

(D) Find the following limits.

(10)

$$(1) \lim_{x \rightarrow 1} \frac{x^{3/2} - 1}{x^{5/2} - 1}$$

$$(2) \lim_{x \rightarrow 0} \frac{1}{x} \left[\frac{2x+3}{3x-5} + \frac{3}{5} \right]$$

Q.4 (A) Explain Compound interest and annuity. (04)

(B) Find the compound interest on ₹ 25,000 at 5% per annum at the end of $2\frac{1}{2}$ years if the interest is calculated half yearly. (05)

(C) Maitri has purchased a car on 1/1/15. She has paid ₹ 50,000 cash and an instalment of ₹ 5,000 to be paid at the end of each month for 5 years. If this amount includes the compound interest rate of 15% then find the purchase price of car at present. (06)

OR

Q.4 (A) A certain principal doubled in 6 years. What is the rate of compound interest? (07)

(B) The age of Manya is 5 years. Her father wants to get ₹ 15,00,000 when his daughter is 20 years old. He open an account with a bank at 10% rate of compound interest, what amount he should deposit at the end of every month in this recurring account? (08)

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