

Department of Computer Science
Report on Ability Test – Discrete Mathematics

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Date of event: 16/09/2022

Faculty In-charge: Dr.Soni P M



REPORT

The Computer Science department is conducting an ability test for first BCA(B) batch students to test and know their knowledge and understanding about the basics of Mathematics. It is an offline written examination was conducted for one hour, total 10 questions with a score of 2 each was given to students. Total mark of the test was 20. Out of 32 students attempted for exam 48% of results has been achieved. The test was conducted on 16/09/2022 from 11:45 AM – 12:45 PM.



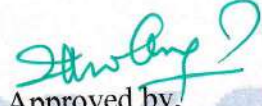
Prepared by,
Dr. Soni P M

Subject-in-charge



Verified by,
Mr. Jayakrishnan S

HOD



Approved by,
Rev. Fr. Dr. Paulachan K J

Principal



QUESTION PAPER

Ability Test - Mathematics

- ① Find the factors of $x^3 + 2x^2 - 5x - 10$.
- ② Solve the quadratic equation $2x^2 + 5x + 3 = 0$.
- ③ Find the sum $1\frac{2}{3} + \frac{4}{6} - \frac{5}{4}$.
- ④ Find the sum of first 20 natural numbers.
- ⑤ A person crosses a 600 m long street in 5 minutes. What is his speed in m/s.
- ⑥ Solve $2^7 - 2^5 + 2^3$.
- ⑦ If one-third of one-fourth of a number is 15, then three-tenths of that number is:
- ⑧ The difference between a two-digit number and the number obtained by interchanging the positions of its digit is 36. Find the number.
- ⑨ Father is aged three times more than his son Ronit. After 3 years, he would be two and a half times of Ronit's age. After further 3 years, how many times would he be of Ronit's age?
- ⑩ Find the LCM and HCF of 24, 36, 42.

PHOTOGRAPHS /SCREENSHOTS



ATTENDANCE & MARKSHEET

Sl. No.	Name	Mark(20)
		Absent
1.	ABEL P JOHNSON	10
2.	ADWAITH M K	3
3.	AISWARYA S	7
4.	ALAN JOY	1
5.	ALAN SEBASTIAN	12
6.	ALANT SAJI	4
7.	ALBIN MARTIN	2
8.	ALEN ANTU	8
9.	ALEX S PUTHUSSERY	7
10.	ALWIN SEBASTIAN	7
11.	ANTUS A P	3
12.	ANUMARY UNNIMON	7
13.	AUSTIN M M	Absent
14.	BHADRA BIJU	4
15.	CYRIL J KIZHAKOODEN	7
16.	ELZA BIJU	4
17.	FARHATH	Absent
18.	GEO JOSH Y	7
19.	GRITTO SHAIJU	3
20.	IGNO VARGHESE	7
21.	JOE JOSEPH JOBY	7
22.	LIJO SHAIJU	8
23.	MELVIN M WILSON	7
24.	MERIN ANNA JOSEPH	2
25.	MERIN THOMAS	11
26.	RHYTHIN JOSEPH	2
27.	SAI PRASAD AS	1
28.	SHANIYA SHAJU	3
29.	SONA P P	1
30.	SURYAJITH P.C	11
31.	UMAMAHESWARI P	3
32.	VIVEK WILSON	
33.		

Event Coordinator



Pongam, Koratty East, Thrissur District, Kerala State, India. Pin-680308.

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SAMPLE ANSWER SHEET

12.10.2021

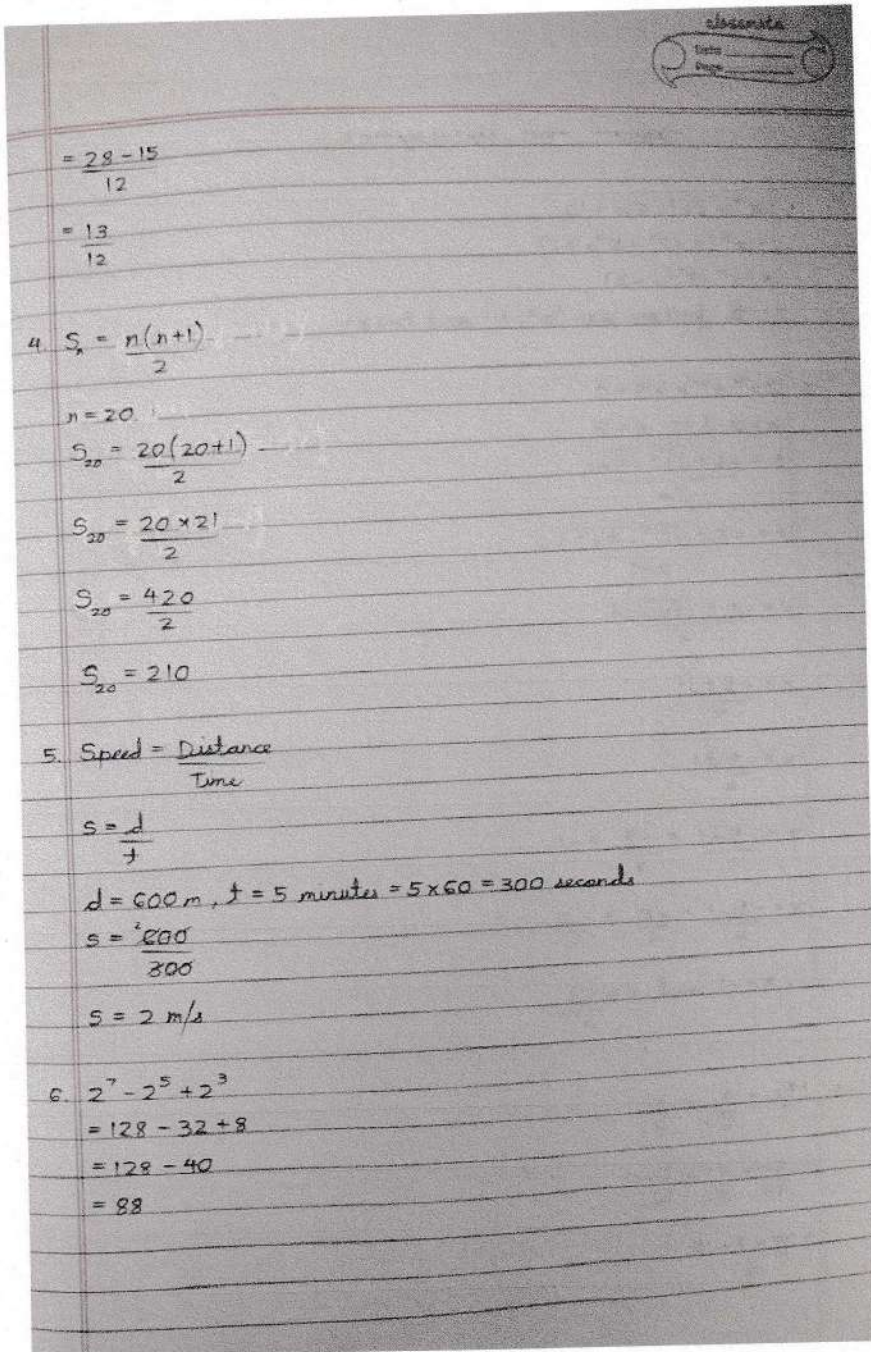
ABILITY TEST - MATHEMATICS

1. $x^3 + 2x^2 - 5x - 10$
 $= x^2(x+2) - 5(x+2)$
 $= (x^2 - 5)(x+2)$
 \therefore The factors are $(x^2 - 5)$ and $(x+2)$

2. $2x^2 + 5x + 3 = 0$
 $a = 2, b = 5, c = 3$
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
 $x = \frac{-5 \pm \sqrt{5^2 - 4 \times 2 \times 3}}{2 \times 2}$
 $x = \frac{-5 \pm \sqrt{25 - 24}}{4}$
 $x = \frac{-5 \pm \sqrt{1}}{4}$
 $x = \frac{-5 \pm 1}{4}$
 $x = \frac{-5+1}{4} = \frac{-4}{4} = -1$
 $x = \frac{-5-1}{4} = \frac{-6}{4} = \frac{-3}{2}$
 $\therefore x = -1$ and $x = \frac{-3}{2}$

3. $\frac{12}{3} + \frac{4}{6} - \frac{5}{4}$
 $= \frac{5 \times 4 + 4 \times 2 - 5 \times 3}{3 \times 4} = \frac{20 + 8 - 15}{12}$





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7. Let the number be x

$$\frac{1}{3} \left(\frac{1}{4} x \right) = 15$$

$$\frac{x}{4} = 15 \times 3$$

$$\frac{x}{4} = 45$$

$$x = 45 \times 4$$

$$x = 180$$

$$\therefore \frac{3}{10} \text{ of } 180 = \frac{3}{10} \cdot 180 = 3 \times 18 = 54$$

8. Let the unit's place digit be x and ten's place digit be y

\therefore The number is $10y + x$.

Given,

$$(10y + x) - (10x + y) = 36$$

$$10y + x - 10x - y = 36$$

$$9y - 9x = 36$$

$$9(y - x) = 36$$

$$y - x = \frac{36}{9}$$

$$y - x = 4$$

$$y = 4 + x$$

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To reach the unreachable

