Module Name : MSc Statistics-E
Exam Date : 20-Sep-2020 Batch : 16:00-18:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	1	What is the harmonic mean of 1, 1/2 , 1/3,…,1/n ? A1 : n A2 : 2n A3 : 2/(n+1) A4 : n(n+1)/2	4.0	1.00
Objective Question				
2	2	If the values of 1^{st} and 3^{rd}quartiles are 20 and 30 respectively, then the value of inter quartile range is A1 : 10 A2 : 25 A3 : 5 A4 : 0	4.0	1.00
Objective Question				
3	3	If the coefficient of correlation between two variables is – 0.4, then the coefficient of determination is A1 : 0.84 A2 : 0.6 A3 : 0.16 A4 : – 0.6	4.0	1.00
Objective Question				
4	4	If the regression coefficients of x on y and y on x are respectively – 1 and – 0.25, then the correlation coefficient between x and y is A1 : 0.5	4.0	1.00

		A2 : – 0.5 A3 : 0 A4 : – 1		
Objective Question				
5	5	Given the following less than type frequency distribution of income per month Income (Rs.) less than — No. of persons 1500 — 100 1250 — 80 1000 — 70 750 — 55 500 — 32 250 — 12 the modal class is A1 : 250 – 500 A2 : 500 - 750 A3 : 750 – 1000 A4 : 1000 – 1250	4.0	1.00
Objective Question				
6	6	Which one of the following is called as metric data or quantitative data? A1 : Interval and Ratio data A2 : Interval and Nominal data A3 : Ratio and Nominal data A4 : Ordinal and Nominal data	4.0	1.00
Objective Question				
7	7	If two independent random variables X and Y have Poisson distribution with parameters 3 and 4 respectively, then P(X+Y=0) is A1 : e^{-3} A2 : e^{-7} A3 : e^{-4}	4.0	1.00

		A4 : e^{-12}		
Objective Question				
8	8	The mean and variance of a Binomial random variable having moment generating function $M(t) = \left(\frac{2}{3} + \frac{1}{3}e^{t}\right)^{5}$ is respectively A1 : 5/3 and 10/9 A2 : 10/9 and 5/3 A3 : 2/3 and 2/9 A4 : 1/3 and 2/9	4.0	1.00
Objective Question				
9	9	A lower bound to the variance of an unbiased estimator is given by A1 : Rao-Blackwell theorem A2 : Rao-Cramer inequality A3 : Method of maximum likelihood A4 : Lehmann-Scheffe theorem	4.0	1.00
Objective Question				
10	10	A research report concludes that there are significant differences among treatments, with the F ratio having degrees of freedom (2, 27). How many times each treatment is replicated in this study? A1 : 12 A2 : 11 A3 : 9 A4 : 10	4.0	1.00
Objective Question				
11	11	In a Latin Square Design (LSD) of order 5 with two missing values, it is found that the error sum of square is 120. Then the mean square error is A1 : 10	4.0	1.00

		A2 : 12 A3 : 15 A4 : 8		
Objective Question				
12	12	Suppose one has to conduct an experiment in laboratory where the experimental units are homogeneous, then the suitable design is A1 : Completely Randomized Design A2 : Randomized Block Design A3 : Latin Square Design A4 : Split Plot Design	4.0	1.00
Objective Question				
13	13	Models in which some factors are fixed and some are random are called as A1 : Fixed effect models A2 : Random effect Models A3 : Mixed effect models A4 : Growth Models	4.0	1.00
Objective Question				
14	14	Fisher’s ideal index formula satisfies A1 : Circular test A2 : Time Reversal test A3 : Factor Reversal test A4 : Both Time Reversal and Factor Reversal test	4.0	1.00
Objective Question				
15	15	In computation of consumer price index, usually the weights are	4.0	1.00

		A1 : Quantities consumed by the families A2 : Percentages of expenditure A3 : Quantities of production A4 : Percentage of production		
Objective Question				
16	16	For the data, measured in ordinal scale an appropriate measure of dispersion is A1 : Quartile Range A2 : Mean Deviation A3 : Range A4 : Standard Deviation	4.0	1.00
Objective Question				
17	17	Data measured in numerical scale of measurement (categorical data) can be represented by an appropriate diagram known as A1 : Pictogram A2 : Pie diagram A3 : Scatter plot A4 : Histogram	4.0	1.00
Objective Question				
18	18	To deal with the qualitative data, the measure of central tendency which is applicable is the A1 : Arithmetic mean A2 : Geometric mean A3 : Median A4 : Harmonic mean	4.0	1.00

Objective Question				
19	19	If the probability is calculated after the experiment is repeated a large number of times then such probability is known as A1 : Apriori probability A2 : Mathematical probability A3 : Posterior or empirical probability A4 : Classical probability	4.0	1.00
Objective Question				
20	20	The standard deviation of a set of 50 observations is 6.5. If the value of each observation is increased by 5, the standard deviation is A1 : 2.5 A2 : 6.5 A3 : 3.5 A4 : 10	4.0	1.00
Objective Question				
21	21	Sample survey is advantageous over census due to (i) Less costly (ii) More efficient (iii) More specific A1 : (i) A2 : (ii) A3 : (iii) A4 : All the three (i), (ii) and (iii)	4.0	1.00
Objective Question				
22	22	Division of heterogeneous population into K homogeneous subpopulations is known as A1 : Stratification A2 : Break up of population A3 : Components of population	4.0	1.00

		A4 : Division of population		
Objective Question				
23	23	An investigator wants to select a sample of the households in a village consisting of 100 households. He decided to select a random number r < 30 and then every 20^{th} person in the list. Suppose 13 is the random number selected then the sample would comprise A1 : 13, 18, 23, 28, 33 etc. A2 : 13, 33, 53, 73, 93 etc. A3 : 13,23, 33, 43, 53 etc. A4 : 13, 28, 43, 58, 73 etc.	4.0	1.00
Objective Question				
24	24	A discrete distribution corresponding to random variable, that count the number of success among N independent trials having the same probability of success is known as A1 : Bernoulli A2 : Poisson A3 : Binomial A4 : Geometric	4.0	1.00
Objective Question				
25	25	The joint p.d.f. of a random variable (X, Y) is given by $f(x,y) = \begin{cases} \frac{1}{8}(6-x-y); & 0 < x < 2, \quad 2 < y < 4 \\ 0 & otherwise \end{cases}$ Then $P(X < 1, Y < 3)$ is equal to A1 : 3/7 A2 : 2/7 A3 : 2/5 A4 : 3/8	4.0	1.00
Objective Question				
26	26	A family has two children. The conditional probability that both are boys given that at least one of them is a boy is A1 1/4	4.0	1.00

		: A2 : 1/5 A3 : 1/3 A4 : 1/2		
Objective Question				
27	27	Suppose that the number of typographical errors on a single page of a book follow Poisson distribution with parameter $\lambda = 1$. Then the probability that there is at least one error on this page is equal to A1 : e^{-1} A2 : $1+e^{-1}$ A3 : $1-e^{-1}$ A4 : 0	4.0	1.00
Objective Question				
28	28	Let $\bar{X}_1$ *and* $\bar{X}_2$ be sample means based on independent random samples drawn form Normal distribution with means μ_1 and μ_2 respectively and common variance σ^2. If S_p^2denotethe pooled sample variance, then 100 (1-α)% for confidence for ($\mu_1 - \mu_2$) is, A1 : $(\bar{X}_1 - \bar{X}_2) \pm Z_{\alpha/2}\sqrt{S_P^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}$ A2 : $(\bar{X}_1 - \bar{X}_2) \pm t_{\alpha/2}\sqrt{S_P^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}$ A3 : $(\bar{X}_1 - \bar{X}_2) \pm F_{\alpha/2}\sqrt{S_P^2\left(\frac{1}{n_1}+\frac{1}{n_2}\right)}$ A4 : $(\bar{X}_1 - \bar{X}_2) \pm Z_{\alpha/2}\sqrt{S_P^2(n_1+n_2)}$	4.0	1.00
Objective Question				
29	29	A two-tailed statistical test is A1 : a statistical test for which the critical region comprises of both large and small values of the test statistic. A2 : a statistical test for which the critical region comprises of either large or small values of the test statistic. A3 a statistical test for which the critical region comprises of small values of the test statistic.	4.0	1.00

		: A4 : a statistical test for which the critical region comprises of large values of the test statistic.		
Objective Question				
30	30	A non parametric test used for testing the identical nature of two populations is A1 : Kruskal Wallis test A2 : Friedman test A3 : Wald-Wolfowitz Run test A4 : Mann-Whitney U test	4.0	1.00
Objective Question				
31	31	The alternative name for confidence level is A1 : Coverage probability A2 : Confidence Coefficient A3 : Induced probability A4 : both Coverage probability and Confidence Coefficient	4.0	1.00
Objective Question				
32	32	Student t-test is used for testing the H_0: $\rho = 0$ against H_1 : $\rho > 0$, ρ being the population correlation coefficient for which the test statistic $t = \frac{r}{\sqrt{1-r^2}}\sqrt{n-2}$ and r being the sample correlation coefficient. The hypothesis is rejected if A1 : r is positive and $t \geq t_{\alpha,n-2}$ A2 : r is negative and $t \geq t_{\alpha,n-2}$ A3 : r is positive and $t = t_{\alpha,n-1}$ A4 : r is negative and $t = t_{\alpha,n}$	4.0	1.00
Objective Question				
33	33	The relation between expected value of Range(R) and Standard deviation (S.D) σ with usual notations is:	4.0	1.00

		A1 : $E(R) = d_2 \sigma$ A2 : $E(R) = d_1 \sigma$ A3 : $E(R) = D_1 \sigma$ A4 : $E(R) = D_2 \sigma$		
Objective Question				
34	34	When there is no defective in the lot, the OC function for p=0 is: A1 : $L(0) = 0$ A2 : $L(0) = 1$ A3 : $L(0) = \infty$ A4 : $L(0) = -\infty$	4.0	1.00
Objective Question				
35	35	Sampling inspection procedure by variables as compared to one by attributes is: A1 : More prevalent A2 : Not practiced A3 : Less prevalent A4 : All the these	4.0	1.00
Objective Question				
36	36	Control chart for the number of defectives is A1 : c-chart A2 : p- chart A3 : np- chart A4 : R-chart	4.0	1.00

Objective Question				
37	37	The producer's risk is A1 : Probability of rejecting a good lot A2 : Probability of accepting a good lot A3 : Probability of rejecting a bad lot A4 : Probability of accepting a bad lot	4.0	1.00
Objective Question				
38	38	To which component of the time series, the term recession is attached? A1 : Trend A2 : seasonal A3 : cycles A4 : random variation	4.0	1.00
Objective Question				
39	39	If the equation of exponential trend with 1989 as origin is $Y= 15 (1.8)^x$, the equation of the exponential trend with 1991 as origin will be A1 : $Y= 15 (1.8)^{x/2}$ A2 : $Y= 48.6 (1.8)^x$ A3 : $Y= 4.62 (1.8)^x$ A4 : $Y= 15 / (1.8)^x$	4.0	1.00
Objective Question				
40	40	If l_x is the number of persons living at the age x and L_x the number of persons living in mid of x and $(x+1)$ years, then the relation between l_x and L_x is: A1 : $L_x=(1/2)(l_x+l_{x+1})$ A2 : $L_x=(x/2)+l_x$ A3 : $L_x=l_{x+(1/2)}$	4.0	1.00

		A4 : $L_x=l_{x+1}$		
Objective Question				
41	41	Which leader amongst the following attained the maximum age of a life-table? A1 : Mao Tse-tung of China A2 : Karl Marx of Germany A3 : Morarji Desai of India A4 : Macmillan of U.K.	4.0	1.00
Objective Question				
42	42	If X and Y are two Poisson variates such that X ~ P(1) and Y ~ P(2), then the probability, P(X+Y <3) is equal to A1 : e^{-3} A2 : $3e^{-3}$ A3 : $4e^{-3}$ A4 : $8.5e^{-3}$	4.0	1.00
Objective Question				
43	43	A family of parametric distributions in which mean is always greater than its variance is A1 : Poisson distribution A2 : Geometric distribution A3 : Binomial distribution A4 : Hypergeometric distribution	4.0	1.00
Objective Question				
44	44	If a Poisson distribution is such that P(X=2) =P (X=3), then the variance of the distribution is A1 : 9 A2 : 3	4.0	1.00

		A3 : 6 A4 : $\sqrt{3}$		
Objective Question				
45	45	If a variable X has the p.d.f. $f(x) = \frac{1}{4} x e^{\frac{-x}{2}}$ for x > 0, then the variable x is distributed as A1 : Gamma variate A2 : Chi-square variate A3 : Both Gamma variate and Chi-square variate A4 : Beta Type I variate	4.0	1.00
Objective Question				
46	46	A variable X with moment generating function $M_x(t) = (\frac{2}{3} + \frac{1}{3}e^t)$ is distributed with mean and variance as A1 : Mean $= \frac{2}{3}$, Variance $= \frac{2}{9}$ A2 : Mean $= \frac{1}{3}$, Variance $= \frac{2}{9}$ A3 : Mean $= \frac{1}{3}$, Variance $= \frac{2}{3}$ A4 : Mean $= \frac{2}{3}$, Variance $= \frac{1}{9}$	4.0	1.00
Objective Question				
47	47	If a distribution has moment generating function $M_x(t) = (2 - e^t)^{-3}$, then the distribution is A1 : Geometric distribution A2 : Hyper Geometric distribution A3 : Binomial distribution A4 : Negative binomial distribution	4.0	1.00
Objective Question				
48	48	One hundred tickets are numbered serially from 1 to 100. From this collection a ticket is randomly drawn. What is the chance that the selected ticket has a number which is a perfect square?	4.0	1.00

		A1 : 8/10 A2 : 7/10 A3 : 1/10 A4 : 3/10		
Objective Question				
49	49	A negative binomial variate has probability mass function, $f(x) = \binom{n+x-1}{x} q^x p^n \ ; \ x = 0, 1, 2, \ldots$ with its mean = 2 and variance = 3, then value of p is equal to A1 : 2/3 A2 : 1/3 A3 : 1/4 A4 : 3/4	4.0	1.00
Objective Question				
50	50	Binomial distribution tends to Poisson distribution when A1 : $n \to \infty, p \to 0$ and $np = \mu$ (finite) A2 : $n \to \infty, p \to 1/2$ and $np = \mu$ (finite) A3 : $n \to 0, p \to 0$ and $np \to 0$ A4 : $n \to 15, p \to 0$ and $np \to 0$	4.0	1.00
Objective Question				
51	51	If *n*, the sample size is large than 30, then Student`s t-distribution tends to: A1 : Normal distribution A2 : F-Distribution A3 : Cauchy distribution A4 Chi-square distribution	4.0	1.00

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Objective Question				
52	52	Which one of the following is not true regarding independent of events A and B? A1 : $P(A \cup B) = P(A) + P(B)$ A2 : $P(A \cap B) = P(A)\,P(B)$ A3 : $P(A \mid B) = P(A)$ A4 : $P(B \mid A) = P(B)$	4.0	1.00
Objective Question				
53	53	If X and Y are two gamma variate $\gamma(n_1)$ and $\gamma(n_2)$, the distribution of $\frac{X}{Y}$ is A1 : $\beta_I(n_1, n_2)$ A2 : F_{n_1,n_2} A3 : $\beta_{II}(n_1, n_2)$ A4 : $\gamma(n_1 + n_2)$	4.0	1.00
Objective Question				
54	54	How large a sample must be taken in order that the probability will be at least 0.95 that $\overline{X}_n$ will be within 0.5 of μ. (μ is unknown and $\sigma = 1$) A1 : $n = 50$ A2 : $n \geq 80$ A3 : $n < 80$ A4 : $n \leq 50$	4.0	1.00
Objective Question				
55	55	Examine whether the Weak Law of Large Numbers (WLLN) holds for the sequence $\{x_k\}$ of independent random variables defined as follows $P(x_k = \pm 2^k) = 2^{-(2k+1)}$, $P(x_k = 0) = 1 - 2^{-2k}$ A1 : WLLN holds	4.0	1.00

		A2 : WLLN holds when mean = ∞ A3 : WLLN does not hold A4 : WLLN holds when mean = - ∞		
Objective Question				
56	56	Population is one in which the rate of growth is zero. A1 : Stationery A2 : Stable A3 : Unstable A4 : Increasing	4.0	1.00
Objective Question				
57	57	In case of demography errors can be divided into three categories i.e. sampling error, error of content or repose error) and A1 : Standard error. A2 : Error of coverage. A3 : Non sampling error. A4 : Percentage error	4.0	1.00
Objective Question				
58	58	Ratio of all live births registered during a year to the number of women of child bearing age. A1 : Crude birth rate. A2 : Standardized birth rate. A3 : Net reproduction rate. A4 : The general fertility rate.	4.0	1.00
Objective Question				
59	59	If P_1 and P_2 are the population at an interval of 10 years, the population just after five will be: A1	4.0	1.00

		: $\frac{1}{2}(P_1+P_2)$ A2 : $\sqrt{(P_1+P_2)}$ A3 : $\frac{1}{2}\left(\frac{1}{P_1}+\frac{1}{P_2}\right)$ A4 : $\sqrt{P_1+P_2}$		
Objective Question				
60	60	The main sources of information concerning fertility are population census and A1 : Demographic surveys A2 : Birth registration system. A3 : Stratified sampling. A4 : Questionnaire	4.0	1.00
Objective Question				
61	61	The NSSO is not responsible for conducting one of the following nation-wide surveys on various socio-economic aspects A1 : Surveys of Economic Census, A2 : Annual Survey of Industries (ASI), A3 : Census of India A4 : Urban Frame Survey	4.0	1.00
Objective Question				
62	62	The main statistical unit which is not covered under the *Ministry of Home Affairs*, Govt. of India A1 : Collecting, compiling and analyzing industrial dat(A) A2 : Carrying out population census A3 : Carrying out registration of Birth and Death Statistics A4 : Carrying out Ad-hoc Demography surveys	4.0	1.00

Objective Question				
63	63	The name of the statistics $T=\sqrt{\frac{\chi^2}{N(m-1)(n-1)}}$ is A1 : Tschprow's Coefficient of Contingency A2 : Yules Coefficient of Contingency A3 : Pearson's Coefficient of Contingency A4 : Kendall's Coefficient of contingency	4.0	1.00
Objective Question				
64	64	If $\frac{(AB)}{(B)}>\frac{(A\beta)}{(\beta)}$ then A1 : $\frac{(AB)}{(A)}<\frac{(\alpha B)}{(\alpha)}$ A2 : $\frac{(AB)}{(A)}>\frac{(\alpha B)}{(\alpha)}$ A3 : $\frac{(AB)}{(A)}=\frac{(\alpha B)}{(\alpha)}$ A4 : $\frac{(AB)}{(A)}\approx\frac{(\alpha B)}{(\alpha)}$	4.0	1.00
Objective Question				
65	65	The relationship between Yule's coefficient of association (Q) and coefficient of colligation (Y) is defined as A1 : $Q=\frac{2y}{1+y^2}$ A2 : $y=\frac{2Q}{1+Q^2}$ A3 : $Q<\frac{2y}{1+y^2}$ A4 : $y<\frac{2Q}{1+Q^2}$	4.0	1.00
Objective Question				
66	66	If two events A and B are mutually exclusive then P(A or B) will be equal to: A1 : $P(A)+P(B)-P(AB)$	4.0	1.00

		A2 : $P(A)+P(B)$ A3 : $P(A)+P(B)-P(AUB)$ A4 : $P(A)+P(B/A)$		
Objective Question				
67	67	The probability of impossible event A is: A1 : P(A) = 0.5 A2 : P(A) = 1 A3 : P(A) = 0 A4 : P(A) = ∞	4.0	1.00
Objective Question				
68	68	A husband and wife appear in an interview for two vacancies in the same post. The probability of husband's selection is 1/7 and that of wife is 1/5. The probability of both of them will be selected is: A1 : 10/35 A2 : 1/35 A3 : 24/35 A4 : 42/35	4.0	1.00
Objective Question				
69	69	If A, B, C are three mutually exclusive and exhaustive events and $\frac{1}{3}P(C)=\frac{1}{2}P(A)=P(B)$. The value of P(B) is: A1 : 1/3 A2 : 1/4 A3 : 1/6 A4 : 1/8	4.0	1.00

Objective Question				
70	70	The difference between sample estimate and population parameter is known as: A1 : Absolute error A2 : Sampling error A3 : Standard Error A4 : Sampling Variance	4.0	1.00
Objective Question				
71	71	Under what condition sample mean is not unbiased estimate of population mean in linear systematic sampling: A1 : N is not an integral multiple of n and k A2 : N is an integral multiple of n and k A3 : N is greater than an integral multiple of n and k A4 : N is less than an integral multiple of n and k	4.0	1.00
Objective Question				
72	72	An investigator wants to select a samples from a group of male and female separately at random. What sampling method would he use? A1 : Simple random sample A2 : Cluster sampling A3 : Stratified sampling A4 : Systematic sampling	4.0	1.00
Objective Question				
73	73	Let $\{X_n\}$ be a sequence of independent random variables such that $P[X_n = 1] = \frac{1}{n}$; $P[X_n = 0] = 1 - \frac{1}{n}$, $n = 1,2,...$ Which of the following statements is true? A1 : X_n converges to zero in r^{th}(quadratic) mean A2 : X_n converges to zero almost surely	4.0	1.00

		A3 : Both X_n converges to zero in rth(quadratic) mean and X_n converges to zero almost surely A4 : Neither X_n converges to zero in rth(quadratic) mean nor X_n converges to zero almost surely		
Objective Question				
74	74	A perfect dice is tossed twice. The probability of getting a total of 9 is: A1 : 4/9 A2 : 2/9 A3 : 3/9 A4 : 1/9	4.0	1.00
Objective Question				
75	75	The variance of first *n* natural numbers is A1 : $(n^2+1)/12$ A2 : $(n+1)^2/12$ A3 : $(n^2-1)/12$ A4 : $(2n^2-1)/12$	4.0	1.00
Objective Question				
76	76	$\int_0^{\frac{\pi}{2}} sin^5 x \, cosx \, dx =$ A1 : 1/3 A2 : 1/6 A3 : 2/3 A4 : 3/2	4.0	1.00
Objective Question				
77	77	$\int_0^{\frac{\pi}{2}} \sqrt{\sin x + 1} \cos x \, dx =$	4.0	1.00

		A1 : $2\sqrt{2}$ A2 : $2\sqrt{2}-1$ A3 : $\frac{2}{3}(2\sqrt{2}-1)$ A4 : $\sqrt{2}$		
Objective Question				
78	78	The value of $\int_0^1 x(1-x)^4\,dx$ is A1 : 1/12 A2 : 1/30 A3 : 1/24 A4 : 1/20	4.0	1.00
Objective Question				
79	79	$\lim_{x\to\pi/2} \log \sin x/(\pi-2x)^2$ is equal to A1 : 1/2 A2 : 1/8 A3 : -1/8 A4 : 1/4	4.0	1.00
Objective Question				
80	80	If $w = x + 2y + z^2$ and $x = \cos t$, $y = \sin t$, $z = t$, then dw/dt is A1 : sin t + cost t + 2 t A2 : –sint – cos t +2t A3 : –sint + 2cos t + 2t	4.0	1.00

		A4 : sint + 2 cos t + 2t		
Objective Question				
81	81	Let $y=\sqrt{u}$, $u=v^3+1$, $v=\sin x$, then $\frac{dy}{dx}=$ A1 : $\frac{3}{2}\sin x\cos x$ A2 : $\frac{3}{2}\frac{\sin^2 x\cos x}{\sqrt{\sin^3 x+1}}$ A3 : $\frac{3}{2}\frac{\sin x\cos x}{\sqrt{\sin^4 x+1}}$ A4 : $\frac{3}{2}\frac{\cos x}{\sqrt{\sin^3 x+1}}$	4.0	1.00
Objective Question				
82	82	If $\sum a_n=\sum\frac{x^n}{n^n}$; $\forall\, x\geq 0$, be a series of positive numbers, then the series is A1 : Divergent A2 : Oscillatory sequence A3 : Both Divergent and Oscillatory Sequence A4 : Convergent	4.0	1.00
Objective Question				
83	83	The series of positive terms $\sum a_n=\sum\frac{n!}{n^n}$ is A1 : Convergent A2 : Divergent A3 : Equal to 1 A4 : Equal to 0	4.0	1.00
Objective Question				
84	84		4.0	1.00

		For a Matrix A, $\|A\| = 5$ and Adjoint of A is $\begin{bmatrix} 5 & 0 & 0 \\ 0 & 5 & 0 \\ 0 & 0 & 5 \end{bmatrix}$, then A^{-1} is A1 : An Orthogonal matrix A2 : An Identity matrix A3 : A Null matrix A4 : does not exist		
Objective Question				
85	85	The matrix A = $\begin{bmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{bmatrix}$ is A1 : Singular A2 : Orthogonal A3 : Skew Symmetric A4 : Negative semi definite	4.0	1.00
Objective Question				
86	86	Let f(x) = 3x-1 and g(x) = x + 4, then $\frac{d}{dx}(f+g)$ is A1 : 2 A2 : 1 A3 : 0 A4 : 4	4.0	1.00
Objective Question				
87	87	The series $\frac{1}{2}+\frac{1.3}{2.5}+\frac{1.3.5}{2.5.8}+\ldots$ converges to A1 : 1	4.0	1.00

		A2 : 2/3 A3 : 3/2 A4 : 0		
Objective Question				
88	88	Which of the following functions are solutions of the given differential equation? $\frac{dy}{dx} = \frac{2y^4 + x^4}{xy^3}$ A1 : y=x A2 : $y=x^8-x^4$ A3 : $y= \sqrt{x^8 - x^4}$ A4 : $y= (x^8-x^4)^{1/4}$	4.0	1.00
Objective Question				
89	89	What is the value of c so that $y(x) =c(1-x^2)$ satisfies the given initial condition y(0)=1? A1 : c = 0 A2 : c = -1 A3 : c = 1 A4 : c = ½	4.0	1.00
Objective Question				
90	90	If $f(x) = x^n$, where $n \notin N$, then the value of $\sum_{r=0}^{n} \frac{f^{(r)}(1)}{r!}$ is A1 : 0 A2 : -1 A3 : 2n A4 : 2^{n-1}	4.0	1.00

Objective Question				
91	91	$y = f(x)$ is twice differentiable and has a minimum value, then A1 : $f''(x) < 0$ A2 : $f''(x) > 0$ A3 : $f''(x) = 0$ A4 : $f''(x)$ is a constant	4.0	1.00
Objective Question				
92	92	If $\begin{bmatrix} 15-x & 11 & 10 \\ 11-3x & 17 & 16 \\ 7-x & 14 & 13 \end{bmatrix} = 0$, then x is equal to _____. A1 : 6 A2 : 5 A3 : 4 A4 : 0	4.0	1.00
Objective Question				
93	93	If $A = \begin{bmatrix} 2 & -1 & 4 \\ x & 0 & 1 \\ 1 & 2 & 0 \end{bmatrix}$ is a singular matrix, then x is _____ A1 : -2 A2 : 1 A3 : 3/8 A4 : - 5/8	4.0	1.00
Objective Question				
94	94	If $1^3+2^3+3^3+....+100^3=k^2$ then k is equal to _____. A1 : 10100	4.0	1.00

		A2 : 5000 A3 : 5050 A4 : 1010		
Objective Question				
95	95	A set of linear equations in the matrix form AX=B if A1 : A is invertible and its inverse is known. A2 : A is non-invertible and its inverse is known. A3 : A is invertible and its inverse is not known. A4 : A is non-invertible and its inverse is not known.	4.0	1.00
Objective Question				
96	96	The series $1+\frac{1}{2!}+\frac{1}{4!}+\frac{1}{6!}+\ldots\ldots\ldots\infty$ is equal to A1 : $\frac{e-e^{-1}}{2}$ A2 : $\frac{e+e^{-1}}{2}$ A3 : e A4 : e^{-1}	4.0	1.00
Objective Question				
97	97	The matrix $\begin{bmatrix}1 & -1 & 4\\2 & -1 & 5\\2 & -2 & 8\end{bmatrix}$ is A1 : Singular with rank 2 A2 : nonsingular with rank 3 A3 : singular with rank 1 A4 : non-singular with rank 2	4.0	1.00

Objective Question				
98	98	The solution of $\sqrt{x}+\sqrt{x-\sqrt{1-x}}=1$ A1 : 0 A2 : 1 A3 : 25/16 A4 : 16/25	4.0	1.00
Objective Question				
99	99	The value of $\Gamma(\frac{1}{2})$ is A1 : π A2 : $\sqrt{\pi}$ A3 : 1 A4 : 0	4.0	1.00
Objective Question				
100	100	The solution of the system of equations $2x+y-z=3$ $x+y+z=1$ $x-2y-3z=4$ using determinants is A1 : (0,1,2) A2 : (2,1,0) A3 : (2,-1,0) A4 : (-2,1,0)	4.0	1.00