

INTERMEDIATE PART-II (12th CLASS)**BUSINESS MATHEMATICS & STATISTICS (NEW SCHEME)****PAPER-II (COMMERCE GROUP)**

TIME ALLOWED: 1.45 Hours

SUBJECTIVE

MAXIMUM MARKS: 40

NOTE: - Write same question number and its part number on answer book, as given in the question paper.**SECTION-I**2. **Attempt any six parts.****6 × 2 = 12**

- (i) Define Statistics.
- (ii) Write any two characteristics of Statistics.
- (iii) Differentiate between Statistic and Parameter.
- (iv) Define Qualitative Variable.
- (v) What do you understand by an array?
- (vi) Define Tabulation.
- (vii) Differentiate between Ungrouped Data and Grouped Data.
- (viii) Define Frequency Distribution.
- (ix) Enlist the methods of Collecting Primary Data.

3. **Attempt any six parts.****6 × 2 = 12**

- (i) What is meant by Statistical Average?
- (ii) What are the advantages of Median?
- (iii) Give Mode for the data, 10, 20, 30, 10, 40, 50, 10, 60.
- (iv) Write any three properties of Arithmetic Mean.
- (v) Define Price Index Number.
- (vi) Explain the Fixed Base Method.
- (vii) What is an Event?
- (viii) Define Mutually Exclusive Events.
- (ix) Give the classical or a priori definition of Probability.

SECTION-II**NOTE: - Attempt any two questions.****2 × 8 = 16**

- 4.(a) The weights in pounds of 30 college students are given below:-
130, 133, 124, 121, 115, 139, 137, 144, 142, 133, 133,
128, 129, 132, 131, 128, 126, 132, 134, 135, 138, 130,
141, 136, 135, 141, 123, 126, 118, 134.

Prepare a frequency distribution taking a class interval 5 taking classes as 115 – 119.

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- (b) For the following data construct simple bar chart:-

Years	1962	1963	1964	1965	1966	1967
Production	1050	1200	1400	1500	1550	1600

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- 5.(a) Calculate mean from the following data:-

Income	35 - 39	40 - 44	45 - 49	50 - 54	55 - 59	60 - 64	65 - 69
f	13	15	28	17	12	10	5

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- (b) Calculate median from the following data:-

Maximum load	Frequency
9.3 - 9.7	2
9.8 - 10.2	5
10.3 - 10.7	12
10.8 - 11.2	17
11.3 - 11.7	14
11.8 - 12.2	6
12.3 - 12.7	3
12.8 - 13.2	1

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- 6.(a) From the following data find chain indices taking 1990 as base:-

Years	1990	1991	1992	1993	1994	1995	1996	1997
Price	10	15	20	12	18	16	14	13

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- (b) Solve 9P_4 and ${}^{52}C_2$

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INTERMEDIATE PART-II (12th CLASS)

BUSINESS MATHEMATICS & STATISTICS (NEW SCHEME)

PAPER-II (COMMERCE GROUP)

TIME ALLOWED: 15 Minutes

OBJECTIVE

MAXIMUM MARKS: 10

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 bubble in front of that question number. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) A characteristics that changes from one individual to another is called:-
 (A) Variable (B) Constant (C) Statistic (D) Parameter
- (2) Statistics are:-
 (A) Aggregate of facts and figures (B) Always true (C) Always continuous (D) Always qualitative
- (3) Graph of the frequency distribution is called:-
 (A) Histogram (B) Ogive (C) Historigram (D) Pie chart
- (4) Personal investigation is the source of:-
 (A) Primary data (B) Secondary data (C) Discrete data (D) Qualitative data
- (5) The most frequent value in the data is called:-
 (A) Median (B) Mode (C) Mean (D) None of these
- (6) The sum of squares deviation from mean is:-
 (A) Zero (B) Minimum (C) Maximum (D) Negative
- (7) An index number computed from single variable is called:-
 (A) Aggregative index number (B) Composite index number
 (C) Simple index number (D) None of these
- (8) The formula of Link relatives is:-
 (A) $\frac{P_o}{P_{n-1}} \times 100$ (B) $\frac{P_n}{P_{n-1}} \times 100$ (C) $\frac{P_n}{P_o} \times 100$ (D) $\frac{\sum P_n}{\sum P_o} \times 100$
- (9) The probability of getting a black card from pack of playing cards is:-
 (A) $\frac{13}{52}$ (B) $\frac{4}{52}$ (C) $\frac{26}{52}$ (D) $\frac{12}{52}$
- (10) If $P(A) = 0.70$ the $P(\bar{A})$ is:-
 (A) 0.70 (B) 0.30 (C) One (D) Zero

INTERMEDIATE PART-II (12th CLASS)**BUSINESS MATHEMATICS & STATISTICS (OLD SCHEME)****PAPER-II (COMMERCE GROUP)**

TIME ALLOWED: 2.10 Hours

SUBJECTIVE

MAXIMUM MARKS: 60

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any six parts.

6 × 2 = 12

- (i) What are two branches of Statistics?
- (ii) Define Applied Statistics.
- (iii) What do you understand by Variable?
- (iv) Define Tabulation.
- (v) What is Presentation?
- (vi) Define Range.
- (vii) Enlist the different types of diagrams.
- (viii) What is an Array?
- (ix) What is meant by one way classification?

3. Attempt any six parts.

6 × 2 = 12

- (i) Define Mode with example.
- (ii) Define Weighted Mean.
- (iii) Give merits of Mode.
- (iv) Define Arithmetic Mean.
- (v) If $\sum wx = 2823$ and $\sum w = 20$. Then find \bar{X}_w .
- (vi) What is Price Relative? Also write the formula.
- (vii) If $\sum p_o q_n = 2020$ and $\sum p_o q_o = 1120$. Find Paache's Index Number.
- (viii) Describe the main types of Index Number.
- (ix) Define Un-weighted Index Number.

4. Attempt any six parts.

6 × 2 = 12

- (i) Define the term Random Experiment.
- (ii) What is meant by Outcome?
- (iii) Define Probability of an event.
- (iv) Define Impossible Event.
- (v) Define Universal Set.
- (vi) What is Simple Bar Chart?
- (vii) Define weighted Mean.
- (viii) What is Discrete Data?
- (ix) What are the important uses of Index Numbers?

P.T.O.

SECTION-II**NOTE: - Attempt any three questions.****3 × 8 = 24**

- 5.(a) The number of children per family of 25 families are given below:-
2, 3, 0, 5, 4, 1, 2, 4, 6, 3, 3, 5, 6, 7, 4, 1, 4, 3, 5, 3, 1, 2, 3, 5, 4
Make a frequency distribution, taking class interval one.

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- (b) Construct a Histogram for the following frequency distribution:-

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Classes	10 – 14	15 – 19	20 – 29	30 – 39	40 – 49
Frequency	10	15	40	60	10

- 6.(a) Find Arithmetic Mean of the following values:-

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X	10	15	9	16	12	23	21	25	20	9	10
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- (b) Calculate Mode from the data given:-

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Class interval	20 – 25	25 – 30	30 – 35	35 – 40	40 – 45
Frequencies	10	12	15	7	3

- 7.(a) The table gives the marks obtained by students in statistics. Find Median marks.

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Marks	No. of students
10 – 15	4
15 – 20	6
20 – 25	12
25 – 30	10
30 – 35	8
35 – 40	7
40 – 45	6
45 – 50	2

- (b) Let a random variable "x" has values 25, 15, 11, 30, 20, 14, 12, 7, 16, 10. Now multiply each by 2 and then subtract 10, to obtain a new variable y , show that $\bar{y} = 2\bar{x} - 10$

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8.

Commodity	2004		2005	
	Price	Quantity	Price	Quantity
A	2	50	10	40
B	3	10	8	50
C	4	60	4	80

Find Laspyre's and Paasche's Price Index using 2004 as base year.

4 + 4

- 9.(a) A fair die is thrown, find the probability that face on die is:-

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(i) Prime number (ii) Multiple of 3

- (b) If $P(A) = 0.6$, $P(B) = 0.5$ and $P(A \cup B) = 0.9$ then find $P(A \cap B)$

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INTERMEDIATE PART-II (12th CLASS)

BUSINESS MATHEMATICS & STATISTICS (OLD SCHEME)

PAPER-II (COMMERCE GROUP)

TIME ALLOWED: 20 Minute

OBJECTIVE

MAXIMUM MARKS: 15

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 bubble in front of that question number. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) A measure computed from population data is called:-
 (A) Continuous (B) Discrete (C) Parameter (D) Statistic
- (2) Direct investigation method is used in collecting _____ data.
 (A) Discrete (B) Continuous (C) Primary (D) Secondary
- (3) A non measurable characteristics are called:-
 (A) Constant (B) Attributes (C) Continuous variable (D) Direct variable
- (4) A statistical table has at least:-
 (A) 5 parts (B) 4 parts (C) 3 parts (D) 2 parts
- (5) Graph of a time series is called:-
 (A) Ogive (B) Polygon (C) Histogram (D) Historigram
- (6) Number of eyes of students in a class is:-
 (A) Discrete variable (B) Continuous variable (C) Constant (D) Variable
- (7) The arithmetic mean of constant 'a' is:-
 (A) '0' (B) $\frac{a}{2}$ (C) $\frac{a}{3}$ (D) 'a'
- (8) If a distribution has one mode, then it is called _____ distribution.
 (A) Multimodal (B) Bimodal (C) Unimodal (D) Trimodal
- (9) If $\sum(x - 25) = 0$, then the value of mean is:-
 (A) 0 (B) -25 (C) ± 25 (D) 25
- (10) Index numbers are called:-
 (A) Averages (B) Variances (C) Economic barometer (D) Statistical barometer
- (11) Base year weighted index numbers are _____ index numbers.
 (A) Laspeyre's (B) Paasche's (C) Fisher's (D) Marshall's
- (12) Fisher's index number is the Geometric Mean of _____ index numbers.
 (A) Laspeyre's and Marshall's (B) Laspeyre's and Paasche's
 (C) Laspeyre's and Fisher's (D) Paasche's and Marshall's
- (13) If three coins are tossed, the total possible results are:-
 (A) 2 (B) 4 (C) 6 (D) 8
- (14) The probability of an event lies between:-
 (A) (-1 and 0) (B) (0 and 1) (C) (-1 and +1) (D) (0 and 2)
- (15) Events A and B are mutually exclusive if:-
 (A) $A \cap B = B$ (B) $A \cup B = \phi$ (C) $A \cap B = \phi$ (D) $A \cup B = 5$

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDEAT ANNUAL/SUPPLY EXAMINATION, 2018

Name of Subject: Business Math & Statistics

Session: _____

Group: ~~Old~~ New Scheme

Group: ~~New~~ Old Scheme

Q. Nos	Paper Code	Paper Code	Paper Code	Paper Code
	4641			
1	A			
2	A			
3	A			
4	A			
5	B			
6	B			
7	C			
8	B			
9	C			
10	B			
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Q. Nos	Paper Code	Paper Code	Paper Code	Paper Code
	8641			
1	C			
2	C			
3	B			
4	B			
5	D			
6	A			
7	D			
8	C			
9	D			
10	C			
11	A			
12	B			
13	D			
14	B			
15	C			
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