PART C- ESSAY

❖ Answer only one question from two questions

1.

a) An annuity provides for 20 annual payments, the first payment a year hence being $1000.The payments increase in such a way that each payment is 4% greater than the preceding payment .Find the present value of this annuity at an annual effective rate of interest of 7%

b) At what annual effective rate of interest is the present value of a series of payments of $1 every 6 months forever, with the 1st payment made immediately, equal to $10.

(Total 50 marks)

2.

a) In return for a promise to receive $600 at the end of 8 years, a person agrees to pay $100 at once, $200 at the end of 5 years, and to make a further payment at the end of 10 years, find the payment at the end of 10 years if the nominal rate of interest is 8% convertible semi-annually.

b) Find the accumulated value at the end of ten periods, of an annuity in which payments are made at the beginning of each half year for five years. The 1st payment is $2000 and each payment is 98% of the prior payment interest is credited at 10% convertible quarterly.

(Total 50 marks)