

**D 133593**

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Name.....

Reg. No.....

**FIRST SEMESTER (CUFYUGP) DEGREE EXAMINATION  
NOVEMBER 2025**

Mathematics

MAT 1FM 105 (2)—MATHEMATICS FOR COMPETITIVE EXAMINATIONS—Part—I

(2024 Admissions only)

Time : One Hour and a Half

Maximum : 50 Marks

**Section A***All questions can be answered.**Each question carries 2 marks.**Ceiling 16 marks.*

1. Write a short note on Prime Numbers. Give an example.
2. In the following number series, one of the numbers is wrong. Find out the wrong number.  
14, 28, 112, 672, 5374, 53760
3. Find the HCF of  $\frac{36}{51}$  and  $3\frac{9}{17}$ .
4. A container of milk was  $\frac{4}{5}$  full. When 12 bottles of milk were taken out and 8 bottles of milk were poured into it, it was  $\frac{3}{4}$  full. How many bottles of milk can the container contain ?
5. If 10 % of A is equal to 12 % of B, then 15 % of A is equal to what per cent of B ?
6. If  $P : Q = 8 : 15$  and  $Q : R = 3 : 2$ , then find  $P : Q : R$ .
7. A person buys a toy for Rs. 50 and sells it for Rs. 75. What will be his gain per cent ?
8. Find the compound interest on Rs. 8,000 at 4 % p.a for 2 year, compounded annually.
9. A train covers a distance of 200 km with a speed of 10 km/h. What time is taken by the train to cover this distance ?
10. The lengths of a train and a platform are equal. If a train running at a speed of 90 km/h, crossed the platform in 1 min, then find the length of the train.

**Turn over**

**Section B**

*All questions can be answered.*

*Each question carries 6 marks.*

*Ceiling 24 marks.*

11. Sukhiram plants 15376 orange trees in his garden and arranges them, so that there are as many rows as there are orange trees in each row. Find the number of rows.
12. The LCM of two numbers is 20 times their HCF. The sum of HCF and LCM is 2520. If one of the numbers is 480, then find the other number.
13. Present age of Karan is 5 times the age of Shivam. After 10 yr, Karan will be 3 times as old as Shivam. What are the present ages of Karan and Shivam ?
14. 25 men and 15 women can complete a piece of work in 12 days. All of them start working together and after working for 8 days, the women stopped working 25 men completed the remaining work in 6 days. How many days will it take for completing the entire job, if only 15 women are put on the job ?
15. If 5<sup>th</sup> January, 1991 was Saturday, what day of the week was it on 4<sup>th</sup> March, 1992 ?

**Section C**

*Answer any **one** question.*

*The question carries 10 marks.*

16. (a) Find the greatest number which divides 29,60 and 103 leaving remainders 5, 12 and 7, respectively.  
(b) The average age of 8 children of a family is 12 year. If the age of 7 children are 12, 8, 14, 11, 9, 13 and 15 year, then find the age of 8<sup>th</sup> child.
17. (a) A can complete a piece of work in 18 days and B can complete the same work in half time taken by A. Then, working together, what part of the same work they can complete in a day ?  
(b) A man covered a distance of 12 km in 90 min by cycle. How much distance will he cover in 3 h, if he rides the cycle at a uniform speed ?

(1 × 10 = 10 marks)