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BUSINESS STATISTICS HSSC–II

SECTION – A (Marks 10)

Time allowed: 15 Minutes | **Version Number** | 4 | 1 | 8 | 1 |

Note: **Section – A is compulsory. All parts of this section are to be answered on the separately provided OMR Answer Sheet which should be completed in the first 15 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.**

Q. 1 **Choose the correct answer A / B / C / D by filling the relevant bubble for each question on the OMR Answer Sheet according to the instructions given there. Each part carries one mark.**

1) A small representative part of population is called:

A. Primary data B. Secondary data

C. Sample D. Parameter

2) Any phenomenon which is **NOT** measureable is called:

A. Variable B. Constant

C. Attribute D. Sample

3) Data obtained by internet sources are:

A. Raw data B. Secondary data

C. Private data D. Primary data

4) Graph of frequency distribution is known as:

A. Ogive B. Histogram

C. Pie chart D. Historigram

5) In symmetrical distribution mean, median and mode are always:

A. Negative B. Zero

C. Different D. Equal

6) If mean of 10 observations is 20, then their sum will be equal to:

A. 200 B. 20

C. 2 D. 0.5

7) If $Y = -75 - 25X$ and $\overline{X} = 3$ then $\overline{Y} = ?$

A. 150 B. –150

C. 25 D. 0

8) Fisher's Index number is called _____ index number.

A. Bogus B. Normal

C. Ideal D. CPI

9) Index for base period is:

A. One B. Fix

C. 100 D. More than 100

10) When two dice are rolled then total number of possible outcomes will be:

A. 2 B. 12

C. 4 D. 36

BUSINESS STATISTICS HSSC–II

Time allowed: 2:15 Hours **Total Marks Sections B and C: 40**

NOTE: Answer any eight parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 24)

Q. 2 Attempt any EIGHT parts. The answer to each part should not exceed 3 to 4 lines. **(8 x 3 = 24)**

(i) Write any three limitations of statistics.

(ii) Name any three sources of primary data.

(iii) Differentiate between grouped data and ungrouped data.

(iv) Define classification and tabulation.

(v) Arithmetic mean of 20 values is 25. By adding 4 more values the mean becomes 30. Find the four values if the ratio between these values is 1:2:3:4.

(vi) Given $X = 60 + 2u, \sum u = 40, n = 20$, Find mean.

(vii) Given $l = 62, h = 11, f = 22, n = 80$ and $C = 32$. Find median.

(viii) Given $\sum (X - 10) = 2.8, n = 5$, Calculate arithmetic mean.

(ix) Given $\sum p_0 q_0 = 3600, \sum p_1 q_0 = 4300, \sum p_1 q_1 = 4890$ and $\sum p_0 q_1 = 4100$. Find Fisher's Ideal Price Index.

(x) Distinguish between simple and composite index numbers.

(xi) Solve the following:

(a) ${}^5P_3$ (b) ${}^4C_2$

SECTION – C (Marks 16)

Note: Attempt any TWO questions. All questions carry equal marks. **(2 x 8 = 16)**

Q. 3 The weights of the 40 male students at a college are given in the following frequency table. **(08)**

Weight	118–126	127–135	136–144	145–153	154–162	163–171	172–180
Frequency	3	5	9	12	5	4	2

Calculate the mean and mode.

Q. 4 Construct Price Index number for year 2000 on the basis of year 1990 using **(08)**
(i) Base year weighted (ii) Current year weighted

	1990		2000	
Items	Price	Quantity	Price	Quantity
A	3	70	4	75
B	5	80	6	90
C	8	40	10	55
D	10	50	12	60

Q. 5 If a die is rolled one time, find these probabilities. **(08)**

(i) Of getting a 4
(ii) Of getting a number less than 7
(iii) Of getting a number greater than 3 or an odd number
(iv) Of getting a number greater than 3 and an odd number

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SECTION – A (Marks 10)

Time allowed: 15 Minutes | **Version Number** | 8 | 1 | 8 | 5 |

Note: **Section – A is compulsory. All parts of this section are to be answered on the separately provided OMR Answer Sheet which should be completed in the first 15 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.**

Q. 1 **Choose the correct answer A / B / C / D by filling the relevant bubble for each question on the OMR Answer Sheet according to the instructions given there. Each part carries one mark.**

1) Colours of flowers is an example of:

A. Quantitative variable B. Symmetric variable

C. Skewed variable D. Qualitative variable

2) A variable that assumes any value within a range is called:

A. Discrete variable B. Continuous variable

C. Independent variable D. Dependent variable

3) Results declared are always:

A. Fictitious data B. Private data

C. Secondary data D. Primary data

4) The total of relative frequencies is always equal to:

A. 1 B. 0

C. 0.5 D. –1

5) The mean of 11 numbers is 7. One of the numbers, 13, is deleted. What is the mean of the remaining 10 numbers?

A. 7.7 B. 6.4

C. 6.0 D. 5.8

6) Mean of 200 times of 2 is:

A. 200 B. 0.01

C. 100 D. 2

7) The mean of 10 observations is 10. All observations are increased by 10%. The mean of the increased observations shall be:

A. 10 B. 1.1

C. 11 D. 10.1

8) If Paasche's price index = 74.76 and Fisher's price index = 75.76 then Laspeyre's price Index Number is:

A. 76.77 B. 76.75

C. 76.76 D. 76.78

9) If all the values are of equal importance, the index numbers are:

A. Weighted B. Unweighted

C. Composite D. Value Index

10) Which of the following **cannot** be taken as probability of an event?

A. –1 B. 0

C. 1 D. 0.5

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Time allowed: 2:15 Hours **Total Marks Sections B and C: 40**

NOTE: Answer any eight parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 24)

Q. 2 Attempt any EIGHT parts. The answer to each part should not exceed 3 to 4 lines. **(8 x 3 = 24)**

(i) Differentiate between descriptive and inferential statistics.

(ii) Write any three functions of statistics.

(iii) Differentiate between grouped data and ungrouped data.

(iv) Define classification and tabulation.

(v) If sum of 15 values is 300 and by addition of two more values, it becomes 360. Find the new values if the ratio between them is 1:4.

(vi) Deviations from 10.5 of ten items are: –1.3, 2.0, 2.9, 7.5, –4.6, –3.4, 8.2, 9.3, –7.4, 5.6. Calculate the arithmetic mean.

(vii) Given $f_m = 304,\ f_1 = 190,\ f_2 = 211,\ h = 10,\ l = 59.5$ Find mode.

(viii) In a symmetrical distribution, mean is 40, what is the median and mode?

(ix) Compute base year weighted and current year weighted price index numbers for the given data:

$\sum p_o q_o = 35310,\ \sum p_n q_o = 41140,\ \sum p_n q_n = 46707$ and $\sum p_o q_n = 39644.$

(x) Distinguish between simple and composite index numbers.

(xi) Solve the following:

(a) ${}^3P_2$ (b) ${}^3C_0$

SECTION – C (Marks 16)

Note: Attempt any TWO questions. All questions carry equal marks. **(2 x 8 = 16)**

Q. 3 Find mean and median for the following frequency distribution: **(08)**

Class Limits	3.0–3.9	4.0–4.9	5.0–5.9	6.0–6.9	7.0–7.9	8.0–8.9
f	13	27	40	30	16	4

Q. 4 From the following data, find price index number for 2002 on the basis of 2001 by: **(08)**

(i) Laspeyre's formula
(ii) Paasche's formula
(iii) Show that Fisher ideal index is square root of the product of Laspeyre's and Paasche's Index.

Items	2001		2002	
	Price	Quantity	Price	Quantity
A	64	270	75	290
B	40	124	45	144
C	18	130	21	137
D	58	185	68	200

Q. 5 A die is thrown. Find the probabilities that the face on the die is: **(08)**

(i) Even
(ii) Prime
(iii) Multiple of three
(iv) Maximum