

FIRST SEMESTER UG INTERNAL EXAMINATION, OCTOBER 2025

Multi Disciplinary Course in Mathematics

MAT1FM105 (2) – MATHEMATICS FOR COMPETITIVE EXAMINATIONS – PART I

Malabar Christian College, Calicut

Time: One Hour

Maximum: 35 Marks

Name:	Marks Scored	Section A		Total Marks
Class:		Section B		
		Section C		

Section A

(Each question carries 3 marks, Maximum marks for section - 7)-

- What is the sum of place value and face value of 7 in number 3728456
 i) 0 ii) 7 iii) 700000 iv) 7
- Two trains are moving in opposite direction with speed of 4 m/s and 8m/s respectively. Find their relative speed.
 i) $12 \frac{m}{s}$ ii) $4 \frac{m}{s}$ iii) $8 \frac{m}{s}$ iv) 10m/s
- What is the least number must be added to 1056
 i) 2 ii) 3 iii) 1 iv) 5

Section B

(Each question carries 6 marks, Maximum marks for section - 18)

- Answer Both a) and b)
 a) What is the unit place digit in the expansion of 7^{73}
 i) 1 ii) 3 iii) 7 iv) 9
 b) What is the missing term in the series 6, 21, 33, 48?
 i) 10 ii) 8 iii) 12 iv) 16
- Answer Both a), b) and c)
 a) If a 10 digit number $1330x558y2$ is divisible by 88, then the value of $(x + y)$ is
 i) 6 ii) 7 iii) 8 iv) 9
 b) Which of the following is a prime number?
 i) 35 ii) 53 iii) 81 iv) 99
 c) What is the units digit of $6^{15} - 7^4 - 9^3$?
 i) 5 ii) 4 iii) 6 iv) 3
- A furniture seller sells two table at ₹1500 each. He earned a profit of 20% on one table and suffered a loss of 20% on the another table. Net profit or loss in this deal is
 i) 4% loss ii) 4% profit iii) neither profit nor loss iv) 5% loss

- 7) If ramu purchased 10 oranges for ₹25 and sell 9 oranges for ₹25, then find the gain percentage?
i) $\frac{92}{11}\%$ ii) 10% iii) $\frac{100}{9}\%$ iv) 95%

Section C

(Answer any 1 Question, each question carries 10 marks)

- 8) ANSWER THE FOLLOWING
- a) What is the next term in the series 7, 11, 13, 17, 19, ...
i) 23 ii) 24 iii) 25 iv) 29
- b) What is the sum of first 12 multiples of 9?
i) 702 ii) 602 iii) 802 iv) 902
- c) The number of factors of $2^6 \times 3^2 \times 5^4 \times 7^2$ (Excluding 1 and itself) is
i) 270 ii) 225 iii) 90 iv) 313
- d) Place value of 5 in the number 357.21 is
i) 5 tenth ii) 5 ten iii) 5 hundred iv) None of these
- 9) A) By selling a watch for ₹1440, a man loses 10%. At what price should he sell it to gain 10%?
i) ₹1680 ii) ₹1760 iii) ₹1824 iv) ₹1620
- B) What is Ram's average speed, if he goes from point X to point Y at 8 km/h and return from point Y to the point X at 12 km/h?
i) $8.6 \frac{km}{h}$ ii) $10.6 \frac{km}{h}$ iii) $9.06 \frac{km}{h}$ iv) $15.6 \frac{km}{h}$
- C) A person buys a toy for ₹50 and sells it for ₹75. What will be his gain percent?
i) 50% ii) 20% iii) 25% iv) 30%