

25U113SA

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Name:

Reg. No:

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

CC24UMAT1FM105(2) - MATHEMATICS FOR COMPETITIVE

EXAMINATIONS - PART I

(Mathematics - Multi Disciplinary Course)

(2024 Admission - Supplementary/Improvement)

Time: 1.5 Hours

Maximum : 50 Marks

Credit: 3

Part A

Answer **all** questions. Each question carries 2 marks.

	CO	Level
1. Find the next term in the series 4, 12, 36, 108, ____.	CO1	2
2. Which is greater between $\frac{3}{7}$ and $\frac{5}{9}$?	CO1	2
3. Solve $250 \div 5 \times 318 \div 6$.	CO2	2
4. The average of 35, 39, 41, 46, 27 and x is 38. What is the value of x ?	CO3	3
5. The monthly income of a person is 50000 Rs. If his income is increased by 15%, then what will be his new family income?	CO3	3
6. Find the cost prize, when selling prize is 60 Rs and gain is 20%?	CO4	2
7. What will be the compound interest on a sum of 80000 Rs after 2 years at the rate of 5% per annum?	CO4	2
8. Express the speed of $3\frac{1}{3}$ m/s in km/h.	CO5	2
9. If the speed of a swimmer in still water is 9km/h. Find the downstream speed of the swimmer, when the river is flowing with the speed of 6km/h.	CO5	2
10. What will be the angle between the two hands of a clock at 5 : 30.	CO5	3

(Ceiling: 16 Marks)

Part B

Answer **all** questions. Each question carries 6 marks.

11. There are two number series given below. First number series is arranged in a particular way and second series is based on the first series. On the basis of this, which numbers will come at the place of B and D? CO1 2
- 1275 1307 1371 1467 1595
972 A B C D
12. Find the cube root of 91125. CO2 2
13. At present the ratio of the ages of A and B is 6:5 and 15 year from now, the ratio will get changed to 9:8. What is the present age of A? CO3 3
14. A sum is invested for 3 years at compound interest at 5%, 10% and 20% respectively. After 3 years, he received the amount 16632 Rs. Find the sum. CO4 3
15. The length of two trains are 130m and 150m. They are running at the speed of 52km/h and 74km/h respectively on parallel tracks in opposite directions. In how many seconds will they cross each other? CO5 3

(Ceiling: 24 Marks)

Part C

Answer **any one** question. The question carries 10 marks.

16. (a) Find the value of $441 \div [270 \div +\frac{3}{7}(17 \div) -\frac{1}{3}(8\frac{1}{2} - \frac{5}{2})]$. CO2 3
- (b) A boat covers a distance of 30km downstream in 2h, while it takes 6h to cover the same distance upstream. What is the speed of the boat and speed of the stream? CO5 2
17. (a) Tom purchased an item by giving an amount of Rs 25500 with two successive discounts of 15% and 12%. What will be the actual deduction(in percentage)? CO4 3
- (b) If 12 men can finish a work in 20 days, then find the number of days required to complete the same work by 15 men. CO5 3
- (c) What day of the week was it on 5th November 1987, if it was Monday on 4th April 1988? CO5 3

(1 × 10 =10 Marks)
