

BOARD OF INTERMEDIATE EDUCATION, KARACHI

INTERMEDIATE EXAMINATION MODEL PAPER 2026

STATISTICS PAPER – II

Max. Marks: 40

(Commerce Group – Regular & Private)

Time: 1 hour 45 minutes

SECTION 'B' (SHORT-ANSWER QUESTIONS)

Marks : 20

Note: Answer any **Five** part questions from this section. All part questions carry equal marks. The use of scientific calculator is allowed.

2. i) For the observations 2, 4, 6, 8, 10, 12 and 14 show that $\sum (x - \bar{x}) = 0$.
- ii) Differentiate between the following:
- a) Discrete and Continuous b) Parameter and Statistic
- iii) A box contains 8 red balls and 4 green balls. Two balls drawn at random without replacement. Find the probability that both are red?
- iv) Compute price relatives by taking 2000 as base year for the following prices of a commodity:

Year	2000	2001	2002	2003	2004	2005	2006
Price (Rs / kg)	30	31	32	33	34	35	36

- v) Draw Pie-diagram for the following data:

Item	Food	Clothing	Rent	Medical	Other
Frequency	105	40	60	35	70

- vi) In how many ways can the letters of the following words be arranged:
- a) TOMORROW b) DISTRIBUTION
- vii) Event A and B are such that $P(A) = 0.5$, $P(B) = 0.4$ and $P(A \cap B) = 0.2$. Find:
- a) $P(A \cup B)$ b) $P(A \setminus B)$
- viii) In a class, the average score of 30 male students is 70 and the average score of 20 female students is 80. What is the combined mean score of all students in the class?

SECTION 'C' (DETAILED-ANSWER QUESTIONS)

Marks : 20

Note: Answer any **Two** questions from this section. All questions carry equal marks. The use of scientific calculator is allowed.

3. For the following data, find Median and Mode also locate Mode graphically:

Class Interval	10 – 12	12 – 14	14 – 16	16 – 18	18 – 20	20 – 22
Frequency	2	12	22	12	6	2

4. For the given data, calculate Fisher's Ideal Index Numbers for the year 2021, taking 2020 as base year:

Commodities	2020		2021	
	Price	Quantity	Price	Quantity
W	10	4	12	3
X	15	5	16.5	7
Y	5.5	10	6.25	8
Z	7.2	20	7.5	20

5. Marks of 30 students are shown below:

23	32	36	41	10	25	41	43	15	34
17	5	1	16	8	15	46	45	39	33
12	32	18	31	24	28	33	27	34	4

- a) Construct frequency distribution table, using classes as 1 – 5, 6 – 10, 11 – 15 and so on.
- b) Calculate cumulative frequencies and relative frequencies for the above data.

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BOARD OF INTERMEDIATE EDUCATION, KARACHI

INTERMEDIATE EXAMINATION

MODEL PAPER 2026

STATISTICS PAPER – II

Max. Marks: 10

(Commerce Group – Regular & Private)

Time: 15 minutes

SECTION 'A'

(MULTIPLE CHOICE QUESTIONS) – (M.C.Qs.) Marks : 10

NOTE:

- This section consists of 10 part questions and all are to be answered. Each part question carries 1 mark.
- Do not copy the part questions in your answerbook. Write only the answer in full against the proper number of the question and its part.
- The use of scientific calculator is allowed.

1. Choose the correct answer for each from the given options:

i) If $P(A') = 0.5$, then $P(A)$ is:

- | | | | |
|-----|-------|-----|------|
| * 0 | * 0.5 | * 1 | * -1 |
|-----|-------|-----|------|

ii) The index number of the base year is always:

- | | | | |
|------|------|--------|---------|
| * 0% | * 1% | * 100% | * 1000% |
|------|------|--------|---------|

iii) A die is rolled once, the probability of getting an odd number is:

- | | | | |
|-----------------|-----------------|-----------------|-----------------|
| * $\frac{1}{2}$ | * $\frac{1}{3}$ | * $\frac{1}{4}$ | * $\frac{1}{6}$ |
|-----------------|-----------------|-----------------|-----------------|

iv) Statistics is useful in commerce mainly in:

- | | |
|-------------------|-------------------|
| * Decision making | * Story writing |
| * Poetry | * Drawing picture |

v) If mean = 20 and number of observations = 10, then the sum of observation is:

- | | | | |
|-------|------|-------|-----|
| * 200 | * 30 | * 100 | * 2 |
|-------|------|-------|-----|

vi) The value of nC_0 is :

- | | | | |
|-----|-----|-------------|-------------|
| * 0 | * 1 | * $+\infty$ | * $-\infty$ |
|-----|-----|-------------|-------------|

vii) Index Numbers are used to measure:

- | | | | |
|--------------------|---------------|--------------|---------------|
| * Changes overtime | * Profit only | * Population | * Probability |
|--------------------|---------------|--------------|---------------|

viii) If an event is certain, its probability is:

- | | | | |
|-----|-----|-----------------|------|
| * 0 | * 1 | * $\frac{1}{2}$ | * -1 |
|-----|-----|-----------------|------|

ix) A set of all possible outcomes of an experiment is called:

- | | | | |
|----------------|----------------|----------------|------------|
| * Sample event | * Sample space | * Sample point | * Null set |
|----------------|----------------|----------------|------------|

x) Circular representation of data is called:

- | | |
|----------------------|-------------------|
| * Pie-diagram | * Ogive |
| * Simple bar diagram | * Frequency Curve |

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