S.No. : 406

BBA 205

No. of Printed Pages : 05

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 7111

Roll No.

B. B.A/ I. M. B. A. Examination 2021-22

(Even Semester)

BUSINESS MATHEMATICS

Time : Three Hours] *[Maximum Marks : 100*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following : $20 \times 1 = 20$

   (a) A ratio has.....unit.

   (b) The ratio exists only between quantities of the.....kind.

   (c) 0.5 =.....%.

   (d) X% is equal to $\frac{x}{-}$.

   (e) S. P. = profit +..... .

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(f) The money borrowed is called..... .

(g) The interest paid on Rs 100 for a specified period is known as..... .

(h) $S.I. = \frac{PR.....}{100}$.

(i) The difference between the final amount and the original principal is known as.....interest.

(j) A type of annuity that lasts forever is known as..... .

(k) If A = {1, 2, 3,} and B= {a, b, c} than A∩B=..... .

(l) A set having a single element is called..... .

(m) If A ={1, 2} and B= {2, 3, 4} then A∪B..... ... .

(n) $nPr = \frac{In}{—}$ .....

(o) The value of 5c, is..... .

(p) A function which is to be optimised is known as..... .

(q) The order matrix having 2 rows and 3 columns is..... .

(r) The n^{th} term of an A. P. series is..... .

(s) $1+\frac{1}{2}+\frac{1}{2^2}+.....\infty=.....$

(t) $A=\begin{bmatrix}1&0&0\\0&1&0\\0&0&1\end{bmatrix}$ is .....matrix.

SECTION – B

2. Attempt any three questions out of five questions.

$3\times10=30$

(a) If $3A=5B=6C$, find A :B:C.

(b) Ram bought a watch for Rs. 540 and sold it for Rs. 585. Find his profit and profit percentage.

(c) Find the simple interest on Rs. 7850 at 7.5% per annum for 3 years 4 months. Also find the amount.

(d) If A and B are two sets then show that $(A\cap B)^1=A^1\cap B^1$.

(e) Write a short note on lenear programming.

SECTION – C

Note :– All questions are compulsory. Each question has internal choices. $10 \times 5 = 50$

3. (a) On a rainy day, only 36 students out of 45 come to a class. What percent were absent?

OR

(b) Write a short note on commission and brokerage.

4. (a) Discuss annuity and its types.

OR

(b) Find a compound interest of Rs. 3000 at 5% per annum in $2\frac{1}{2}$ years.

5. (a) In a school there are 20 teachers who teach maths or physics of these 12 teach maths and 4 teach physics and maths. How many teach physics?

OR

(b) Explain permutation and combination with suitable examples.

6. (a) Find the sum of following series upto n terms :

$0.5 + 0.55 + 0.555 + \ldots\ldots\ldots\ldots\ldots\ldots$.

OR

(b) Find the common ratio and first term of G.P. series whose 6^{th} term is 64 and 10^{th} term is 102.

7. (a) Use graphical method to solve the LPP :

$$\text{Maximise } z = x_1 + 2x_2$$

Subject to constraints : $x_1 \leq 2, x_2 \leq 2$

and $x_1 + x_2 \leq 2, x_1, x_2 \geq 0$

OR

(b) If $\begin{bmatrix} 3x+7 & 5 \\ y+1 & 2-3x \end{bmatrix} = \begin{bmatrix} 0 & y-2 \\ 8 & 4 \end{bmatrix}$ find x and y.

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