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DVCA504

Reg. No.

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V Semester B.C.A. Degree Examination, December/January - 2025/26

COMPUTER APPLICATIONS**Quantitative Techniques**

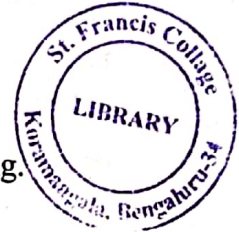
(NEP Scheme Freshers & Repeaters)

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:**Answer All the Sections.****SECTION - A****I. Answer any Four questions. Each question carries 2 marks. (4×2=8)**

1. What is the divisibility rule of 4. Give an example.
2. Find the HCF of 42, 182 and 216.
3. In how many ways can a committee of four people be selected from ten people.
4. If $x+y=23$ and $xy=126$, what is the value of x^2+y^2 ?
5. Define qualitative and quantitative data.
6. Define Teaching. Explain the Characteristics involved in Teaching.

**SECTION - B****II. Answer any Four questions. Each question carries 5 marks. (4×5=20)**

7. The cost of 4 bags and 3 boxes is Rs.555 and the cost of 3 bags and 4 boxes is Rs.460. What is the cost of one bag.
8. Find the sum of first 7 terms of the A:P: 4, 7, 10, 13.....
9. Show that $2\log\left(\frac{11}{13}\right) - \log\left(\frac{55}{11}\right) + \log\left(\frac{130}{77}\right) = \log 2$.
10. 2 men and 3 women can do a piece of work in 10 days, while 3 men and 2 women can do the same work in 8 days. In how many days can 2 men and 1 women do the work.

[P.T.O.]



11. Explain the factors affecting the teaching.
12. Briefly explain the different types of Communication.

SECTION - C

III. Answer any Four full questions. Each question carries 8 marks. (4×8=32)

13. Simplify the following expressions.

- a) If $8^x \cdot 2^y = 512$ and $3^{3x+2y} = 9^6$, then what are the values of x and y? (4)
- b) Arrange the fractions, $\frac{5}{8}, \frac{7}{12}, \frac{13}{6}, \frac{16}{19}$ and $\frac{3}{4}$ in ascending order of magnitude. (4)
14. a) Simplify $\frac{3^{n+2} - 3^{n+1}}{4 \cdot 3^n - 3^n}$ (4)
- b) Verify $2(7C_4) = 8C_4$ (4)
15. a) A bag contains 6 white and 4 black balls. Two balls are drawn at random. Find the probability that they are of the same colour. (4)
- b) In a Certain code NEWYORK is written as 111. How is NEWJERSEY written in that code. (4)
16. a) Find the compound interest on Rs.10,000 for 2 years at the rate of 4% PA payable half yearly. (4)
- b) The average age of A, B, C is 26 years. If the average age of A and C is 29 years. What is the age of B in years. (4)
17. a) A train travelling with constant speed crosses a 90 m long platform in 12 sec and 120 m long platform in 15 sec. Find the length of the train and its speed. (4)
- b) Briefly explain the different types of research. (4)
18. a) Briefly explain six characteristics of Teaching. (4)
- b) Write a note on
i) Seminar
ii) Symposium (4)