BOARD OF INTERMEDIATE EDUCATION, KARACHI
H.S.C. Annual Examinations 2021

(MODEL QUESTION PAPER)

STATISTICS PAPER-II
(COMMERCE GROUP REGULAR & PRIVATE

Time Allowed: 40 Minutes   **SECTION 'A' (M.C.Qs)**   **Max Marks: 25**

Note: This section consists of 25 part questions and all are to be answered. Each question carries one mark.

1. Choose the correct answer for each from the given option.

i. The characteristic of a sample is called:
- ♦ Parameter
- ♦ Statistic
- ♦ Data
- ♦ Matrix

ii. The sum of relative frequencies must be equal to:
- ♦ 3
- ♦ 0
- ♦ 2
- ♦ 1

iii. Histogram is a graph of :
- ♦ Frequency Distribution
- ♦ Cumulative Frequency
- ♦ Qualitative Data
- ♦ Pictures

iv. A circular diagram used to depict data into a number of sectors is called:
- ♦ Pie Chart
- ♦ Histogram
- ♦ Ogive
- ♦ Frequency Polygon

v. If for a data , $\Sigma(x - 20) = 0,$ then arithmetic mean will be:
- ♦ 20
- ♦ 30
- ♦ 0
- ♦ 25

vi. The median of the data 2, -2, 0 is:
- ♦ 2
- ♦ -2
- ♦ 0
- ♦ 4

vii. Index number calculated for one commodity is :
- ♦ Simple Index Number
- ♦ Composite Index Number
- ♦ Weighted Index Number
- ♦ Fisher's Index Number

viii. Base year weighted index number is:

- ♦ Paasche's Index Number
- ♦ Laspyere's Index Number
- ♦ Fisher's Index Number
- ♦ None of these

ix. The value of 0! is:

- ♦ 0
- ♦ 2
- ♦ 1
- ♦ Infinity

x. If A and B are mutually exclusive events then $P(A \cap B)$=:

- ♦ 1
- ♦ 1/2
- ♦ 0
- ♦ 0.3

xi. If in a symmetrical distribution, mean=6, mode=6, then median is:

- ♦ 10
- ♦ 36
- ♦ 6
- ♦ 12

xii. The most frequent value of a data is:

- ♦ Mean
- ♦ Mode
- ♦ Median
- ♦ Zero

xiii. The last cumulative frequency of a frequency distribution is equal to:

- ♦ Σf
- ♦ Σfx
- ♦ Σx
- ♦ 1

xiv. The base year index number is always:

- ♦ 90%
- ♦ 10%
- ♦ 50%
- ♦ 100%

xv. Total probability relating to a sample space is equal to:

- ♦ Infinity
- ♦ 1
- ♦ n
- ♦ 10

xvi. $P(\bar{A})$ =:

- ♦ $P(A)$
- ♦ $1+P(A)$
- ♦ 1
- ♦ $1 - P(A)$

xvii. The value of $^{n}P_{0}$ is:

- ♦ 0
- ♦ 1
- ♦ n
- ♦ infinity

xviii. Two events which do not occur simultaneously are called:

- ♦ Independent Events
- ♦ Dependent Events
- ♦ Mutually Exclusive Events
- ♦ Not Mutually Exclusive Events

xix. On tossing a die, the probability of getting 6 is:

- ♦ 0   ♦ 1
- ♦ 1/6   ♦ 1/2

xx. Colour of hair of 100 students is:

- ♦ Continuous data   ♦ Qualitative data
- ♦ Refined data   ♦ Discrete data

xxi. If Laspeyre's Index=40% and Paasche's Index=90%, then Fisher's Index will be:

- ♦ 60%   ♦ 36%
- ♦ 6%   ♦ 100%

xxii. The number of members of a family is:

- ♦ Discrete variable   ♦ Continuous variable
- ♦ Qualitative variable ♦ Infinite variable

xxiii. $^5C_1$ =:

- ♦ 5   ♦ 1
- ♦ 15   ♦ 51

xxiv. If the mean of 10 values is 5, then the sum of values is:

- ♦ 250   ♦ 100
- ♦ 2   ♦ 50

xxv. When base period goes on changing, the index number is called:

- ♦ Fixed base index   ♦ Chain base index
- ♦ Value Index   ♦ CPI

SECTION "B" (SHORT-ANSWER QUESTIONS)   (15 Marks)

Q2   Answer any three part questions. All question carry equal marks.

i)   Differentiate between Primary data and Secondary data OR Define discrete and continuous variables with examples.

ii)   Find relative frequency distribution and cumulative frequency distribution to the following distribution:

C.I.	2 --- 4	5 --- 7	8 --- 10	11 ---13	14 ----16
F	1	3	4	5	2

iii)   Represent the following data by a Pie diagram.

Items	A	B	C	D	E
Expenditure (Rs.)	50	30	20	15	35

iv)   Find median for the following data:

C.I.	2	3	4	5	6	7
F	7	11	16	20	22	24

v)   From the data given below, calculate the index number of prices for 1991 with reference to 1990 as the base year, using Simple Aggregative Method.

Commodity	Year	
	1990	1991
A	3	5
B	10	15
C	2	4

OR

A bag contains 3 Red and 4 Black balls. 2 balls are drawn at random from the bag. What is the probability that the balls are one of each colour?

SECTION "C" (DETAILED - ANSWER QUESTIONS)   (10 Marks)

Answer any one question from this section. All question carry equal marks.

Q3 (a) Find Arithmetic mean and Mode for the following frequency distribution.

C.I.	2 --- 4	5 --- 7	8 --- 10	11 ---13	14 ----16
F	2	8	12	4	2

(b) Given that events A and B are mutually exclusive events such that P (A) =0.3, P (B) =0.6; Find P (AUB)

Q4 (a) Calculate Laspeyre's and Paasche's price index numbers for 1991 using 1990 as base year:

Commodity	1990		1991	
	Price	Quantity	Price	Quantity
A	10	4	12	3
B	6	5	9	2
C	5	3	8	1

(b) Two dice are rolled once. Construct the Sample Space. What is the probability of getting a total of:

    (i) 9?   (ii) 7 or 11?