

Vidya Vikas Mandal's
Shree Damodar College of Commerce & Economics, Margao-Goa
FY BBA, Term-II, End Term Assessment Repeat March 2024
BBCB029 – Business Mathematics 1

Duration: 1 hr. 30 min

Max Marks: 25

Instructions:

- 1) Start each question on fresh page.
- 2) Figures to the right indicate maximum marks.

Q1. Answer the following:

1. If $A = \{2x \mid x \in \mathbb{N}\}$ and $B = \{2x + 1 \mid x \in \mathbb{N}\}$ are subsets of the universal set $X = \mathbb{N}$.
Find $A \cup B$ and $A \cap B$. [2 Marks]
2. Find the compound interest on Rs 15,000 at 15% p.a for 3 years. [2 Marks]
3. In how many different ways one can arrange the letters of the word 'MATH'. [1 Mark]

Q2. Attempt the following:**[5x4 = 20 Marks]**

1. Some people go the cinema. 4 adults and 2 child tickets cost 47 dollars. 1 adult and 3 child tickets cost 25.5 dollars. Work out the cost of an adult and child ticket.
2. Evaluate $D = \begin{vmatrix} 1 & 3 & 4 \\ 2 & -1 & 2 \\ 2 & -1 & 2 \end{vmatrix}$
3. Ian invests Rs 500 in the first month and increases his monthly investment by Rs 50 in every succeeding month. What will be the investment at the end of 3 years.
4. Find the amount for the ordinary annuity with periodic payment as Rs 2000 at the rate of interest 12% per annum for 2 years. Calculate if period of payment is yearly. Also state the capital invested.
5. If the price/ demand function $p(x) = 60 - x$ and the cost function $c(x) = 170 - 10x$. Determine the breakeven point.
