Mangalmay Institute of Management Technology
Greater Noida (U.P.)

MANGALMAY
INSTITUTE OF MANAGEMENT TECHNOLOGY

CERTIFICATION PROGRAMME

On

Quick Mathematics

From

22nd September 2022 to 17th November 2022

Convener: Mr. Abhay N Tripathi, Associate Professor

For BCA 5th Semester

Resource Person

Mr. Himanshoo Tiwari

Assistant Professor, MIET

Syllabus

QUICK MATHEMATICS

Duration: 30 hours

Module: 1

Arithmetic- Time & Work, Percentage, Average, Age, Speed, Ratio & Proportion, Time & Distance. Pipes & Cisterns, Mixtures, Alligation, Profit & Loss, Discount, Train, Boats & Streams

Module: 2

Algebra - Sequence & Series, Quadratic Equation, Permutation & Combination, Inequalities

Module: 3

Number System - BODMAS and Simplification, HCF & LCM and Product of Numbers, Unit's Digit Theorem and Number of Zeros, Divisibility Rules, Remainder Theorem

Module: 4

Mensuration- 2D figures: Rhombus, Triangles, Square, Trapezium, Parallelograms

Reference Book:

- Objective Mathematics by R.D. Sharma
- Quantitative Aptitude by R . S Agarawal

Schedule

Duration: 30 hours			
Session	**Content**	**Time**	**Date**
1.	Time & Work	03:00-5:00 PM	22-Sep-22
2.	Percentage	03:00-5:00 PM	23-Sep-22
3.	Average	03:00-5:00 PM	29-Sep-22
4.	Age, Speed, Ratio & Proportion	03:00-5:00 PM	30-Sep-22
5.	Time & Distance	03:00-5:00 PM	06-Oct-22
6.	Pipes & Cisterns, Mixtures	03:00-5:00 PM	07-Oct-22
7.	Profit & Loss, Discount	03:00-5:00 PM	13-Oct-22
8.	Train, Boats & Streams	03:00-5:00 PM	14-Oct-22
9.	Sequence & Series	03:00-5:00 PM	20-Oct-22
10.	Quadratic Equation, Permutation & Combination	03:00-5:00 PM	21-Oct-22
11.	Inequalities	03:00-5:00 PM	03-Nov-22
12.	BODMAS and Simplification, HCF & LCM and Product of Numbers	03:00-5:00 PM	04-Nov-22
13.	Unit's Digit Theorem and Number of Zeros, Divisibility Rules, Remainder Theorem	03:00-5:00 PM	10-Nov-22
14.	Rhombus, Triangles	03:00-5:00 PM	11-Nov-22
15.	Square, Trapezium, Parallelograms	03:00-5:00 PM	17-Nov-22

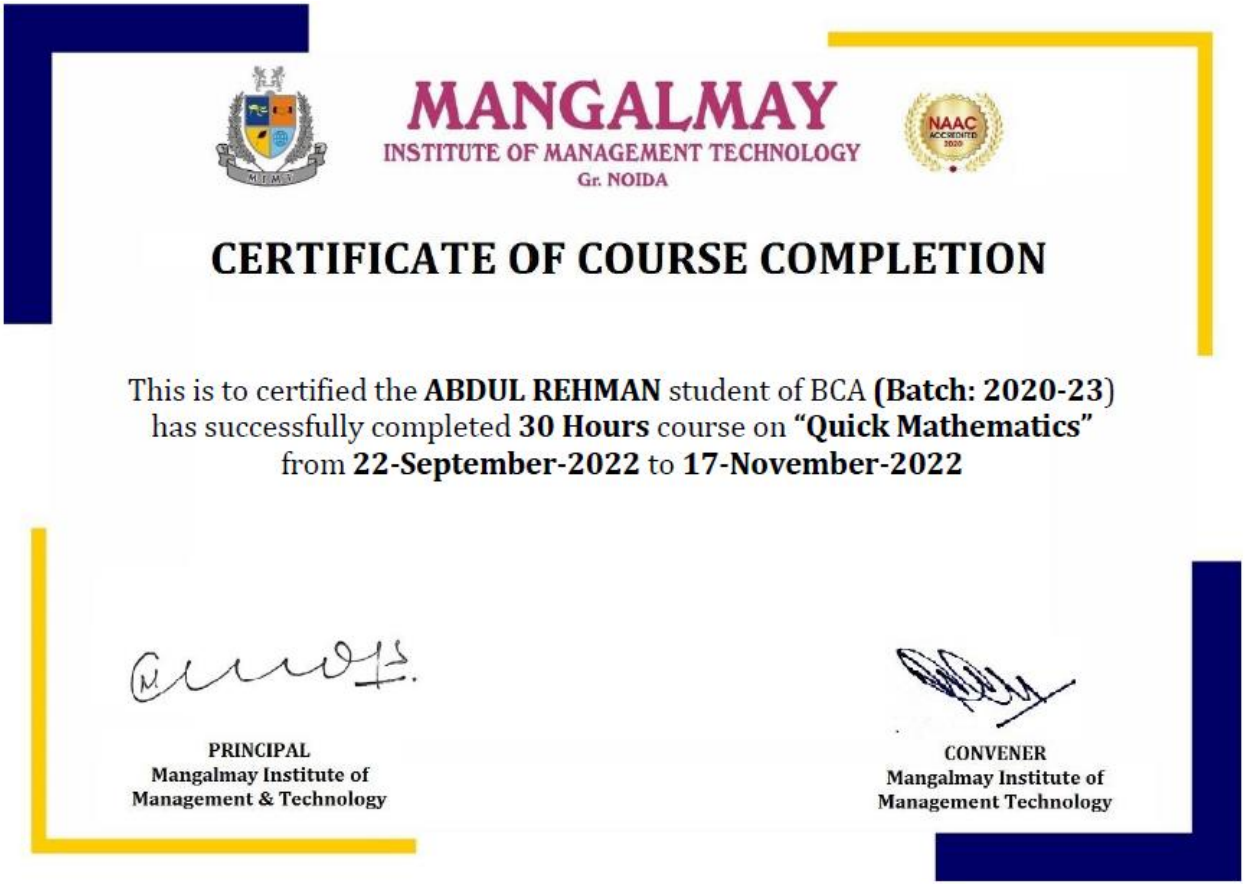
	Report
Name of Activity	Quick Mathematics
Date	22nd September 2022 to 17th November 2022
Venue	BCA Classroom
Organized by	Computer Application Department
Resource Person	Mr. Himanshoo Tiwari, Assistant Professor, MIET
Beneficiary	BCA 5th Semester (47)
Coordinator	Mr. Abhay N Tripathi, Associate Professor, MIMT
Objective	This course on QUICK MATHEMATICS: • Students will be capable to quickly adapt the knowledge of solving logical questions. • It consists of theory of basic knowledge of maths, concept to solve mathematical problem for competitive exams.
Content	With the initiative of IQAC, Mangalmay Institute of Management and Technology organized add on certification course on "QUICK MATHEMATICS". Day1: The session started with the introduction of Quick Mathematics and the concept of Time and Work problem solving. Day 2: In this session, the resource person discussed the concept of Percentage with some problem solving question. Day 3: In this session, the student came to know about Average and question based on it. Day 4: This session was focused on the concept of Age, Speed, Ratio & Proportion. Day 5: Student learnt Time & Distance concept. Day 6: Pipes & Cisterns, Mixtures problem solving session delivered by the resource person. Day 7: Resource person discussed about the Profit & Loss, Discount with some practical and real life examples. Day 8: Resource person discussed about the Train, Boats & Streams with some practical and real life examples. Day9: Sequence & Series was taught in the Classroom Day 10: In this session, the resource person discusses the Quadratic Equation, Permutation & Combination Day 11: In this session, The basic concept Inequalities introduced. Day 12: BODMAS and Simplification, HCF & LCM and Product of Numbers was taught and some question on this solved. Day 13: In this session, Unit's Digit Theorem and Number of Zeros, Divisibility Rules, Remainder Theorem was taught. Day 14:In this session, the resource person delivered the problem solving tricks on Rhombus, Triangles Day 15: This session was on the introduction Square, Trapezium, Parallelograms
Outcome of Activity	On completion of the programme : • The candidates will be able to apply the knowledge of basic math's and techniques in the field of Competitive Exams for solving problems. • Candidate will be able to analyze the various concepts & trics associated with Quick Mathematics and will be able think logically to solve questions, easily able to relate discussed concept in real life problems.

Resource Person Profile

Name : Mr. Himanshoo Tiwari, Asst. Professor, MIET
Core Skills: Mathematics
Qualification: BSc, MSc.
Experience: 02 years
Research Area: Non Linear PDE, Numerical Analysis.

Figure 1 Mr. Himanshoo Tiwari during his session

Certificate Template:



MANGALMAY
INSTITUTE OF MANAGEMENT TECHNOLOGY
Gr. NOIDA

CERTIFICATE OF COURSE COMPLETION

This is to certified the **ABDUL REHMAN** student of BCA **(Batch: 2020-23)** has successfully completed **30 Hours** course on **"Quick Mathematics"** from **22-September-2022** to **17-November-2022**

PRINCIPAL
Mangalmay Institute of
Management & Technology

CONVENER
Mangalmay Institute of
Management Technology

Mangalmay Institute of Management Technology
Greater Noida (U.P.)

Course: BCA

ADD-ON COURSE QUIZ
Course Name: Quick Mathematics

Time: 30 Min
Date:

Roll No:

Name: Harsh Garg

Year/Sem: III/V

Invigilator's Sign:

Note: All questions are compulsory. Each question will carry '**1**' mark and there is no '**Negative Marking**'

1. How long will it take for a car traveling at 60 miles per hour to travel 150 miles?
   a. 2.5 hours
   b. 3 hours ✓
   c. 4 hours
   d. 5 hours

2. If the price of a commodity increases by 20%, by how much percent must its consumption be reduced so as not to increase the expenditure?
   a. 10% ✓
   b. 16.67%
   c. 20%
   d. 25%

3. What is the volume of a cube with a side length of 5 cm?
   a. 15 cm^3
   b. 25 cm^3
   c. 100 cm^3 ✓
   d. 125 cm^3

4. If a train travels at a speed of 50 km/h, how far will it travel in 2.5 hours?
   a. 100 km
   b. 125 km ✓
   c. 150 km
   d. 175 km

5. If the original price of a book is $40 and after discount it is sold at $32, what is the discount percentage?
   a. 10%
   b. 15%
   c. 20% ✓
   d. 25%

6. What is the Highest Common Factor (HCF) of 36 and 48?
   a. 12 ✓
   b. 6
   c. 18
   d. 24

7. Find the next number in the series: 2, 5, 10, 17, 26, ?
   a. 35
   b. 37 ✓
   c. 39
   d. 41

8. Solve: $12 \div 3 \times (4 + 2) - 5$
   a. 19
   b. 5
   c. 13 ✓
   d. 7

9. What is the name of a triangle with all three sides of different lengths?
   a. Equilateral triangle
   b. Isosceles triangle
   c. Scalene triangle ✓
   d. Right triangle

10. The LCM of 15 and 20 is 60. What is their HCF?
    a. 5
    b. 10 ✓
    c. 15
    d. 20

11. What is the probability of rolling an even number with a fair six-sided die?
    A) 1/2
    B) 1/3
    C) 1/6
    D) 1/4

12. In how many ways can the letters of the word "APPLE" be arranged?
    A) 120
    B) 60
    C) 24
    D) 5

13. If A = {1, 2, 3, 4} and B = {3, 4, 5, 6}, what is A ∩ B?
    A) {1, 2}
    B) {3, 4}
    C) {3}
    D) {5, 6}

14. Which of the following pairs of lines are parallel?
    A) y = 2x - 3 and y = -2x + 1
    B) y = 3x + 2 and y = 3x - 1
    C) y = 4x - 5 and y = 2x + 3
    D) y = -3x + 2 and y = 2x + 4

15. A box contains 6 red balls and 4 blue balls. If one ball is drawn at random, what is the probability that it is red?
    A) 2/5
    B) 3/5
    C) 1/3
    D) 3/10

----------For Departmental use only----------

Max. Marks: 15 **Marks Obtained:** 15

Name of Evaluator: Himanshoo Tiwari **Sign.**

Mangalmay Institute of Management Technology
Greater Noida (U.P.)

Course: BCA

ADD-ON COURSE QUIZ
Course Name: Quick Mathematics

Time: 30 Min
Date:

Roll No:

Name: Lakshya Bansal

Year/Sem: III/V

Invigilator's Sign:

Note: All questions are compulsory. Each question will carry '**1**' mark and there is no '**Negative Marking**'

1. How long will it take for a car traveling at 60 miles per hour to travel 150 miles?
   a. 2.5 hours
   b. 3 hours ✓
   c. 4 hours
   d. 5 hours

2. If the price of a commodity increases by 20%, by how much percent must its consumption be reduced so as not to increase the expenditure?
   a. 10% ✓
   b. 16.67%
   c. 20%
   d. 25%

3. What is the volume of a cube with a side length of 5 cm?
   a. 15 cm^3
   b. 25 cm^3
   c. 100 cm^3
   d. 125 cm^3 ✓

4. If a train travels at a speed of 50 km/h, how far will it travel in 2.5 hours?
   a. 100 km
   b. 125 km ✓
   c. 150 km
   d. 175 km

5. If the original price of a book is $40 and after discount it is sold at $32, what is the discount percentage?
   a. 10%
   b. 15%
   c. 20% ✓
   d. 25%

6. What is the Highest Common Factor (HCF) of 36 and 48?
   a. 12 ✓
   b. 6
   c. 18
   d. 24

7. Find the next number in the series: 2, 5, 10, 17, 26, ?
   a. 35
   b. 37
   c. 39 ✓
   d. 41

8. Solve: $12 \div 3 \times (4 + 2) - 5$
   a. 19
   b. 5
   c. 13 ✓
   d. 7

9. What is the name of a triangle with all three sides of different lengths?
   a. Equilateral triangle
   b. Isosceles triangle
   c. Scalene triangle ✓
   d. Right triangle

10. The LCM of 15 and 20 is 60. What is their HCF?
    a. 5
    b. 10
    c. 15 ✓
    d. 20

11. What is the probability of rolling an even number with a fair six-sided die?
    A) 1/2
    B) 1/3
    C) 1/6
    D) 1/4

12. In how many ways can the letters of the word "APPLE" be arranged?
    A) 120
    B) 60
    C) 24
    D) 5

13. If A = {1, 2, 3, 4} and B = {3, 4, 5, 6}, what is A ∩ B?
    A) {1, 2}
    B) {3, 4}
    C) {3}
    D) {5, 6}

14. Which of the following pairs of lines are parallel?
    A) y = 2x - 3 and y = -2x + 1
    B) y = 3x + 2 and y = 3x - 1
    C) y = 4x - 5 and y = 2x + 3
    D) y = -3x + 2 and y = 2x + 4

15. A box contains 6 red balls and 4 blue balls. If one ball is drawn at random, what is the probability that it is red?
    A) 2/5
    B) 3/5
    C) 1/3
    D) 3/10

----------For Departmental use only----------

Max. Marks: 15 **Marks Obtained:** 14

Name of Evaluator: Himanshoo Tiwari **Sign.**

Mangalmay Institute of Management Technology
Greater Noida (U.P.)

Course: BCA

ADD-ON COURSE QUIZ
Course Name: Quick Mathematics

Time: 30 Min
Date:

Roll No:

Name: Soni

Year/Sem: III/V

Invigilator's Sign:

Note: All questions are compulsory. Each question will carry '**1**' mark and there is no '**Negative Marking**'

1. How long will it take for a car traveling at 60 miles per hour to travel 150 miles?
   a. 2.5 hours
   b. 3 hours
   c. 4 hours
   d. 5 hours

2. If the price of a commodity increases by 20%, by how much percent must its consumption be reduced so as not to increase the expenditure?
   a. 10%
   b. 16.67%
   c. 20%
   d. 25%

3. What is the volume of a cube with a side length of 5 cm?
   a. 15 cm^3
   b. 25 cm^3
   c. 100 cm^3
   d. 125 cm^3

4. If a train travels at a speed of 50 km/h, how far will it travel in 2.5 hours?
   a. 100 km
   b. 125 km
   c. 150 km
   d. 175 km

5. If the original price of a book is $40 and after discount it is sold at $32, what is the discount percentage?
   a. 10%
   b. 15%
   c. 20%
   d. 25%

6. What is the Highest Common Factor (HCF) of 36 and 48?
   a. 12
   b. 6
   c. 18
   d. 24

7. Find the next number in the series: 2, 5, 10, 17, 26, ?
   a. 35
   b. 37
   c. 39
   d. 41

8. Solve: $12 \div 3 \times (4 + 2) - 5$
   a. 19
   b. 5
   c. 13
   d. 7

9. What is the name of a triangle with all three sides of different lengths?
   a. Equilateral triangle
   b. Isosceles triangle
   c. Scalene triangle
   d. Right triangle

10. The LCM of 15 and 20 is 60. What is their HCF?
    a. 5
    b. 10
    c. 15
    d. 20

11. What is the probability of rolling an even number with a fair six-sided die?
    A) 1/2
    B) 1/3
    C) 1/6
    D) 1/4

12. In how many ways can the letters of the word "APPLE" be arranged?
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    B) 60
    C) 24
    D) 5

13. If A = {1, 2, 3, 4} and B = {3, 4, 5, 6}, what is A ∩ B?
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    C) {3}
    D) {5, 6}

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    C) y = 4x - 5 and y = 2x + 3
    D) y = -3x + 2 and y = 2x + 4

15. A box contains 6 red balls and 4 blue balls. If one ball is drawn at random, what is the probability that it is red?
    A) 2/5
    B) 3/5
    C) 1/3
    D) 3/10

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Max. Marks: 15

Marks Obtained: 13

Name of Evaluator: Himanshu Tiwari

Sign.

Mangalmay Institute of Management Technology
Greater Noida (U.P.)

Course: BA

ADD-ON COURSE QUIZ
Course Name: Quick Mathematics

Time: 30 Min
Date:

Roll No:

Name: Sarfiyan Iqbal

Year/Sem: III/V

Invigilator's Sign:

Note: All questions are compulsory. Each question will carry "1" mark and there is no "**Negative Marking**"

1. How long will it take for a car traveling at 60 miles per hour to travel 150 miles?
   a. 2.5 hours
   b. 3 hours
   c. 4 hours
   d. 5 hours

2. If the price of a commodity increases by 20%, by how much percent must its consumption be reduced so as not to increase the expenditure?
   a. 10%
   b. 16.67%
   c. 20%
   d. 25%

3. What is the volume of a cube with a side length of 5 cm?
   a. 15 cm³
   b. 25 cm³
   c. 100 cm³
   d. 125 cm³

4. If a train travels at a speed of 80 km/h, how far will it travel in 2.5 hours?
   a. 160 km
   b. 175 km
   c. 200 km
   d. 75 km

5. If the original price of a book is $40 and after discount it is sold at $32, what is the discount percentage?
   a. 10%
   b. 15%
   c. 20%
   d. 25%

6. What is the Highest Common Factor (HCF) of 36 and 48?
   a. 6
   b. 9
   c. 18
   d. 24

7. Find the next number in the series: 2, 5, 10, 17, 26, ?
   a. 35
   b. 37
   c. 38
   d. 41

8. Solve: $12 \div 3 \times (4 - 2) + 5$
   a. 14
   b. 9
   c. 13
   d. 7

9. What is the name of a triangle with all three sides of different lengths?
   a. Equilateral triangle
   b. Isosceles triangle
   c. Scalene triangle
   d. Right triangle

10. The LCM of 5 and 20 is 80. What is their HCF?
    a. 5
    b. 10
    c. 15
    d. 20

11. What is the probability of rolling an even number with a fair six-sided die?
    A) 1/2
    B) 1/3
    C) 1/6
    D) 1/4

12. In how many ways can the letters of the word "APPLE" be arranged?
    A) 120
    B) 60
    C) 24
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    C) y = 4x - 5 and y = 2x + 3
    D) y = -3x + 2 and y = 2x + 4

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    A) 2/5
    B) 3/5
    C) 1/3
    D) 3/10

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Max. Marks: 15 **Marks Obtained:** 13

Name of Evaluator: Himanshoo Tiwari **Sign.** હિમાંશુ તિવારી