

Reg. No.....

Name.....

B A, B SC, B COM DEGREE END SEMESTER EXAMINATION - APRIL 2025**UGP (HONS.) SEMESTER - 2: MULTIDISCIPLINARY COURSE****COURSE: 24UMATMDC101 – MATHEMATICS FOR COMPETITIVE EXAMINATIONS***(For Regular 2024 Admission)*

Time: 1.5 Hours

Max. Marks – 50

(Use of ordinary calculator is permitted)

PART A**Maximum marks from this part is 10. Each question carries 2 marks**

1. Distinguish between counting numbers and whole numbers. (CO1, U)
2. Find the LCM of 24, 35 and 50. (CO1, A)
3. Find the average of the first five prime numbers? (CO1, A)
4. Evaluate 70% of 320 + 45% of 240. (CO2, E)
5. What is the Selling Price of an item if an item costing Rs 2000 is sold at 10% profit? (CO2, A)
6. What is the quantity of milk in a mixture of 120 liters of milk and water if the ratio of milk and water in the mixture is 11:1? (CO3, A)
7. What is the relative speed when two trains moving in the opposite direction at 90Km/Hr and 110 Km/Hr cross each other? (CO4, A)
8. A can do a work in 10 days which B can do it in 8 days. How many days will they take together to complete the job? (CO4, A)

PART B**Maximum marks from this part is 20. Each question carries 5 marks**

9. Find the larger number if the HCF and LCM of two numbers are 84 and 21 respectively and the ratio between the two numbers is 1:4. (CO1, A)
10. Alfred buys an old scooter for Rs. 14700 and spends Rs 1300 for repairs. If he sells the scooter at Rs 20,000, find the gain percent. (CO2, A)
11. The ages of a father and son are in the ratio 7:4 and the sum of their ages after 10 years is 130. Find the age of the father. (CO3, A)
12. A can do a work in 10 days and B can do it in 15 days, how many days will they take together to complete double the work? (CO4, A)
13. A and B started a business by investing Rs 10000 and 20000 respectively. After six months B left the firm and C joined with a sum of Rs15000. At the end of 2 years, there was a profit of Rs 5400. What is A's share of the profit? (CO2, A)
14. A store keeper mixed 20 Kg of rice costing Rs 40 per Kg with 15 Kg of rice costing Rs 42 per Kg. What is the average cost of the mixture? (CO2, A)

PART C

Maximum marks from this part is 20. Each question carries 10 marks

15. (a) The speed of a train is 90 Km per hour. During a journey of two hours, the train stopped at two stations and covered a distance of 172 Kms. How much time does the train stop during the journey?
- (b) Walking at $\frac{5}{4}$ of the usual speed, a student is 10 minutes earlier to school.
What is the usual time of walking to reach the school? (CO4, E)
16. A can do a work in 20 days and B can do it in 24 days. They worked on alternate days starting with A on the first day. In how many days the work will be completed? (CO4, A)
17. (a) When a shopkeeper sold an item at Rs 2400, there was a gain of 20%. What would be the loss or gain if it was sold at Rs 1600?
- (b) A shopkeeper purchased 100 pens at Rs 10 each. He sold 25 of them at Rs 12 each, 50 of them at Rs 12.5 each and the rest at Rs 13 each. What is the total profit? (CO2, A)
18. (a) A group of 240 workers consist of men and women in the ratio 5:3. How many women are to be added to the group so that number of men and women will become equal?
- (b) If 10 men working 8 hours a day for 15 days can make a wall 250 meters long. How many are required to make a wall of 300 meters if they work for 10 hours per day for 12 days. (CO3, A)