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BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE ...2nd ANNUAL EXAMINATION, 2022

Name of Subject: B. Math

Q. Nos	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer
1	2641	B		45 and 10				
2		A		Rs. 10000				
3		C		2				
4		B		Constant Function				
5		A		2				
6		B		$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$				
7		A		Zero				
8		B		Rectangular Matrix				
9		D		Division				
10		C		$(1001)_2$				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

مرئیکیٹ بابت صحیح سوالیہ پرچہ امارنگ

ہم نے مضمون B. Math پرچہ I گروپ انٹرمیڈیٹ سالانہ امتحان 2022ء کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عین چیک کر لیا ہے یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی معروضی (MCQs) Key کی بابت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ 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۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 22-12-2022

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22/12/2022 تاریخ

ثانوی و اعلیٰ ثانوی تعلیمی بورڈ، ملتان

مورخہ: 22/12/2022 مضمون: B. Math پرچہ: I گروپ: —

جزل ہدایات برائے مارکنگ ہدایات (مارکنگ اسکیم)

انٹرمیڈیٹ سیکر سالانہ امتحان 2022

Sr #	Code	Error Indicated	Sr #	Code	Error Indicated
1.	UN	Un-Necessary	8.	SP	Spelling Error
2.	Ir	Irrelevant	9.	P	Punctuation
3.	IN	Incomplete	10.	Wo	Wrong word error
4.	EX	Extra	11.	Wt	Wrong Tense
5.	Rp	Re-Produced	12.	Wf	Wrong Form
6.	I	Insufficient	13.	OA	Over Attempt
7.	Gr	Grammar Error			

اہم نوٹ: ہر سوال "Full Award" سے کم نمبر لگانے کی صورت میں وجہ ضرور لکھیں۔

Q No. 2

i) Let x be required %.

then

$$x = \frac{25}{1000} \times \frac{100}{100} \quad \text{--- 01 M}$$

$$= 2.5 \times \frac{1}{100}$$

$$= 2.5\% \quad \text{--- 01 M}$$

ii) Correct definition — 02 M

iii) Two correct types — 02 M

$$iv) S = R \left[\frac{1 - (1+i)^{-n}}{i} \right] \quad \text{--- 02 M}$$

v) Correct definition + Example
01+01=02 M

vi) For x-intercept put $y=0$

$$x = 6 \quad \text{--- 01 M}$$

For y-intercept put $x=0$

$$y = 4 \quad \text{--- 01 M}$$

vii) $m = ?$ y-intercept = ?

$$\text{Since, } y = mx + c \quad \text{--- 01 M}$$

$$\text{Here, } y = \frac{3}{2}x - 2$$

$$\text{So, } m = \frac{3}{2} \quad \text{--- 01 M}$$

$$y\text{-intercept} = -2$$

$$viii) 8x^2 = 72$$

$$\Rightarrow x^2 = 9 \quad \text{--- 01 M}$$

$$x^2 = (\pm 3)^2$$

$$\Rightarrow x = \pm 3 \quad \text{--- 01 M}$$

ix) Any Two correct Methods — 02 M

Q No. 3

i) odd function

$$f(-x) = -f(x) \quad \text{--- 01 M}$$

Even function

$$f(-x) = f(x) \quad \text{--- 01 M}$$

$$ii) y = mx + c \quad \text{--- 01 M}$$

$$y = 2x + 5 \quad \text{--- 01 M}$$

iii) Two correct name of number system = 01+01=02 M

$$iv) (10001)_2 = 1 \times 2^4 + 0 \times 2^3 + 0 \times 2^2 + 0 \times 2^1 + 1 \times 2^0 \quad \text{--- 01 M}$$

$$= 16 + 0 + 0 + 0 + 1$$

$$= 17 \quad \text{--- 01 M}$$

BUSINESS MATHEMATICS (COMMERCE GROUP) PAPER-I

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, 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. 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) 4.5 is a ratio of:
 (A) 45 and 100 (B) 45 and 10 (C) 4 and 50 (D) 50 and 100
- (2) 5 % commission on sales of Rs. 200,000 is:
 (A) Rs. 10000 (B) Rs. 8000 (C) Rs. 12000 (D) Rs. 15000
- (3) Interest is classified in classes:
 (A) 4 (B) 3 (C) 2 (D) 5
- (4) The function $f(x) = 5$ is a:
 (A) Linear function (B) Constant function (C) Quadratic function (D) Cubic function
- (5) If $3x + 2 = 8$ then the value of x is:
 (A) 2 (B) 3 (C) 4 (D) 6
- (6) The correct quadratic formula is:
 (A) $x = \frac{-b \pm \sqrt{b^2 + 4ac}}{2a}$ (B) $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
 (C) $x = \frac{-b \pm \sqrt{4ac - b^2}}{2a}$ (D) $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2}$
- (7) In Null matrix each element is:
 (A) Zero (B) One (C) Three (D) Two
- (8) If number of rows and columns of a matrix are not equal then it is:
 (A) Row matrix (B) Rectangular matrix (C) Square Matrix (D) Null Matrix
- (9) The method used to convert decimal number to binary number is:
 (A) Subtraction (B) Addition (C) Multiplication (D) Division
- (10) 9 is binary number system is:
 (A) $(11)_2$ (B) $(101)_2$ (C) $(1001)_2$ (D) $(110)_2$

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

TIME ALLOWED: 1.45 Hours

MAXIMUM MARKS: 40

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) What percentage of 1000 is 25?
- (ii) What is invoice price?
- (iii) Name the two different types of proportion.
- (iv) Write the formula for present value of annuity.
- (v) Define simple interest and give its formula.
- (vi) Find the x -intercept and y -intercept of line $2x + 3y = 12$.
- (vii) Find the slope and y -intercept of $y = \frac{3}{2}x - 2$.
- (viii) Solve $8x^2 = 72$.
- (ix) Write down name of two methods to solve quadratic equation.

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

- (i) Define odd and even function.
- (ii) Find an equation of straight line if slope is 2 and y -intercept is 5.
- (iii) Write down any two number systems.
- (iv) Convert $(10001)_2$ to its number in decimal system.
- (v) Define order of matrix and give its one example.
- (vi) Subtract $(1111)_2$ from $(1111101)_2$.
- (vii) If $P = \begin{bmatrix} 2 & 1 \\ 3 & 1 \end{bmatrix}$ and $Q = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ find PQ .
- (viii) Find x if $\begin{bmatrix} 2 & 1 \\ 3 & x \end{bmatrix}$ is a singular matrix.
- (ix) Define a skew-symmetric matrix and give one example.

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

- 4.(a) If 20 men prepare 10 chairs in a day. How many more men are required to prepare 25 such chairs in a day? 4
- (b) In how many years a sum of Rs. 5550 would amount to Rs. 7050 at 8% per annum compound semi-annually? 4
- 5.(a) Draw the graph of function $f(x) = 3x^2 - 4x + 1$ 4
- (b) Find value of x if: $\frac{2x-4}{5x+2} = \frac{4x-8}{10x+3}$ 4
- 6.(a) If $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 3 \\ 5 & 6 \end{bmatrix}$, prove that $(AB)^t = B^t A^t$ 4
- (b) Simplify $(11011)_2 \times (11110)_2$. 4