

122960

62472



Reg. No.

--	--	--	--	--	--	--	--

III Semester M.C.A. Degree Examination, April/May - 2026
COMPUTER SCIENCE
Quantitative, Teaching and Research Aptitude
(CBCS Scheme 2020-2021)
Paper : 3MCA2

Time : 3 Hours**Maximum Marks : 70****Instructions to Candidates :**

1. **Part-A:** Answer any Five questions. Each question carries 6 marks.
2. **Part-B :** Answer any Four questions. Each question carries 10 marks.

PART - A**Answer any Five questions. Each question carries 6 marks.****(5×6=30)**

1. a) Which of the following numbers are divisible by 11 (i) 84546 (ii) 62116
b) Find the greatest 5-digit number divisible by 51
2. Four traffic signals change at intervals of 75, 90, 120, and 150 seconds respectively. If they all turn green together at 6:00 AM, then at what time will they all turn green together again?
3. The average expenditure of a person for the first 4 months is Rs.1500 and for the next 8 months is Rs.1800. If the person saves Rs.3600 in that year, what is the monthly average income?
4. Explain the differences between formal, distance and value education
5. A father is 24 years older than his son. After 6 years, the father's age will be twice the son's age. Find the present ages of the father and the son.
6. What is communication? Explain the barriers to communication.
7. If $\log 2 = 0.3010$ and $\log 5 = 0.6990$ find the values of (a) $\log 8$ (b) $\log 12.5$
8. The simple interest on a sum of Rs.3200 at the end of 5 years is Rs 1600. What would be the simple interest on a sum of Rs.4800 at the same rate and for the same period?

[P.T.O.]

**PART - B****Answer any Four questions. Each question carries 10 marks.****(4×10=40)**

9. What do you mean by research? Explain the various steps in research.
10. a) What was the day of the year on 28 March 1776? (5)
b) If 40 men working for 12 hours a day can complete a piece of work in 8 days, then how many men working 4 hours a day can complete the same work in 16 days? (5)
11. a) What are the characteristics and basic requirements of teaching? (5)
b) Explain the governance and administration in the higher education system. (5)
12. Mr. Jacob gave 40 % of the money he had to his wife. He also gave 20 % of the remaining amount to each of his three sons. 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. Jacob have initially? Also find out how much money was given to his wife and his three sons.
13. a) Pipes A and B can fill a tank in 20 hours and 30 hours respectively and pipe C can empty the full tank in 40 hours. If all the pipes are opened together, how much time will be needed to fill the tank? (5)
b) Two trains 220 metres and 290 metres in length are running towards each other on parallel lines, one at the rate of 50 kmph and the other at the rate of 58 kmph. How much time will they take to cross each other? (5)
14. a) A bag contains 5 red and 3 white balls. Two balls are taken from the bag at random without replacement. Find the probability that
i) Both the balls are red ii) One red and one white ball are taken (5)
b) Find the ratio in which rice at Rs 52.50 per kg should be mixed with rice at Rs 38.75 per kg to produce a mixture worth Rs 45.25 per kg? (5)
-