is the population variance and $s^2 = \frac{1}{n} \sum_{i=1}^n (X_i - \bar{X})^2$ is the sample variance, then s^2 is an unbiased estimate of

A:- σ^2
B:- $\frac{\Sigma^2}{n}$
C:- $n\sigma^2$
D:- $\frac{n-1}{n} \sigma^2$

Correct Answer:- Option-D

Question68:-The sample median is _____ estimate for the mean of normal population.

A:-unbiased
B:-consistent
C:-unbiased and consistent
D:-none of the above.

Correct Answer:- Option-C

Question69:-If a sufficient estimator exists it is a function of the _____ estimator.

A:-moment estimator
B:-minimum chisquare estimator
C:-maximum likelihood estimator
D:-none of the above

Correct Answer:- Option-C

Question70:-The credit of inventing the method of moments for estimating the parameter goes to

A:-R. A. Fisher
B:-J. Neyman
C:-Laplace
D:-Karl Pearson

Correct Answer:- Option-D

Question71:-Cramer-Rao inequality with regard to the variance of an estimator provides

A:-upper bound on the variance
B:-lower bound on the variance
C:-asymptotic variance of an estimator
D:-none of the above

Correct Answer:- Option-B

Question72:-If X_1, X_2, \dots, X_n is a random sample from a population $N(0, \sigma^2)$, the sufficient statistic for σ^2 is

A:- $\sum X_i$
B:- $\sum X_i^2$
C:- $(\sum X_i)^2$
D:-none of the above

Correct Answer:- Option-B

Question73:-Estimate and Estimator are

A:-synonyms
B:-related to population
C:-different
D:-none of the above

Correct Answer:- Option-C

Question74:-The idea of testing of hypothesis was first set forth by

A:-R.A.Fisher
B:-J.Neyman
C:-E.L.Lehman
D:-A.Wald

Correct Answer:- Option-B

Question75:-A wrong decision about H_0 leads to

- A:-one kind of error
- B:-two kinds of errors
- C:-three kinds of errors
- D:-four kinds of errors

Correct Answer:- Option-B

Question76:-In terms of type II error β and θ , the true parameter, the function $1-\beta(\theta)$ is called

- A:-power of the test
- B:-power function
- C:-OC function
- D:-none of the above

Correct Answer:- Option-B

Question77:-A population is distributed as $N(\mu, 10.24)$. A sample of 576 items has a mean 4.7. The value of the statistic Z to test $H_0:\mu = 5.2$ is

- A:-3.75
- B:-28.125
- C:-3.75
- D:-none of the above

Correct Answer:- Option-C

Question78:-A sample of 12 specimen taken from a normal population is expected to have a mean 50 mg/cc. The sample has a mean 64 mg/cc with a variance of 25. To test $H_0:\mu = 50$ vs. $H_1:\mu \neq 50$, you will use

- A:-Z-test
- B:- χ^2 -test
- C:-F-test
- D:-t-test

Correct Answer:- Option-D

Question79:-Testing $H_0:\mu = 1500$ against $\mu < 1500$ leads to

- A:-one-sided lower tailed test
- B:-one-sided upper tailed test
- C:-two-tailed test
- D:-all the above

Correct Answer:- Option-A

Question80:-The mean difference between 9 paired observations is 15.0 and the standard deviation of differences is 5.0. The value of statistic t is

- A:-27
- B:-9
- C:-3
- D:-zero

Correct Answer:- Option-B

Question81:-Range of statistic t is

- A:-1 to 1
- B:- $-\infty$ to ∞
- C:-0 to ∞
- D:-0 to 1

Correct Answer:- Option-B

Question82:-Given the following eight sample values -4, -3, -3, 0, 3, 3, 4, 4 the value of student's t-statistic to test $H_0:\mu = 0$ is

- A:-2.73
- B:-0.97
- C:-3.30
- D:-0.41

Correct Answer:- Option-D

Question83:-In a contingency table, the expected frequencies are computed under

- A:-null hypothesis H_0
- B:-alternative hypothesis H_1
- C:- H_0 and H_1 both
- D:-no consideration of hypothesis

Correct Answer:- Option-A

Question84:-The term regression was introduced by

- A:-R.A.Fisher
- B:-Sir Francis Galton
- C:-Karl Pearson
- D:-none of the above

Correct Answer:- Option-B

Question85:-If β_{YX} and β_{XY} are two regression coefficients they have

- A:-same sign
- B:-opposite sign
- C:-either same or opposite signs
- D:-nothing can be said

Correct Answer:- Option-A

Question86:-The lines of regression intersect at the point

- A:- (\bar{X}, \bar{Y})
- B:- $(0, 0)$
- C:- $(1, 1)$
- D:- (\bar{X}, \bar{Y})

Correct Answer:- Option-D

Question87:-If a constant 50 is subtracted from each of the value of X and Y, the regression coefficient is

- A:-reduced by 50
- B:- $\frac{1}{50}$ th of the original regression coefficient
- C:-increased by 50
- D:-not changed

Correct Answer:- Option-D

Question88:-If ρ is the simple correlation coefficient, the quantity ρ^2 is known as

- A:-coefficient of determination
- B:-coefficient of non-determination
- C:-coefficient of alienation
- D:-none of the above

Correct Answer:- Option-A

Question89:-The range of simple correlation coefficient is

- A:-0 to ∞
- B:- $-\infty$ to ∞
- C:-0 to 1
- D:-1 to 1

Correct Answer:- Option-D

Question90:-The hypothesis for a specific known value of ρ can be tested by

- A:-t-test
- B:-Z-test
- C:- χ^2 -test
- D:-F-test

Correct Answer:- Option-B

Question91:-A measure of linear association of a variable with a number of other variables is known as

- A:-partial correlation
- B:-simple correlation
- C:-autocorrelation
- D:-multiple correlation

Correct Answer:- Option-D

Question92:-Given the regression lines $X+2Y-5=0$, $2X+3Y-8=0$ and $\text{Var}(X)=12$, the value of $\text{Var}(Y)$ is

- A:-16
- B:- $\frac{3}{4}$
- C:- $\frac{4}{3}$
- D:-4

Correct Answer:- Option-D

Question93:-Given $r_{12} = 0.6$, $r_{13} = 0.5$ and $r_{23} = 0.8$, the value of $r_{12.3}$ is

- A:-0.4
- B:-0.72
- C:-0.38
- D:-0.47

Correct Answer:- Option-C

Question94:-The sales of a departmental store on Dushera and Diwali are associated with the component of a time series

- A:-secular trend
- B:-irregular variation
- C:-seasonal variation
- D:-all the above

Correct Answer:- Option-C

Question95:-Which index satisfies factor reversal test?

- A:-Paasche's index
- B:-Laspeyres's index
- C:-Walsch price index
- D:-Fisher's ideal index

Correct Answer:- Option-D

Question96:-Control chart consists of

- A:-three control lines

- B:-upper and lower control lines
- C:-the level of the process
- D:-all the above

Correct Answer:- Option-A

Question97:-Replication in an experiment means

- A:-the number of blocks
- B:-the number of times a treatment occurs in an experiment
- C:-total number of treatments
- D:-none of the above

Correct Answer:- Option-B

Question98:-Local control in experimental designs is meant to

- A:-increase the efficiency of the design
- B:-reduce experimental error
- C:-to form homogeneous blocks
- D:-all the above

Correct Answer:- Option-D

Question99:-The number of possible samples of size n out of N population units without replacement is

- A:- NC_n
- B:- N^n
- C:- n^2
- D:-n!

Correct Answer:- Option-A

Question100:-Moving average method of fitting trend in a time series data removes the effect of

- A:-long term movements
- B:-seasonal variation
- C:-cyclic variations
- D:-short-term movements

Correct Answer:- Option-D