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Roll No

MCADD-304

M.C.A. (Integrated Course), III Semester

Examination, May 2019

Aptitude Skills and Reasoning

Time : Three Hours

Maximum Marks : 70

Note: i) Answer any five questions.

ii) All questions carry equal marks.

1. a) What is the difference between LCM and HCF?
b) How can we find the HCF of more than two numbers?
2. a) How can we find the LCM and HCF of three fractions?
b) What is the relation between the LCM and HCF of two given numbers?
3. a) Define arithmetic mean (average) and give one example.
b) What is the formula for calculating the average of
 - i) First 'n' natural numbers
 - ii) Squares of first 'n' natural numbers.
4. a) What are Geometric and Harmonic means?
b) If the price of a commodity increases by R%, then what will be the reduction in consumption so as not to increase the expenditure?

5. a) If A is $R\%$ less than B, then by what $\%$ is B more than A.
b) Let the present value of a machine be P and it depreciates at the rate of $R\%$ per annum. Then, what was the value of the machine 't' years ago?
6. a) Make a table in which the reciprocals of first ten natural numbers are expressed as percentage rounded off to two decimal places.
b) Mr. Jones gave 40% of the money he had to his wife. He also gave 20% of the remaining amount to his 3 sons. And half of the amount now left was spent on miscellaneous items and the remaining amount of Rs.12000 was deposited in the bank. How much money did Mr. Jones have initially?
7. a) Shobha's Mathematics Test had 75 problems i.e. 10 arithmetic, 30 algebra and 35 geometry problems. Although she answered 70% of the arithmetic, 40% of the algebra and 60% of the geometry problems correctly, she did not pass the test because she got less than 60% of the problems right. How many more questions she would have needed to answer correctly to earn a 60% passing grade?
b) During one year, the population of a town increased by 5% and during the next year, the population decreased by 5% . If the total population in 9975 at the end of the second year, then what was the population size in the beginning of the first year?

OR

- a) Find the greatest possible length which can be used to measure exactly the lengths 4 m 95 cm, 9 m and 16 m 65 cm?

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- b) Find the greatest number which on dividing 1657 and 2037 leaves remainders 6 and 5 respectively.
8. a) Find the least number which when divided by 5,6,7 and 8 leaves a remainder 3, but when divided by 9 leaves no remainder.
- b) The average of 7 consecutive natural numbers is 20. What are all these numbers?

OR

- a) A student was asked to find the arithmetic means of the numbers 3,11,7,9,15,13,8,19,17,21,14 and x . He found the mean to be 12. What should be the square of the given number x ?
- b) The average weight of A, B and C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, find the weight of B.
