Model Paper Statistics Objective

Intermediate Part – I (11th Class) Examination   Session 2012-2013 and onward

Total marks: 17   **Paper Code_____**   **Time Allowed: 20 minutes**

Note:- You have four choices for each objective type question as A, B, C and D. The choice which you think is correct; fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

Q No.1	Question	A	B	C	D
1	The science of collecting, organization, analyzing the data is called	Statistics	Parameter	Population	Mathematics
2	Classification of data by attributes is called	Quantitative data	Qualitative data	Geographical data	Chronological data
3	The lower and upper class limits 20 and 30 the midpoint of the class is	20	25	30	50
4	Geometric mean can be computed by	$\dfrac{\Sigma logX}{n}$	$\dfrac{\Sigma Xlogf}{\Sigma f}$	$Antilog\left[\dfrac{\Sigma logX}{n}\right]$	$Antilog\left[\dfrac{n}{\Sigma logX}\right]$
5	The total of all observations divided by the number of observations is called	Arithmetic mean	Geometric mean	Median	Mode
6	The range of the scores 29,3,143,27,99, is	140	143	146	70
7	The variance is zero only if all observations are the	Different	Square	Square root	Same
8	The lack of uniformity or symmetry is called	Skewness	Dispersion	Kurtosis	Standard deviation
9	Index for base period is always taken as	One	100	200	Zero
10	Laspeyre's index=110 , Paasche's index=108, then Fisher's index is equal to	110	108	100	109
11	If three coins are tossed, the possible outcomes are	8	3	one	6
12	The probability of drawing any one Spade card is	1/13	¼	4/13	1/52
13	If "c" is a constant (Non random variable), then E(c)	Zero	one	c f(c)	c

	is				
14	An expected value of a random variable is equal to its	Variance	Standard deviation	Mean	Mode
15	Parameters of Binomial distribution are	n,k	n,p	n,q	n,p,q
16	The Bernoulli trial has	At least two outcomes	At-most two outcomes	Two outcomes	Fewer then two outcomes
17	The parameters of Hypergeometric distribution are	N ,n ,p	N,n ,K	N,n,np	n and p

Model Paper Statistics Subjective

Intermediate Part – I (11th Class) Examination   Session 2012-2013 and onward

Total marks: 83   **Time: 3:10 hours**

SECTION ------------I

Q. No: - 2 Answer any Eight (08) parts from the followings: **8×2=16**

i) Differentiate between population and sample.

ii) Write any two sources of primary data.

iii) What is percentile?

iv) Define geometric mean.

v) If Mean = 20 Median = 18.67 find mode.

vi) Given the value: 3, 5, 0 find geometric mean and harmonic mean.

vii) Write any two properties of arithmetic mean.

viii) What is consumer price index number?

ix) Distinguish between simple and composite index number.

x) Write formula for Fisher index number.

xi) Given $\sum P_0 Q_1 = 850$ and $\sum P_1 Q_1 = 1210$ find paasches index number.

xii) Given W=20, 25, 15, 28 and I = 100,106,115,120 constant consumer price index number.

Q. No: - 3 Answer any Eight (08) parts from the followings: 8×2=16

   i) Define class interval

   ii) What is histogram

   iii) Define absolute dispersion

   iv) If $\beta_1=10$ $\beta_2=10$ Discuss the shape of the curve.

   v) What is meant by skewness.

   vi) If standard deviation of value of X is 5 what is the standard deviation of value of 4X.

   vii) Is it possible that first moment about mean is 10?

   viii) Draw the shapes of mesokurtic , platykurtic ,leptokurtic curve.

   ix) What do you mean by mutually exclusive events?

   x) Define sample space.

   xi) Write the sample space when three coins are tossed.

   xii) Are the events A and B independent if P (A) = .5 and P (A/B) =.4

Q. No: - 4   Write short answer any six question.   (6 x 2) = 12

   I.   Define discrete random variable.

   II.   Define probability distribution

   III. If E(X) =5 and E (Y) = −23 then E (X−Y) =?

   IV.   State any two laws of expectation.

   V.   Check for Y= 1,2,3,4 is f(Y) = $\dfrac{Y+1}{14}$ a probability density function.

   VI.   If n =10 and p=.4 find mean and variance of binomial distribution

   VII. Define binomial distribution

   VIII. Write down properties of Hypergeometric Experiment

   IX.   Calculate the probability of all aces in a sample 4 out of 52 playing cards when cards are drawn without replacement.

Section – II

Note: Attempt any three questions.

Q. No: - 5   (4+4)

   (a) The Logarithm of i910 value of X are 1.0792 , 1.1761 , 1.1761 , 0.9542 , 1.2041 , 1.2553, 1.3010 , 1.3979 , 1.3010 , 1.4771 , calculate the arithmetic mean of X.

   (b) Find out the Median of the following values
   (I) 5, 4, 8 , 3 , 7 , 2 , 9
   (II) 18.3, 20.6 , 19.3 , 22.4 , 20.8 , 18.8.

Q. No: - 6   (4+4)

   (a) Computes the variance from the following data

X	200	300	350	700	840
F	4	2	2	1	1

(b) Given $\sum f = 120$, $\sum fx = 296$, Mode = 2.94 and second moment about mean = 1.48 calculate coefficient of skewness .

Q. No: - 7 (a) Compute chain index number for the following data taking 1997 as base year

Years	1997	1998	1999	2000	2001	2002	2003
Prices	180	185	194	200	204	218	220

(b) A card is selected at random from a deck of playing cards find the probability that card is King or a Queen   **(4+4)**

Q. No: - 8 (a)   **(4+4)**

Let "X" have the following probability distribution

X	1	2	3	4	5	6
P(X)	.05	.40	.10	.25	.05	.15

Find   (I) E(x)

(II) E (x^2)

(b) Continuous random variable "X" has p.d.f f (X) = CX when $0 < X < 2$

(I) Determine C

(II) P $(1 < X < 1.5)$

Q. No: - 9 (a)   **(4+4)**

An event has probability P=2/5 find the complete binomial distribution when   n = 3

(b)   (I) Given N = 10, n = 2, K = 3   find P (X=0)

(II) Given N =10   n = 4   K =5   find E (X)

Section – III

Note: Attempt any three Question.

Q. No: - 10   Find the value of Mode from the given data.   **(5)**

Marks	10-19	20-29	30-39	40-49	50-59
No of Students	5	25	40	20	10

Q. No: - 11 Calculate Mean deviations about mean from the following data   **(5)**

Class interval	0-5	5-10	10-15	15-20	20-25
F	140	200	100	50	10

Q. No: - 12 Given the following information.   **(5)**

Commodities	2002		2003	
	Price	Quantity	Price	Quantity
A	10	12	20	22
B	8	8	16	18
C	5	6	10	11

Compute Fisher's index number

Q. No: - 13 The probability of male birth is equal to probability of female birth. Out off 400 families with 4 children each find expected number of families with 0, 1, 2, 3, and 4 males. **(5)**

Q. No: - 14 An urn contains 9 balls 5 of which are Red and 4 Blue. 3 balls are drawn without replacement. Find probability distribution of X when X = number of Red balls drawn. **(5)**

Assessment Scheme

For Statistics 11th Part I Session 2012-13 & ONWARD

Time: 03:30 hrs   **Total Marks:- 100**

Sr. No	Chapters Name	Weightage	Distribution of Marks	M.C.Qs — Allotted Marks 17 — Q. to be asked 17 / Q. to be attempted 17 — Time Minutes 20				Short Answer Questions — Allotted Marks 44 — Q. to be asked 33 / Q. to be attempted 22				Essay Type Questions — Allotted Marks 24 — Q. to be asked 5 / Q. to be attempted 3				Questions relating to Practicals — Allotted Marks 15 — Q. to be asked 5 / Q. to be attempted 3
				K	U	A	Total Marks	K	U	A	Total Marks	K	U	A	Total Marks	
1	Introduction	4.06 %	5	1	-	-	**1**	2	-	-	**4**	-	-	-	**-**	Question No.10=5marks
2	Presentation of Data	4.88 %	6	1	-	1	**2**	2	-	-	**4**	-	-	-	**-**	Question No.11=5marks
3	Central Tendency	16.26 %	20	1	1	-	**2**	2	1	2	**10**	-	-	2	**8**	Question No.12=5marks
4	Dispersion	18.7 %	23	1	1	1	**3**	2	2	2	**12**	-	-	2	**8**	
5	Index Number	13 %	16	-	-	2	**2**	2	1	2	**10**	-	-	1	**4**	Question No.13=5marks
6	Probability	11.38 %	14	-	-	2	**2**	2	1	1	**8**	1	-	-	**4**	Question No.14=5marks
7	Random Variable	16.26 %	20	2	-	-	**2**	2	1	2	**10**	-	-	2	**8**	
8	Binomial & Hypergeometric	15.45 %	19	3	-	-	**3**	2	-	2	**8**	-	-	2	**8**	
	Total	**100 %**	**123+25=148**				**17**				**66**				**40**	**25**

Important Note:- 1) K= Knowledge.   U= Understanding / Comprehension.   A= Application & Analysis.

2) This scheme of Assessment is prepared as per 33% choice in short answer questions, essay questions & questions relating to practicals.

3) In order to promote the cause of concept based learning at least 10 % questions must be unseen or of daily life but relating to specified learning outcomes of Curricula & Syllabi. This portion will increase @ 10% annually but not more than 30%.

4) The questions relating to practical will be asked from the practical Note Book as per chapter were detail given in the curriculum and syllabi 2006.

5) The Practical will be conducted at the end of 12th Class which is mandatory to qualify for award of certificate. The Practical assessment will be made in the form of grading as per following criteria.

A+= 90% & above, A=80% to 89%, B= 70% to 79%, C= 60% to 69%, D= 50% to 59%, E= 40% to 49%, F= Fail = 40% & below