2018 (A) Roll No _____

INTERMEDIATE PART-I (11TH CLASS)

BUSINESS MATHEMATICS & STATISTICS (Old Scheme)

PAPER-I (COMMERCE GROUP)

TIME ALLOWED: 2.10 Minutes
MAXIMUM MARKS: 60

SUBJECTIVE

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

SECTION-I

Q.No. 2 Attempt any six parts. 6 x 2 = 12

(i) Express 0.00425 as a percent.
(ii) Find 55% of 800.
(iii) Find the ratio between 1 hour and 45 minutes.
(iv) If there are 16 boys and 12 girls in a class, find the ratio of the number of girls to number of boys.
(v) Write the name of any two types of proportion.
(vi) Find the simple interest on Rs. 200000 loaned at annual interest rate of 12% for 2 years.
(vii) At what rate Rs. 50000 double itself in 4 years by simple interest?
(viii) Find the compound amount at the end of 2 years if an amount of Rs. 200000 borrowed at 5% compounded interest rate annually.
(ix) Define ordinary annuity.

Q.No. 3 Attempt any six parts. 6 x 2 = 12

(i) If $f(x) = \frac{1}{x-5}$ then find $f(-2)$ and $f(2)$.
(ii) Define even function.
(iii) Find the slope and y-intercept in the equation $y=5x+4$.
(iv) Solve $3(x+6) = 2(x+3)$
(v) Solve for 'x' the equation $\frac{2x}{7} + 1 = 0$
(vi) Define discriminate of Quadratic Equation.
(vii) Solve the equation $3x^2 - 5x - 2 = 0$ *by factorization*
(viii) Solve the equation $x^2 - 4x - 5 = 0$ by using quadratic formula.
(ix) Solve the equations $x + y = 1$; $x - y = 9$

Q.No. 4 Attempt any six parts. 6 x 2 = 12

(i) Define column matrix with one example.
(ii) Find x and y if $\begin{bmatrix} x+3 & 1 \\ -3 & 3y-4 \end{bmatrix} = \begin{bmatrix} -2 & 1 \\ -3 & -10 \end{bmatrix}$
(iii) If $A \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 3 \\ 4 & 9 \end{bmatrix}$ *Find AB*
(iv) Find A if $2A + \begin{bmatrix} 1 & 2 \\ 4 & 6 \end{bmatrix} = 0$
(v) Find $|A|$ *if* $A = \begin{bmatrix} 7 & 3 \\ 4 & 2 \end{bmatrix}$
(vi) Define binary number system.
(vii) Convert $(111)_2$ to decimal number system.
(viii) Evaluate $(101)_2 + (11)_2$
(ix) Convert 5 into binary number system.

SECTION-II

NOTE: - Attempt any three questions. 8 x 3 = 24

5(a) Divide Rs. 5000 in three persons in the ratio 3:5:2.
(b) How long will it take for Rs.15000 to produce Rs. 6000 as interest at the rate 8% per Annum.
6(a) Find compound interest on Rs.13000/- @ 6% per annum for 6 years.
(b) Draw the graph of the function $y = x + 3$.
7(a) Solve $3x^2 - 9x + 5 = 0$ by completing the squares.
(b) Solve the equations by using Cramer's rule
$13x - 6y = 20$, $7x + 4y = 18$
8(a) Find AB and BA if A = [2 1] $B = \begin{bmatrix} -1 \\ 2 \end{bmatrix}$
(b) Solve the equations by matrix method
$x + 2y = 3$, $2x - y = 1$
9(a) Simplify $\{(10111011)_2 - (101110)_2\} + (10000000)_2$
(b) Convert $(743)_{10}$ into binary number system.

Q.No. 2 Attempt any six parts. **6 x 2 = 12**

(i) Express 0.00425 as a percent.
(ii) Find 55% of 800.
(iii) Find the ratio between 1 hour and 45 minutes.
(iv) If there are 16 boys and 12 girls in a class, find the ratio of the number of girls to number of boys.
(v) Write the name of any two types of proportion.
(vi) Find the simple interest on Rs. 200000 loaned at annual interest rate of 12% for 2 years.
(vii) At what rate Rs. 50000 double itself in 4 years by simple interest?
(viii) Find the compound amount at the end of 2 years if an amount of Rs. 200000 borrowed at 5% compounded interest rate annually.
(ix) Define ordinary annuity.

Q.No. 3 Attempt any six parts. **6 x 2 = 12**

(i) If $f(x) = \frac{1}{x-5}$ then find f(–2) and f(2).
(ii) Define even function.
(iii) Find the slope and y-intercept in the equation y=5x+4.
(iv) Solve 3(x+6) = 2(x+3)
(v) Solve for 'x' the equation $\frac{2x}{7} + 1 = 0$
(vi) Define discriminate of Quadratic Equation.
(vii) Solve the equation $3x^2 - 5x - 2 = 0$ *by factorization*
(viii) Solve the equation $x^2 - 4x - 5 = 0$ by using quadratic formula.
(ix) Solve the equations x + y = 1; x – y = 9

Q.No. 4 Attempt any six parts. **6 x 2 = 12**

(i) Define column matrix with one example.
(ii) Find x and y if $\begin{bmatrix} x+3 & 1 \\ -3 & 3y-4 \end{bmatrix} = \begin{bmatrix} -2 & 1 \\ -3 & -10 \end{bmatrix}$
(iii) If $A \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}$, $B = \begin{bmatrix} 2 & 3 \\ 4 & 9 \end{bmatrix}$ *Find AB*
(iv) Find A if $2A + \begin{bmatrix} 1 & 2 \\ 4 & 6 \end{bmatrix} = 0$
(v) Find $|A|$ *if* $A = \begin{bmatrix} 7 & 3 \\ 4 & 2 \end{bmatrix}$
(vi) Define binary number system.
(vii) Convert $(111)_2$ to decimal number system.
(viii) Evaluate $(101)_2 + (11)_2$
(ix) Convert 5 into binary number system.

SECTION-II

NOTE: - Attempt any three questions. **8 x 3 = 24**

5(a) Divide Rs. 5000 in three persons in the ratio 3:5:2.
(b) How long will it take for Rs.15000 to produce Rs. 6000 as interest at the rate 8% per Annum.
6(a) Find compound interest on Rs.13000/- @ 6% per annum for 6 years.
(b) Draw the graph of the function y= x + 3.
7(a) Solve $3x^2 - 9x + 5 = 0$ by completing the squares.
(b) Solve the equations by using Cramer's rule
$13x - 6y = 20$, $7x + 4y = 18$
8(a) Find AB and BA if A = [2 1] $B = \begin{bmatrix} -1 \\ 2 \end{bmatrix}$
(b) Solve the equations by matrix method
$x + 2y = 3$, $2x - y = 1$
9(a) Simplify $\{(10111011)_2 - (101110)_2\} \div (10000000)_2$
(b) Convert $(743)_{10}$ into binary number system.

2018 (A) Roll No: _____

INTERMEDIATE PART-I (11th CLASS)

BUSINESS MATHEMATICS & STATISTICS PAPER-I (NEW SCHEME)
(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. $6 \times 2 = 12$

(i) If 60 men can do a job in 8 days, how many men be required to do the job in 5 days?

(ii) Distribute a stock of 6000 electric bulbs to the three dealers in ratio 3 : 5 : 4.

(iii) 4.6 % of a number is 460. What is the number?

(iv) Express the decimal 0.17 as percent.

(v) Find the simple interest on Rs.2000/- for six months at 10 % per annum.

(vi) Define Ordinary Annuity.

(vii) Calculate the compound interest when Rs.2500/- invested for 15 years at 11 % per annum.

(viii) Find the equation of straight line whose slope is -2 and y – intercept is $4/5$ and write the answer in general form.

(ix) Draw the graph of $3x - 2y = 6$

3. Attempt any six parts. $6 \times 2 = 12$

(i) Define Constant Quantities.

(ii) Solve $\frac{3x}{8} + 5 = 17$

(iii) Solve the equation by factorization $2x^2 + 7x + 6 = 0$

(iv) Solve the equations $x + y = 12$, $x - y = 8$

(v) Define a Rectangular Matrix.

(vi) If $A = \begin{bmatrix} 1 & 2 \\ -1 & 3 \end{bmatrix}$, $B = \begin{bmatrix} -2 \\ 5 \end{bmatrix}$ then find AB

(vii) If $A = \begin{bmatrix} 1 & 4 \\ 3 & 2 \\ 2 & -5 \end{bmatrix}$, $B = \begin{bmatrix} -16 & 5 \\ 3 & 4 \\ 1 & 7 \end{bmatrix}$ find $A + B$

(viii) Convert into decimal $(11010)_2$

(ix) Simplify $(1111)_2 - (1010)_2$

SECTION-II

NOTE: - Attempt any two questions.

4.(a) A retailer received a discount of 13 % on an item. If he paid Rs.435, find the list price of the item.

(b) Find the amount of annuity due when Rs.700 is paid at the beginning of each year for 10 years at 9 % rate of interest compounded annually.

5.(a) Given the function $f(x) = x^3 - 6x^2 - 7$ find $f(0)$, $f(1)$, $f(2)$ and $f(-2)$

(b) Find the value of "x" $4.2^{2x+1} - 9.2^x + 1 = 0$

6.(a) Solve by using Cramer's Rule $2x - 3y = 1$, $x + 4y = 6$

(b) Simplify $\{(100111)_2 + (10101)_2\} - (10111)_2$

Paper Code Number: 2641

2018 (A) Roll No._____

INTERMEDIATE PART-I (11th CLASS)

BUSINESS MATHEMATICS & STATISTICS PAPER-I (NEW SCHEME)
(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) The ratio 210 : 315 in its lowest form is:-

(A) 3 : 2 (B) 42 : 63 (C) 6 : 9 (D) 2 : 3

(2) If $2 : 7 :: x : 49$ then $x =$

(A) 9 (B) 14 (C) 52 (D) 28

(3) The simple interest on Rs.15000/- for 3 years at 2 % per annum is:-

(A) Rs.1000 (B) Rs.1100 (C) Rs.900 (D) Rs.1500

(4) The point $(-2, -6)$ lies in quadrant:-

(A) 1st (B) 2nd (C) 3rd (D) 4th

(5) The solution set of equation $ax + b = 0$ is:-

(A) $\frac{a}{b}$ (B) $\frac{b}{a}$ (C) $\frac{-b}{a}$ (D) $\frac{-a}{b}$

(6) Given that $x + (x + 4) = 20$ then $x =$ _____

(A) 16 (B) 8 (C) 24 (D) 12

(7) The order of matrix $\begin{bmatrix} 1 \\ 2 \\ 8 \\ 3 \end{bmatrix}$ is:-

(A) 4×1 (B) 1×4 (C) 1×1 (D) 4×4

(8) Adjoint of matrix $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$ is:-

(A) $\begin{bmatrix} d & b \\ c & a \end{bmatrix}$ (B) $\begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$ (C) $\begin{bmatrix} a & -b \\ -c & d \end{bmatrix}$ (D) $\begin{bmatrix} -a & -b \\ -c & -d \end{bmatrix}$

(9) $(10110)_2$ in decimal number is:-

(A) 20 (B) 24 (C) 22 (D) 26

(10) Convert 37 into Binary number is:-

(A) $(100111)_2$ (B) $(111101)_2$ (C) $(100101)_2$ (D) $(111000)_2$

PAPER CODE NUMBER: 6641

2018 (A)

Roll No. _____

INTERMEDIATE PART-I (11TH CLASS)

BUSINESS MATHEMATICS & STATISTICS (Old Scheme)

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 **bubble** in front of that question number. On bubble sheet, 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 question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) 18 to 30 is same as:

(A) 6:9 **(B)** 3:5 **(C)** 8:3 **(D)** 3:1

(2) If $x:3::6:12$ then the value of x is:

(A) $\frac{2}{3}$ **(B)** $\frac{1}{2}$ **(C)** $\frac{4}{3}$ **(D)** $\frac{3}{2}$

(3) 30% of 2410 is:

(A) 623 **(B)** 482 **(C)** 723 **(D)** 833

(4) The price before deducting the discount is called:

(A) Net Price **(B)** List Price **(C)** Cost Price **(D)** Gross Price

(5) Interest is classified into:

(A) Two classes **(B)** Three classes **(C)** Four classes **(D)** Five classes

(6) If dependent variable y is easily expressible in terms of independent variable x, then the function is:

(A) Constant **(B)** Implicit **(C)** Explicit **(D)** Linear

(7) The abscissa of the point (-9, -5) is :

(A) 5 **(B)** 9 **(C)** -5 **(D)** -9

(8) The equation whose roots are 2 and -3 is :

(A) $x^2-x+6=0$ **(B)** $x^2-x-6=0$ **(C)** $x^2+x-6=0$ **(D)** $x^2-3x+2=0$

(9) Solution set of simultaneous equations $x+y=4$ *and* $x-y=2$ is:

(A) $\{(3,1)\}$ **(B)** $\{(-3,-1)\}$ **(C)** $\{(-3,1)\}$ **(D)** $\{(3,-1)\}$

(10) If three times of a number is 87 then the number is:

(A) 17 **(B)** 29 **(C)** 19 **(D)** 27

(11) If $\begin{vmatrix} 3 & 4 \\ 3 & x \end{vmatrix}=0$, *then* $x=$ _____

(A) 1 **(B)** 2 **(C)** 3 **(D)** 4

(12) If order of A is 3 x 3 and order of B is 3 x 4 then order of AB is:

(A) 4 x 3 **(B)** 3 x 4 **(C)** 4 x 4 **(D)** 3 x 3

(13) The transpose of a row matrix is a:

(A) Square matrix **(B)** Row matrix **(C)** Unit matrix **(D)** Column matrix

(14) In a binary system, 2 is equal to:

(A) $(10)_2$ **(B)** $(11)_2$ **(C)** $(100)_2$ **(D)** $(101)_2$

(15) To convert a decimal number into binary number we use:

(A) Multiplication **(B)** Division **(C)** Addition **(D)** Subtraction

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

Name of Subject: Business Math

Session: 2017-19

Group : ~~1st~~ new Course/Scheme

Group: ~~2nd~~ old Course/Scheme

Q. Nos	Paper Code 2641	Paper Code	Paper Code	Paper Code
1	D			
2	B			
3	C			
4	C			
5	C			
6	B			
7	A			
8	B			
9	C			
10	C			
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Q. Nos	Paper Code 6641	Paper Code	Paper Code	Paper Code
1	B			
2	D			
3	C			
4	D			
5	A			
6	C			
7	D			
8	C			
9	A			
10	B			
11	D			
12	B			
13	D			
14	A			
15	B			
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