

INTERMEDIATE PART-I (11th CLASS)**BUSINESS MATHEMATICS & STATISTICS****PAPER-I (COMMERCE GROUP)**

TIME ALLOWED: 2.10 Hours

MAXIMUM MARKS: 60

SUBJECTIVE

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) Write any two uses of Ratio.
- (ii) Define Continuous Proportion.
- (iii) Find x if $x : \frac{1}{4} :: 12 : 3$.
- (iv) Find out 60 % of 5000.
- (v) Rs.350 is $2\frac{1}{2}$ % of what amount?
- (vi) What is the interest on Rs.1880.90 for one year at $5\frac{1}{2}$ %.
- (vii) What is an Annuity?
- (viii) What is the formula to calculate the amount for compound interest?
- (ix) Write down any two types of Annuity.

3. Attempt any six parts.

6 × 2 = 12

- (i) Define Linear Function.
- (ii) Find the domain of function $f(x) = \frac{1}{x+1}$
- (iii) If $f(x) = x^2 + 2x + 1$ then find $f(1)$ and $f(2)$.
- (iv) Solve the equation $3(4x - 2) - 4(2x + 3) = 0$
- (v) Solve the equation $\frac{3x+2}{4} = \frac{2x+6}{5}$
- (vi) Solve the equation $3^x = 27$
- (vii) Solve the equation $x^2 + 9x + 20 = 0$
- (viii) Solve the equation $6x^2 - 96 = 0$
- (ix) Solve the simultaneous equations. $2x + 5y = 19$, $x + 3y = 11$

4. Attempt any six parts.

6 × 2 = 12

- (i) Define Diagonal Matrix.
- (ii) Find the value of x and y if $\begin{bmatrix} x+3 & 1 \\ -3 & 3y-4 \end{bmatrix} = \begin{bmatrix} y & 1 \\ -3 & 2x \end{bmatrix}$
- (iii) Find AB if $A = \begin{bmatrix} 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 4 \\ 5 \end{bmatrix}$
- (iv) If $A = \begin{bmatrix} 4 & -4 \\ -6 & -5 \end{bmatrix}$ find $|A|$
- (v) If $A = \begin{bmatrix} 4 & 5 \\ 2 & 3 \end{bmatrix}$ find A^2
- (vi) Define Binary Number System.
- (vii) Simplify $(1001)_2 \times (101)_2$
- (viii) Convert $(10001)_2$ to Decimal Number System.
- (ix) Convert $(19)_{10}$ to Binary Number System

SECTION-II**NOTE: - Attempt any three questions.**

- 5.(a) If 9 men can built a house in 24 days. In how many days will 54 men take to built the same house? 4
- (b) Find the present value of Rs.3500 due in 9 months at 6 % interest per year. 4
- 6.(a) Find the compound interest of Rs.10,000/- loan for 5 years @ 8% per annum. 4
- (b) Draw the graph of $f(x) = 10 - 2x$ 4
- 7.(a) Solve $\frac{x-1}{2} = \frac{2x+4}{5} + \frac{3x}{4}$ 4
- (b) Solve by using quadratic formula $6x^2 - 7x - 3 = 0$ 4
- 8.(a) Solve the equations by Cramer's rule. $3x + 2y = 12$, $x + 5y = 17$ 4
- (b) If $A = \begin{bmatrix} 1 & -2 & 3 \\ -2 & 3 & 1 \\ 4 & -3 & 2 \end{bmatrix}$ then evaluate $|A|$ 4
- 9.(a) Simplify $(100111)_2 \times (111)_2$ 4
- (b) Find the value of the following by changing into decimal system.
 $\{ (945)_{10} + (1111)_2 \} - (10011)_2$ 4

INTERMEDIATE PART-I (11th CLASS)

BUSINESS MATHEMATICS & STATISTICS

PAPER-I (COMMERCE GROUP)

TIME ALLOWED: 20 Minutes

MAXIMUM MARKS: 15

OBJECTIVE

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. 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 question on this sheet of OBJECTIVE PAPER.

Q.No.1

- (1) The standard form of 48, 63 and 126 is:-
 (A) 16 : 21 : 42 (B) 42 : 21 : 16 (C) 21 : 42 : 16 (D) 16 : 42 : 21
- (2) Fourth proportional to the numbers 60, 40, 30, is:- (A) 5 (B) 10 (C) 15 (D) 20
- (3) 24 is _____ percent of 192. (A) 1.25 % (B) 12.5 % (C) 0.125 % (D) 125 %
- (4) Rs.800 is invested at 4 % per annum if the interest is simple then time taken for the amount to become Rs.896 is:-
 (A) One year (B) Two years (C) Three years (D) Four years
- (5) The reverse of the sum of an annuity is called:-
 (A) Present value (B) Perpetuity (C) Interest (D) Ratio
- (6) Range of the function $f(x) = \sqrt{x}$, $x \geq 0$ is:- (A) All real numbers
 (B) All positive real numbers (C) All negative real numbers (D) All natural numbers only
- (7) If $f(x) = 3x^2 + 4x + 2$ then $f(-3) =$ (A) -15 (B) -16 (C) 17 (D) -19
- (8) If 56 is the eight time a number then the number is:- (A) 7 (B) 6 (C) 5 (D) 4
- (9) Nature of the roots of equation $5x^2 + 4x + 5 = 0$ is:-
 (A) Real and rational (B) Rational and equal (C) Imaginary (D) Real and irrational
- (10) Solution set of the equation $4x + 5y = 40$ and $3x + 2y = 23$ is:-
 (A) $\{(-5, 4)\}$ (B) $\{(5, -4)\}$ (C) $\{(4, 5)\}$ (D) $\{(5, 4)\}$
- (11) If $A = \begin{bmatrix} -1 & 0 \\ 0 & -1 \end{bmatrix}$ then $A^2 =$ _____
 (A) $\begin{bmatrix} -1 & 0 \\ 0 & -1 \end{bmatrix}$ (B) $\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix}$ (C) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ (D) $\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}$
- (12) If $A = \begin{bmatrix} 2 & 5 \\ 3 & x \end{bmatrix}$ is singular matrix then $x =$ _____ (A) 15 (B) -15 (C) $\frac{-15}{2}$ (D) $\frac{15}{2}$
- (13) If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ then $Adj(A) =$ _____
 (A) $\begin{bmatrix} 3 & 4 \\ 1 & 2 \end{bmatrix}$ (B) $\begin{bmatrix} 4 & -2 \\ -3 & 1 \end{bmatrix}$ (C) $\begin{bmatrix} 4 & 2 \\ -3 & 1 \end{bmatrix}$ (D) $\begin{bmatrix} -3 & 1 \\ 4 & -2 \end{bmatrix}$
- (14) The binary number system is based on the digits:-
 (A) 0, 1 (B) 1, 2 (C) 0, 1, 2, ----- 9 (D) 0, 1, 2
- (15) $(1110)_2 - (101)_2 =$ _____
 (A) $(1100)_2$ (B) $(1001)_2$ (C) $(1010)_2$ (D) $(1011)_2$

**BOARD OF INTERMEDIATE AND SECONDARY EDUCATION,
MULTAN**
OBJECTIVE KEY FOR INTER (PART I / II) Supply Examination, 2016.
Name of Subject Business Math Session 2015-17

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

سرٹیفکیٹ بابت تصحیح سوالیہ پرچہ مارکنگ Key

ہم نے مضمون بزنس مٹھ پرچہ I گروپ کلمس سیم اولڈ انٹر سالانہ امتحان 2016ء کا سوالیہ پرچہ اشاعت کیا۔
(Subjective & Objective) کو بنظر عمیق چیک کر لیا ہے یہ پرچہ سلیبس کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کوئی غلطی نہیں ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے یہ Version آپس میں مطابقت رکھتے ہیں اور سلیبس (Syllabus) کے مطابق بھی ہیں۔ نیز اس پرچہ کی Key کی بابت بھی تصدیق کی جاتی ہے کہ یہ بھی درست بنائی گئی ہے۔ اس میں بھی کسی قسم کی کوئی غلطی نہیں ہے۔
مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔

PREPARED & CHECKED BY

Sr No	Name	Designation	Institution	Mobile No.	Signature
1.	Kausar Ali Tahir	Associate Prof.	Govt. College Multan	03006510875	
2.	Faisal Rasheed Khan	A.P.	Govt. Degree College Multan	03009356717	
3.	Muhammad Bilal	AP	Govt. College civil lines	0300-6357066	

ثانوی و اعلیٰ ثانوی تعلیمی بورڈ، ملتان

مورخہ: 2016-11-12 نمونہ: نرلنس میٹروپولیٹن گروپ: کلاس

جملہ ہدایات برائے مارکنگ Key (مارکنگ سکیم)

انٹرمیڈیٹ فرسٹ ایڈیشن 2016ء

Q. No. 2 (i) 1 mark for each use

(ii) 2 marks for proper definition

(iii) $3x = 12 \times \frac{1}{4}$ — 1 mark

$x = 1$ (Ans) — 1 m

(iv) $5000 \times \frac{60}{100}$ — 1 m

$= 3000$ Ans. — 1 m

(v) $0.025x = Rs. 350$ — 1 m

Ans. — 1 m

(vi) Formula — 1 m

Ans. — 1 m

(vii) Definition — 2 m

(viii) Formula — 2 m

(ix) 1 m for each type

Q. No. 3 (i) Definition — 2 m

(ii) Domain — 2 m

(iii) $f(1)$ — 1 m

$f(2)$ — 1 m

(iv) Solution — 2 m

(v) $\sim$ — 2 m

(vi) $\sim$ — 2 m

(vii) $\sim$ — 2 m

(viii) $\sim$ — 2 m

(ix) Solution — 2 m

Q. No. 4 (i) to (ix) Award 2 marks for proper solution and 1 m for partial. Avoid awarding $\frac{1}{2}$ or $1\frac{1}{2}$ marks.

Q. 5 (a) Procedure — 2 m

Ans. — 2 m

(b) Formula — 2 m

Ans. — 2 m

Q. 6 (a) Formula — 2 m

Ans. — 2 m

(b) Graph — 4 m

Q. 7 (a) Solution — 4 m

(b) Formula — 2 m

Ans. — 2 m

Q. 8 (a) Solution — 4 m

(b) Solution — 4 m

Q. 9 (a) Solution — 4 m

(b) Procedure — 2 m

Ans. — 2 m

1. Kausar Ali Tahir

Associate Professor Govt. Model College Multan

2. Faizal Raheed Khan

A.P. Govt. V/C Model College Multan

3. Muhammad Bilal

AP Govt. college civil lines Multan

general instructions