OEMT311

Reg. No. | | | | | | | | | |

IV Semester B.Com./B.B.A. Degree Examination, July/August - 2024

MATHEMATICS

Quantitative Mathematics (Open Elective)

(NEP Scheme)

M.E.S. COLLEGE LIBRARY, BENGALURU

Time : 2½ Hours **Maximum Marks :60**

***Instructions to Candidates*:**

Answer **All** the Parts.

PART - A

I. Answer any **Five** questions. **(5×3=15)**

1. Find the L.C..M of 28,48,64.
2. Rationalize $\frac{1}{8\sqrt{10}-7\sqrt{5}}$
3. Find the cube root of 21952 by prime factorization method.
4. Solve $4x-4y=24,\ x-4y=3$
5. The sum of six times a number and five times a number is 66. Find the number.
6. The salary of Charan is increased from Rs. 35,000 to Rs. 40,250. Find the increase in percentage of salary.
7. Find the speed of a can if the distance covered by the can is 500 km in 10 hours.

PART - B

II. Answer any Three questions. **(3×5=15)**

8. If H.C.F, L.C.M of two numbers are 3,60 respectively and one of them is 12. Find the other number.
9. If $3^x \times 3^y \times 9^{2y} = 27,\ 2^x \times 4^{-y} = \frac{1}{8}$. Find x,y.
10. If $9+2\sqrt{20} = \left[\sqrt{a}+\sqrt{b}\right]^2$. Find the values of a,b.

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11. Find the simplest form of $\frac{\sqrt{5}+1}{\sqrt{5}-1}+\frac{\sqrt{5}-1}{\sqrt{5}+1}$

12. If $x=y^z$, $y=z^x$, $z=x^y$. Prove that $xyz=1$.

PART - C

III. Answer any Three questions. **(3×5=15)**

13. Solve the equation $\frac{x}{5}+\frac{5}{x}=\frac{x}{6}+\frac{6}{x}$

14. Find 'x' if $5(x-2)^2-6=-13(x-2)$

15. Solve $5x-3y=7$, $x+8y=10$ by cross multiplication method.

16. Find the value of 'k' satisfying the pair of equations $4x-3y=9, 2x+ky=11$.

17. The sum of ages of daughter and mother is 56 years. After 4 years, the age of mother will be three times that of a daughter. What are their ages.

PART - D

IV. Answer any Three questions. **(3×5=15)**

18. The salary of Vivek is Rs. 20,000. If it is first increased by 10% and them decreased by 10%, what is his present salary.

19. A bus travels for 7 hours. The first half at 30 km/hr and the second half at 40 km/hr. Find the distance travelled by the bus.

20. If three men and four women can complete a work in 43 days. How long seven men and five women will take to complete the work.

21. Find the angle between an hour hand and a minute hand of a clock when the time is
    a) 4 hours 35 minutes
    b) 2 hours 45 minutes.

22. Find the day of the week on 15th august 1947.