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III Semester M.C.A. Degree Examination June/July - 2024**COMPUTER SCIENCE****Soft core - Quantitative, Teaching and Research Aptitude****(CBCS Y2k20 Scheme)****Paper : 3MCA2****Time : 3 Hours****Maximum Marks : 70****Instructions to Candidates :**

Answer any 5 Questions from Part - A.

Answer any 4 Questions from Part - B.

PART - A**Answer any FIVE of the following questions. Each carries SIX marks. (5×6=30)**

1. The product of two numbers is 4017. If HCF of these numbers is 37, then find the greater number.
2. If two pipes function simultaneously, the reservoir will be filled in 12 hours. One pipe fills the reservoir 10 hours then the other. How many hours does it take the second pipe to fill the reservoir.
3. In a mixture of 60 litres, the ratio of milk and water is 2:1. If this ratio is to be 1:2, then what quantity of water should be added?
4. A, B and C Start a business each investing Rs. 20,000. After 5 months A withdrew Rs. 5000, Rs. 4000 and C invests Rs. 6000 more. At the end of the year, a total profit of Rs. 69,900 was recorded. Find the share of each.
5. The average of 25 student's marks is 18. The average of first twelve of students is 14 and that of the last twelve is 17. Find the marks of thirteenth student.
6. How many numbers between 11 and 90 which are divisible by 7?
7. Explain governance, policy and administration of higher education system in India.
8. Distinguish between formal and distance education.

[P.T.O.]



PART - B

Answer any Four questions. Each carries ten marks.

(4×10=40)

9. (a) If $\log 2 = 0.3010$ and $\log 3 = 0.4771$, find the value of $\log_5 512$.
(b) How many 4 digits numbers can be made using the digits 0 to 9 if repetition of digits is not allowed. (5+5)
10. (a) A man travelled from the village to the post office at the rate of 25 kmph and walked back at the rate of 4 kmph. If the whole journey took 5 hours 48 minutes, find the distance of the post-office from the village.
(b) One year ago, the ratio of Manoj and Sachin's age was 6:7. Four years hence, this ratio would become 7:8. How old is Sachin? (5+5)
11. (a) If 4 men and 6 women can complete a work in 8, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?
(b) A Train passes a station in 36 seconds and a passes a lamppost on the platform in 20 seconds. If the speed of the train is 54 kmph find the length of the platform. (5+5)
12. (a) A bag contains 6 Red and 4 Blue balls. Two balls are drawn at randomly. Find the probability that they are of the same color.
(b) What was the day of the week on 20th June 1977? (5+5)
13. Explain the steps, methods and ethics of research. (10)
14. (a) Explain the factors affecting teaching.
(b) Distinguish between Seminar, Conference and Symposium. (5+5)