RGUCET

MSc Statistics

1	The opposite word to ‘brilliant’ is					
	a) apparent	b) flat	c) dull	d) shining	c	dull
2	The similar word to ‘bitterness’ is					
	a) sourness	b) hoarseness	c) acrimony	d) aspersion	c	acrimony
3	The plural form of ‘shop-keeper’ is					
	a) shop-keepers	b) shops-keeper	c) shops-keepers	d) none of all	a	shop-keepers
4	My cousin has invested a lot of money _____ farming.					
	a) into	b) in	c) on	d) for	b	in
5	It is dangerous to enter ____ the enemy's camp.					
	a) through	b) on	c) in	d) into	d	into
6	Religious leaders should not delve _____ politics.					
	a) at	b) in	c) into	d) with	c	into
7	India is committed _____ a policy of peaceful existence.					
	a) of	b) to	c) with	d) for	b	to
8	‘Eaglet’ is which form of the word ‘Eagle’?					
	a) Positive	b) Comparative	c) Diminutive	d) Miniscule	c	Diminutive
9	Which of the following is a **collective noun**?					
	a) Blemish	b) flutter	c) convocation	d) destitute	c	convocation
10	I could not get a seat ……. I came early.					
	a) as	b) though	c) when	d) for	b	though
11	In which year, Arunachal Pradesh became a full-fledged state of India?					
	a) 1985	b) 1986	c) 1987	d) 1988	c	1987
12	Which of the following states share boarder with Myanmar? 1. Arunachal Pradesh, 2. Mizoram, 3. Manipur, 4. Nagaland					
	a) only 1 & 2	b) only 1 & 3	c) only 2 & 4	d) 1, 2, 3 & 4	d	1, 2, 3 & 4
13	Google is a					
	a) Search Engine	b) Chat service on the web	c) Number in Math	d) Directory of images	a	Search Engine
14	Who among the following British Governor-General shifted India’s capital from Calcutta to Delhi?					
	b) Lord Canning	b) Lord Louis	c) Lord Hardinge	d)Warren Hastings	c	Lord Hardinge

		Mountbatten				
15	Which is the largest state of India in terms of area?					
	a) Madhya Pradesh	b) Rajasthan	c) Karnataka	d) Uttar Pradesh	b	Rajasthan
16	Which airline has become the first to use the indigenous navigation system GAGAN?					
	a) SpiceJet	b) Vistara	c) Air India	d) IndiGo	d	IndiGo
17	Who launched the campaign 'Azadi ka Amrit Mahotsav'?					
	a) Narendra Modi	b) Ram Nath Kovind	c) Amit Shah	d) Nitin Gadkari	a	Narendra Modi
18	Which nation has refused to send its athletes to Asian Games?					
	a) Japan	b) Australia	c) Indonesia	d) South Korea	b	Australia
19	Who has been appointed as the new NITI Aayog Vice-Chairman?					
	a) Nand Mulchandani	b) Amartya Sen	c) Jayati Ghosh	d) Suman Berry	d	Suman Berry
20	Atal Tunnel has received the 'Best Infrastructure Project' award. Atal Tunnel is located in which state/UT?					
	a) Uttrakhand	b) Himachal Pradesh	c) Ladakh	d) Jammu & Kashmir	b	Himachal Pradesh
21	According to the May 2022 Meeting of the Monetary Policy Committee, the revised Repo Rate for RBI is					
	a) 4.00%	b) 4.40%	c) 5.00%	d) 6.00%	b	4.40%

22	The variable, ‘gender of a respondent’, can be measured in which of the following scales?					
	a)Nominal scale	b) Ordinal scale	c) Interval scale	d) Ratio scale	a	Nominal scale
23	Which of the following measures is obtained on the variable axis corresponding to the intersection of “less than” and “more than” types of Ogives					
	a) Mode	b) Median	c) Geometric mean	d) Arithmetic mean	b	Median
24	The ‘number of road accidents per week in a region’, can be modelled using which of the following distributions?					
	a) Binomial	b) Poisson	c) Exponential	d) Normal	b	Poisson
25	Out of three events A , B and C, the event that at least one of these occur is written as,					
	a) A ∪ B ∪C	b) A ∩ B ∩ C	c) $\bar{A} \cap \bar{B} \cap \bar{C}$	d) $\bar{A} \cup \bar{B} \cup \bar{C}$	a	A ∪ B ∪C
26	Two balls are drawn randomly from a bag containing 4 red and 5 black balls. Which of the following is the correct option for the probability that balls of both the colours are obtained?					
	a) 2/9	b) 3/9	c) 4/9	d) 5/9	d	5/9
27	An unbiased coin is tossed until a head appears or it has been tossed three times. Given that head does not appear on the first toss, the probability that it has been tossed three times is,					
	a) 1/8	b) 1/4	c) 1/2	d) 1	c	1/2

28	In a class 20 per cent of the students failed in Mathematics, 15 per cent failed in Physics and 10 per cent failed in both the subjects. The Percentage of students who passed in both of the above-mentioned subjects is,					
	a) 65	b) 70	c) 75	d) 90	c	75
29	A random variable X has probability mass function, f(x) =$\left(\frac{1}{2}\right)^x$; x =1, 2, …. Which of the following is the value of E(X)?					
	a) 1	b) 2	c) 3	d) 4	b	2
30	A random variable X is distributed as binomial(n, p) with mean 6 and variance 2. Which of the following is the correct option for n & p, respectively?					
	a) 5 & 1/2	b) 6 & 1/3	c) 9 & 2/3	d) 10 & 3/4	c	9 & 2/3
31	For random variable X distributed as Poisson(λ) it is given that p(X=1) = p(X=2). Then the value of λ is,					
	a) 5	b) 4	c) 3	d) 2	d	2
32	A random variable X is distributed as N(3, 4). Which of the following is the value of k, such that, P{|X-3|> k}= 0.95?					
	a) 1.96	b) 2.33	c) 2.64	d) 3.92	d	3.92
33	In simple random sampling without replacement (SRSWOR) from a population of size N, the probability of including a specified unit in a sample of size n is,					
	a) $\frac{1}{N}$	b) $\frac{1}{n}$	c) $\frac{n}{N}$	d) $\frac{1}{n!}$	c	$\frac{n}{N}$
34	The 'sum of squares of difference in ranks' by two evaluators for 10 competitors in a certain test is 200. Which of the following is the value of Spearman's rank correlation coefficient between the ranks of evaluators?					
	a)-7/11	b) 7/11	c) -7/33	d) 7/33	c	-7/33
35	The precision of an experiment is measured by					
	a) variance of observations	b)reciprocal of variance of observations	c)variance of a sample mean	d)reciprocal of the variance of a mean	d	reciprocal of the variance of a mean
36	The complete Randomized Block Design (RBD) does not make use of the principle of,					
	a) randomization	b) replication	c) local control	d) confounding	d	confounding
37	Plot of residuals in time order for an ANOVA model indicates a tendency to have runs of positive and negative residuals. This is an indication of which of the following,					
	a) the model assumptions are correct	b) errors have a normal distribution.	c) heteroscedastic errors.	d) autocorrelated errors.	d	autocorrelated errors.
38	The total number of treatment combinations in a factorial experiment with three factors each at two levels is,					
	a) 6	b) 7	c) 8	d) 9	c	8
39	An unbiased estimator of variance of a sample proportion p, ignoring finite population correction is,					
	a) $\frac{p(1-p)}{n-1}$	b) $\frac{p(1-p)}{n}$	c) $\frac{p(1-p)}{n(n-1)}$	d) $\frac{p}{n(n-1)}$	a	$\frac{p(1-p)}{n-1}$

40	In simple linear regression, the regression line of Y on X, minimizes the sum of the squared deviation,					
	a) in the direction of X	b)in the direction of Y	c)at 450 in the X-Y plane	d)at no fixed direction	b	In the direction of Y
41	Which of the following is correct in respect to the 'Infant Mortality Rate' (IMR) in India? IMR in India at present is about 30 per					
	a) 100 live births	b) 1000 live births	c) 10000 live births	d) 100,000 live births	b	1000 live births
42	Which of the following is the most suitable answer regarding errors in Index number measures?					
	a) formula error	b)sampling error	c) homogeneity error	d) all of (a), (b) and (c)	d	All of (a), (b)n and (c)
43	The 'Method of moving average' is a method of measuring which of the Time Series components?					
	a) secular trend	b) seasonal fluctuations	c) cyclic fluctuations	d) random fluctuations	a	Secular trend
44	'Çorrelogram' is a graphical representation of which of the following?					
	a) Between two time series	b) between moving average and its period	c) between serial correlation and its order	d) random fluctuation	c	between serial correlation and its order
45	The Shewhart's control chart with 3- sigma limit takes the Upper Control line and Lower Control Line assuming normality, is based on which of the following specifications?					
	a) mean ± 1.33 sd	b) mean ± 1.96 sd	c) mean ± 3.09 sd	d) mean ± 3 sd	c	mean ± 3.09 sd
46	Consider a frequency distribution in which the values of the variables are the first n natural numbers and the frequencies corresponding to each value equals to the value of the variable. The arithmetic mean of the distribution is					
	a)$(n+1)/2$	b)$(2n+1)/6$	c)$(2n+1)/3$	d)(n+1)⁄3	c	(2n+1)⁄3
47	The differences in ratings of 5 participants in a dance contest, each rated by the two judges are, 2, 1, -1, -1, -1. Which of the following values provides the degree of agreement in rating by the judges?					
	a) 0	b) 0.2	c) 0.3	d) 0.5	c	0.3
48	In an experiment of casting a die, the expected number of castings required to get the first 'six' is,					
	a) 7	b) 6	c) 3	d) 2	b	6

49	The random variable X has mean of 15 and standard deviation (SD) of 10. Another random variable Y is defined by Y=5+3X. What are the mean and the standard deviation of Y?					
	a)Mean=45, SD=30	b)Mean=45, SD=35	c)Mean=50, SD=10	d)Mean=50, SD=30	d	Mean=50, SD=30
50	If A and B are two events such that P(A)=0.35, P(B)=0.42 and P(AUB)=0.623, then A and B are					

	a) independent and mutually exclusive	b)independent but not mutually exclusive	c)mutually exclusive but not independent	d)there is not enough information to answer this question	b	independent but not mutually exclusive
51	Let $(X,Y)\sim BVN(\mu_1,\mu_2,\sigma_1^2,\sigma_2^2,\rho)$. Which of the following is incorrect?					
	a) The marginal p.d.f.'s of X and Y are also normal.	b) X and Y are independent if and only if ρ=0.	c) Linear combination aX+bY where a≠0, b≠0; is not a normal variate.	d) None of the above.	c	Linear combination aX+bY where a≠0, b≠0; is not a normal variate.
52	If $X_1, X_2, \dots, X_n$ is a random sample from a population having density function $\frac{1}{\theta\sqrt{2\pi}}e^{-\frac{x^2}{2\theta^2}}$, the maximum likelihood estimate for θ is					
	a) $\frac{1}{n}\sum_{i=1}^{n}X_i$	b) $\frac{1}{n}\sum_{i=1}^{n}X_i^2$	c) $\frac{1}{n}\sqrt{\sum_{i=1}^{n}X_i^2}$	d) $\sqrt{\frac{1}{n}\sum_{i=1}^{n}X_i}^2$	d	$\sqrt{\frac{1}{n}\sum_{i=1}^{n}X_i}^2$
53	Formula for Chi-square statistic in a 2×2 contingency table under Yates' correction is					
	a) $\frac{n\left(\lvert ad-bc\rvert-\frac{n}{2}\right)^2}{(a+b)(b+d)(a+c)(c+d}$	b) $\frac{n\left(ad-bc-\frac{n}{2}\right)^2}{(a+b)(b+d)(a+c)(c+}$	c) $\frac{\left(ad-bc-\frac{n}{2}\right)^2}{(a+b)(b+d)(a+c)(c+}$	d) $n\left(\frac{ad-bc-\frac{n}{2}}{(a+b)(b+d)(a+c)}\right.$	a	$\frac{n\left(\lvert ad-b\right.}{(a+b)(b+d)}$
54	An alternative to t-test in non-parametric test is					
	a) Wald-Wolfowitz Run test	b) Mann-Whitney U-test	c) Sequential Probability Ratio Test (SPRT)	d) Median test	b	Mann-Whitney U-test
55	Lagrange's formula is useful for					
	a) interpolation	b) extrapolation	c) inverse interpolation	d) All (a), (b) & (c)	d	All (a), (b) & (c)
56	If l_x is the number of persons living at the age x and L_x the number of persons living in the mid of x and $(x+1)$ years, then the relation between l_x and L_x is					
	a) $L_x = \frac{1}{2}(l_x + l_{x+1})$	b) $L_x = \frac{x}{2} + l_x$	c) $L_x = l_{x+\frac{1}{2}}$	d) $L_x = l_x$	c	$L_x = l_{x+\frac{1}{2}}$

57	Local control in experimental designs is meant to					
	a) increase the efficiency of the design.	b) reduce experimental error.	c) form homogeneous blocks.	d) All (a), (b) & (c)	d	All (a), (b) & (c)
58	In a randomized block design (RBD) with 4 blocks and 6 treatments having one missing value, the error degrees of freedom will be					
	a) 12	b) 13	c) 14,	d) 15	c	14
59	A population of size N is divided into k strata. A sample of size n is to be chosen and N_i is the size of the i^{th}stratum. Then sample size n_i from i^{th} stratum as per proportional allocation is given by					
	a) $n_i = \frac{N_i}{n}$	b) $\frac{n_i}{N_i} = \frac{n}{N}$	c) $n_i N_i = nN$	d) $\frac{n_i}{N_i} > \frac{n}{N}$	b	$\frac{n_i}{N_i} = \frac{n}{N}$
60	If $A = \begin{bmatrix} 1 & 2 & x \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -2 & y \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$, then what value of $x + y$ makes B the inverse of A?					
	a) 1	b) 2	c) -2	d) 0	d	0
61	Bessel's interpolation formula is most appropriate to estimate for a value in a series which lies					
	a) at the end	b) in the beginning	c) in the middle of the central interval	d) outside the series	c	in the middle of the central interval
62	Consumer price index number is constructed for					
	a) a well-defined section of people	b) all people	c) factory workers only	d) All the above	a	a well-defined section of people
63	The probability of dying of a person of age between x and (x+1) years is known as					
	a) age-specific death rate	b) infant mortality rate	c) central mortality rate	d) none of the above	c	central mortality rate
64	If A, B and C are arbitrary events, then the event that only B occurs may be expressed as					
	(a) $\bar{A} \cup B \cup \bar{C}$	(b) $B \cup (\bar{A} \cap \bar{C})$	(c) $\bar{A} \cap B \cap \bar{C}$	(d) $1 - (\bar{A} \cap B \cap \bar{C})$	c	$\bar{A} \cap B \cap \bar{C}$
65	The coefficient of variation of Poisson distribution with mean 9 is					

	(a) 1/3	(b) 1/9	(c) 3	(d) 1/18	a	1/3
66	Which of the following is not a property of a characteristic function $\phi(t)$?					
	(a) $\phi(0) = 1$	(b) $\phi(t)$ is continuous	(c) $\lvert\phi(t)\rvert \geq 1$	(d) $\phi(t) = \phi(-t)$	c	$\lvert\phi(t)\rvert \geq 1$
67	For the examination of 3 factor each at 2 levels, what will the notation for the factorial experiment adopted?					
	(a) 2^3	(b) 3^2	(c) 2×3	(d) $2! \times 3!$	a	2^3
68	For a hypothesis test conducted at 10% significance level, the probability that we fail to reject the null hypothesis when it is actually false is 0.25. What is the power of the said test?					
	(a) 0.25	(b) 0.75	(c) 0.10	(d) 0.90	b	0.75
69	To test if the population proportion is different from 0.50, a random sample of 100 units are selected and a sample proportion of 0.55 was found. What will be the value of test statistic?					
	(a) 1.00	(b) 1.05	(c) 1.11	(d) 2.00	a	1.00
70	In a survey, the area where a respondent resides are coded as 0 for Rural and 1 for Urban. What type of data is this?					
	(a) Nominal	(b) Ordinal	(c) Ratio	(d) Interval	a	Nominal
71	For a given distribution the mean is found to be 87.6 and the median lies at 76.7. What can you say about the shape of the distribution?					
	(a) Positively skewed	(b) Negatively skewed	(d) Not skewed	(d) No conclusion can be drawn	a	Positively skewed
72	If $(X^2) = [E(X)]^2$, then what can be concluded about X?					
	(a) X follows Normal distributed	(b) X follows Poisson distribution	(c) X follows Uniform distribution	(d) X is constant	d	X is constant
73	In order to expand his business, a car rental company owner wants to know how many people from the neighbourhood uses the service. For this, he divides the neighbourhood into several areas and randomly selects some areas and surveys all the members from the chosen areas. What sampling method did he adopted?					
	(a) Cluster Sampling	(b) Stratified Sampling	(c) Simple Random Sampling	(d) Systematic Sampling	a	Cluster Sampling

74	A Chi-square test was conducted between two categorical variables. The two variables had 3 and 5 categories each. What will be the degrees of freedom for the test statistic?					
	(a) 15	(b) 12	(c) 10	(d) 8	d	8
75	If the correlation coefficient between two variables is 0.85, then how much variation in one of the variables taken as dependent variable can be explained by the linear regression equation?					
	(a) 85.0%	(b) 15%	(c) 72.25%	(d) 27.75%	d	72.25%

76	Which measure of dispersion is least affected by extreme values?					
	a) range	b) mean deviation	c) standard deviation	d) quartile deviation	d	quartile deviation
77	Range of a set of values is 65 and maximum value in the series is 83. The minimum value of the series is:					
	a) 74	b) 9	c) 18	d) none of all	c	18
78	If the values of a set are measured in cm, the unit of variance will be					
	a) no unit	b) cm	c) cm^2	d) cm^3	c	cm^2
79	For a symmetric distribution, the coefficient of skewness:					
	a) $\alpha_3=1$	b) $\alpha_3=3$	c) $\alpha_3=0$	d) $\alpha_3= -1$	b	$\alpha_3=3$
80	The extreme values in a negatively skewed distribution lie in the:					
	a) middle	b) right tail	c) left tail	d) whole curve	c	left tail
81	The range of the set of values 15, 12, 27, 6, 9, 18, 21 is					
	a) 21	b) 4.5	c) 0.64	d) 3	a	21
82	If a random variable X has mean 3 and standard deviation 5, then the variance of a variable Y=2X-5 is:					
	a) 45	b) 100	c) 15	d) 40	b	100
83	All values in a sample are the same. Then their variance is					
	a) 0	b) 1	c) not calculable	d) all	a	0

84	Probability can take values					
	a) -∞ to ∞	b) -∞ to 1	c) -1 to 1	d) 0 to 1	d	0 to 1
85	Probability is expressed as					
	a) ratio	b) proportion	c) percentage	d) all	d	all
86	If A and B are two events, the probability of occurrence of either A or B is given as					
	a) P(A)+P(B)	b) P(AUB)	c) P(A∩B)	d) P(A)P(B)	b	P(AUB)
87	If A and B are two events, the probability of occurrence of A and B simultaneously is given as					
	a) P(A)+P(B)	b) P(AUB)	c) P(A∩B)	d) P(A)P(B)	c	P(A∩B)
88	The limiting relative frequency approach of probability is known as					
	a) statistical probability	b) classical probability	c) mathematical probability	d) subjective probability	a	statistical probability
89	An event consisting of those elements which are not in A is called					
	a) primary event	b) derived event	c) simple event	d) complimentary event	d	complimentary event
90	The probability of all possible outcomes of a random experiment is always equal to					
	a) infinity	b) zero	c) one	d) 1/n	c	one
91	If A and B are two mutually exclusive events, the probability of their union is equal to					
	a) P(A)+P(B)	b) P(A)P(B)	c) P(A)-P(B)	P(A)/P(B)	a	P(A)+P(B)
92	If A is an event, the conditional probability of A given A is equal to					
	a) zero	b) one	c) infinite	d) indeterminate quality	b	one
93	Given that P(A)=1/3, P(B)=3/4 and P(A and B)=1/6, probability, P(B|A) is					
	a) 1/6	b) 4/9	c) 1/2	d) 1/18	c	1/2

94	Three houses were available in a locality for allotment. Three persons applied for a house. The probability that all the three persons applied for the same house is					
	a) 1/3	b) 1/9	c)1/27	d) 1	b	1/9
95	The height of persons in a country is a random variable of the type					
	a) continuous	b) discrete	c) neither (a) nor (b)	d) both (a) & (b)	a	continuous
96	If X is a random variable having its probability density function (pdf) f(x), the E(X) is called					
	a) arithmetic mean	b) geometric mean	c) harmonic mean	d) first quartile	a	arithmetic mean
97	For Bernoulli distribution with probability p of a success and q of a failure, the relation between mean and variance that holds is					
	a) mean < variance	b) mean > variance	c) mean=variance	d) mean ≤ variance	b	mean > variance
98	A family of particular distribution in which mean is equal to variance is					
	a) Normal	b) Binomial	c) Poisson	d) Gamma	c	Poisson
99	If $X \sim N(8, 64)$, the standard normal deviate Z will be					
	a) $Z = (X - 64)/8$	b) $Z = (X - 8)/64$	c) $Z = (X - 8)/8$	d) $Z = (8 - X)/8$	c	$Z = (X - 8)/8$
100	A sample consists of					
	a) all units of the population	b) 50 per units of the population	c) 5 per cent units of the population	d) any fraction of the population	d	any fraction of the population