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| **University of Kerala** | | |
| Discipline: **Mathematics** |  | Time: 1 Hour 30 Minutes (90 Mins.) |
| Course Code: **UK1MDCMAT100** |  | Total Marks: 42 |
| Course Title: **Numerical Ability - I** |  |  |
| Type of Course: MDC |  |  |
| Semester: 1 |  |  |
| Academic Level: 100-199 |  |  |
| Total Credit: 3, Theory: 3 Credit, Practical: 0 Credit |  |  |

**Part A. 6 Marks**. Time: 6 Minutes

Objective Type. 1 Mark Each. Answer All Questions

(Cognitive Level: Remember/Understand)

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 1. | The least number which is exactly divisible by each of the numbers is \_\_\_\_\_\_\_\_\_\_\_ | Remember | CO1 |
| 2. | When the selling price and gain % are given, cost price = | Remember | CO2 |
| 3. | The average of 10 numbers is 7. Then the average of new numbers if each numbers is multiplied by 8 is \_\_\_\_\_\_\_\_\_ | Understand | CO1 |
| 4. | The third proportional to the number 41 &42 is \_\_\_\_\_\_\_\_ | Understand | CO4 |
| 5. | A pipe can fill a tank in 5 hours. Find the part of tank filled in one hour? | Understand | CO1 |
| 6. | A train 600 m long crosses a pole in 9 seconds. What is the speed of the train in km/h? | Understand | CO1 |

**Part B. 8 Marks**. Time: 24 Minutes

Short Answer. 2 Marks Each. Answer All Questions

(Cognitive Level: Understand/Apply)

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| **Qn.**  **No.** | **Question** | **Cognitive**  **Level** | **Course**  **Outcome (CO)** |
| 7. | The average of 7 numbers is 5. If the average of first six of these numbers is 4, then find the seventh number. | Understand | CO2 |
| 8. | If Amit, Sumit and Punit share an amount of Rs.660 in the the ratio 3:4:5. Find the share of Punit. | Understand | CO3 |
| 9. | A and B together can do a piece of work in 3 days. If A does thrice as much work as B in a given time, find how long A alone would take to do the work? | Understand | CO1 |
| 10. | A boat is rowed down a river 40 km in 5 h and up a river 21 km in 7 h. Find the speed of the boat and the river? | Apply | CO1 |

**Part C. 28 Marks**. Time: 60 Minutes

Long Answer. 7 Marks Each. Answer all 4 questions, choosing among options within each question.

(Cognitive Level: Apply/Analyse/Evaluate/ Create)

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| Qn.  No. | Question | Cognitive  Level | Course  Outcome (CO) |
| 11. | **A)** The average expenditure of a man for the first five months is Rs. 3600 and for the next seven months it is Rs. 3900. If he save Rs. 8700 during the year find his average income per month.  OR  **B)** In an examination 42% students failed in Mathematics and 52% failed in science. If 17% failed in both the subject, find the percentage of those who passed in both the subject. | Apply | CO3 |
| 12. | **A)** The annualincome and expenditure of a man and his wife are in the ratio 5:3 and 3:1 respectively. If they decide to save equally and find a balance of 4000 at the end of the year. Find their incomes.  OR  **B)** Rajesh sold two horses for Rs.990 each; gaining 10% on the one and losing 10% on the other. Find out his total gain or loss percentage? | Apply | CO4 |
| 13. | **A)** (i) Appu is thrice as good a workman as Bose and takes 10 days less to complete a piece of work than Bose takes. Find out time in which Bose alone can complete the work.  (ii) A and B undertook to do a piece of work for Rs.4518. A alone can do it in 18 days and B alone in 12 days. They finish the work in 4 days with the help of C. Find the money share of C?  OR  **B)** Two taps A and B can fill a cistern in 30 minutes and 60 minutes respectively. There is a third exhaust tap C at the bottom of the tank. If all the taps are opened at the same time, the cistern will be full in 45 minutes. In what time can exhaust tap C empty the cistern when it is full? | Apply | CO1 |
| 14. | **A)** (i) A man can row 7 km/h in still water. If he river is running at 3 km/h, it takes 6 hours more in upstream than to go downstream for the same distance. How far is the place?  (ii) A train 600 m long crosses a pole in 9 seconds. What is the speed of the train in km/h?  OR  **B)** A vessel contains 125 litres of wine. 25 litres of wine was taken out of the vessel and replace by water. Then, 25 litres of mixture was withdrawn and again replaced by water. The operation was repeated for the third time. How much wine is now left in the vessel? | Apply | CO1 |
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| **Cognitive Level** | **Marks** | **Percentage** |  | **Course Outcomes** | **Marks** | **Percentage** |
| Remember | 2 | 4.76 |  | CO1 | 22 | 52.38 |
| Understand | 10 | 23.81 |  | CO2 | 3 | 7.14 |
| Apply | 30 | 71.43 |  | CO3 | 8 | 19.05 |
| Analyse |  |  |  | CO4 | 9 | 21.43 |
| Evaluate |  |  |  |  |  |  |
| Create |  |  |  |  |  |  |
| **TOTAL** | **42** | **100** |  | **TOTAL** | **42** | **100** |