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Azad Jammu & Kashmir Board Of Intermediate and Secondary Education, Mirpur
Model paper A-2023

STATISTICS
(Part --II)
(OBJECTIVE PART)

(INTERMEDIATE)

Marks : 17
Time :20Minutes

Note:- Write your Roll No. in space provided. Over writing, cutting, using of lead pencil will result in loss of marks. All questions are to be attempted.

1. Each question has four possible answers, Tick (\checkmark) the correct answer. (17)

1	Normal distribution is						
A	Uni-modal	B	Bi-modal	C	Tri-modal	D	Multi-modal
2	The limits of the normal distribution are:						
A	0 to ∞	B	$-\infty$ to ∞	C	$-\infty$ to 0	D	0 to 1
3	The co-efficient of skewness of a normal distribution is						
A	Negative	B	positive	C	3	D	Zero
4	A value calculated from population is called						
A	Statistic	B	Mean	C	Parameter	D	Proportion
5	A complete list of elements in a population is called						
A	Population	B	Sampling frame	C	Sampling design	D	Sampling unit
6	The standard error of the sample mean for $\sigma^2 = 16$ and $n=4$ is						
A	2	B	1	C	4	D	8
7	A statistic $\hat{\theta}$ is said to be unbiased estimator of θ , if						
A	$E(\hat{\theta}) \neq \theta$	B	$E(\hat{\theta}) > \theta$	C	$E(\hat{\theta}) = \theta$	D	$E(\hat{\theta}) < \theta$
8	The point estimate of μ is						
A	σ	B	σ^2	C	μ	D	\bar{x}
9	Which of the following cannot be null hypothesis						
A	$\theta \neq \theta_0$	B	$\theta = \theta_0$	C	$\theta \geq \theta_0$	D	$\theta \leq \theta_0$
10	For a least squares trend line $\hat{y} = a + bx$, which one is true						
A	$\sum y = \sum \hat{y}$	B	$\sum \hat{y} = 0$	C	$\sum y > \sum \hat{y}$	D	$\sum y < \sum \hat{y}$
11	When b_{yx} is positive, then b_{xy} will be						
A	Negative	B	Zero	C	Positive	D	> 2
12	If two variables are perfectly positively correlated, then the value of 'r' is						
A	0	B	-1	C	> 1	D	+1
13	There are----- parameters of Chi-square distribution						
A	2	B	1	C	4	D	3
14	The co-efficient of association Q lies between						
A	$-\infty$ to $+\infty$	B	$-\infty$ and +1	C	0 and +1	D	-1 and +1
15	Increase in demand of ice cream in Summer is an example of						
A	Seasonal variations	B	Trend	C	Cyclical variations	D	Irregular variations
16	A sudden decrease in supplies due to floods, is an example of						
A	Secular trend	B	Seasonal variations	C	Irregular variations	D	Cyclical variations
17	A set of instructions that runs the computer						
A	Software	B	Printers	C	Hardware	D	Monitors

(The End)

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Azad Jammu & Kashmir Board Of Intermediate and Secondary Education, Mirpur
Model paper A-2023

STATISTICS

(Part -II)

(INTERMEDIATE)
(SUBJECTIVE PART)

Marks : 68
Time : 2:40 Hours

Note:-Attempt any TWENTY TWO (22) short questions in all selecting eight from Q.2 and Q.3 each and six from Q.4. (22x2 =44)

SECTION - I

2- Write short answers of any eight questions. (2x8= 16)

i	Describe the parameters of normal distribution	ii	How much area of the normal distribution lies between $\mu - \sigma$ and $\mu + \sigma$
iii	In a normal distribution $\mu = 25$ and $\sigma = 5$ find mean deviation	iv	The first and third quartiles of a normal distribution are 60 and 80 respectively, find μ
v	Why β_1 is zero in a normal distribution?	vi	What is meant by statistical inference?
vii	Find the point estimate of μ while a sample consists of values 5,10,12,23,25	viii	Give an example of type -II error
ix	Define composite hypothesis	x	Given that $\bar{x} = 13$, $\mu = 10$, $\sigma = 4$ and $n = 4$ find Z.
xi	What is computer software?	xii	Define output devices in computer.

3- Write short answers of any eight questions. (2x8= 16)

I	Define sampling error.	ii	Given $N=310$, $n=100$, $\sigma = 60$ find $\sigma_{\bar{x}}$, if sampling is done without replacement.
iii	Differentiate between probability and non probability sampling.	iv	Find $\mu_{\hat{p}}$ given that $n=5$ and $P=0.4$
v	What is the purpose of sampling?	vi	Define sampled population.
vii	If $a=30$ and $b=2$ then estimate y for $x=15$	viii	Describe at least any two properties of regression co-efficient.
ix	What is meant by dependent variable in regression?	x	Find 'r' if $b_{yx} = 1.4$ and $b_{xy} = 0.5$
xi	Interpret the meanings of 'r' when $r = +1$ and $r = -1$	xii	Distinguish between positive and negative correlation.

4- Write short answers of any six questions. (2x6= 12)

I	For two attributes A and B, describe the Yule's co-efficient of association.	ii	Given that $(AB) = 50$, $(A) = 120$ and $(B) = 200$ find the value of n , if the attributes A and B are independent.
iii	What is meant by positive association?	iv	Define histogram.
v	What is difference between signal and noise?	vi	Given that $\hat{y} = 28 + 2x$ and $x = -1, 0, 1$, find $\sum \hat{y}$
vii	Give an example of seasonal variations.	viii	Describe the additive and multiplicative models in time series.
ix	What are moving averages?		

SECTION-II

Note:- Attempt any three questions. (3x8=24)

- 5- (a) In a normal distribution, variance is 4. Find the first four moments about mean.
(b) The mean and standard deviation in a normal distribution are 30 and 10 respectively, find
(i) Mean Deviation.
(ii) Quartile Deviation
(iii) Median
(iv) Mode