Fifth semester assignment questions

Open Course (Business Mathematics)
Course code : MM1551.2

Questions

1. Find the effective rate p.a corresponding to the nominal rate of 8% p.a convertible quarterly.

2. Find the accumulated value at the end of 12 years of an amount of Rs750 invested at 9% p.a for the first 6 years and thereafter at 10% convertible half yearly.

3. Differentiate the following   a) $\frac{x+e^x}{1+logx}$ b) $\frac{1}{\sqrt{x}} + 3^x$

4. If $y = (5x + 1)(x^2 - 4)$ find $\frac{dy}{dx}$.

5. A monopolist has the following demand and cost functions $= 1,620 - 3x$ $and\ T.C = \frac{x^3}{3} - 3x^2 + 15x + 500$. The government levies tax at the rate of Rs % per unit sold. Find the profit maximizing price and quality after levy of tax.

6. Fit a straight line trend to the following data by least square method and estimate the ale for the year 2006.

Year	1999	2000	2001	2002	2003	2004
Sale(in 000Rs)	70	80	90	100	95	114

7. Determine the trend values of the following by semi – average method

Year	1980	1981	1982	1983	1984	1985	1986	1987
Sales(in 000 Rs.)	39.2	39.1	38.94	38.6	38.1	38.1	38.1	37.7