Ain Shams University
Faculty of Engineering

Engineering Economy and Investments (EPM 119)
Assignment 1

Student Name: ID:

1. **Find P and F of the indicated cash flow in Fig. 1 if annual interest rate is 12 %. The periods in the cash flow shown are in months. Draw the modified cash flow.**

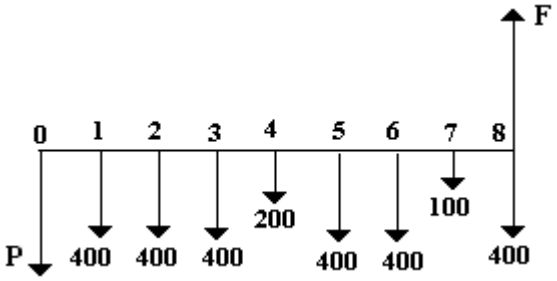

Fig. 1

(Ans. 1,724 LE, 4,269 LE)

2. **Find the present value P of the payments shown in Fig. 2 assuming that the interest rate is 10 %.**

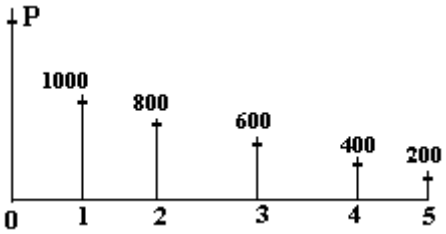

Fig. 2

(Ans. 2,418.4)

3. **Find the value of "A" that makes the cash flow in Fig. 3 equivalent to that shown in Fig. 2. Assume i = 10 %. (Ans. A = 807.7)**

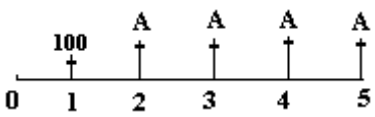

Fig. 3

4. Find the value of "A" that makes the cash flows in Fig. 4 equivalent. Assume the interest rate to be 12 %.

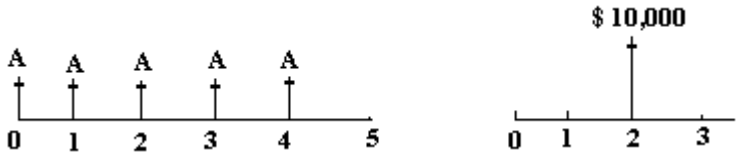

Fig. 4

(Ans. A = 1974.5)

5. For the cash flow shown in Fig. 5, Find P and F if i = 10 %.

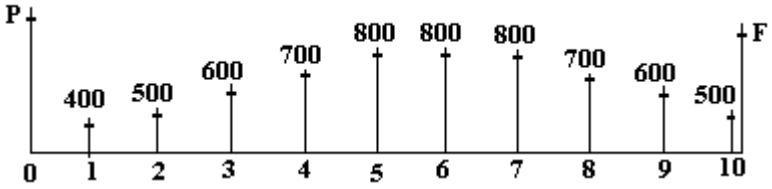

Fig. 5

(Ans. 4,752 LE)

6. For the cash flow shown in Fig. 6, Find P and F if i = 10 %.

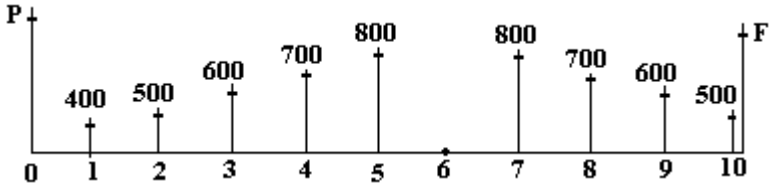

Fig. 6

(Ans. P = 3,387 LE, F = 8,785 LE)

7. For the cash flow shown in Fig. 7, Find P if i = 12 %.

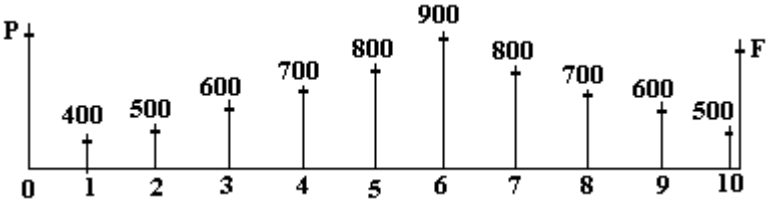

Fig. 7

(Ans. 3,560)

8. For the cash flow indicated in Fig. 9, determine P if I = 10%.

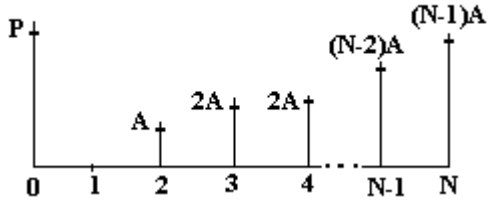

Fig. 8

9. How much should be deposited each year for 12 years if you wish to withdraw $ 309 each year for five years, beginning at the end of the 15th year? Assume i = 8 %. Draw the cash flow.

10. Suppose that $ 10,000 is borrowed at 15 % interest rate. An amount of $ 3,000 is paid after 4 years. Determine the rest of the loan to be paid after 6 years. Draw the cash flow.

11. For the cash flow shown in Fig. 10, find P if A = $ 100 and i = 12 %.

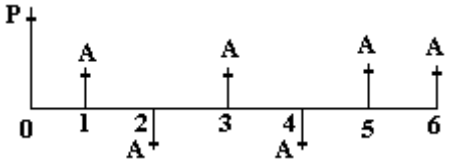

Fig. 11

12. One deposits $ 676 monthly and after 4 years he got $ 200,000. Find the annual interest rate.

13. For the cash flow shown in Fig. 11, each period is one year and the interest rate is 12 %. Find P and F.

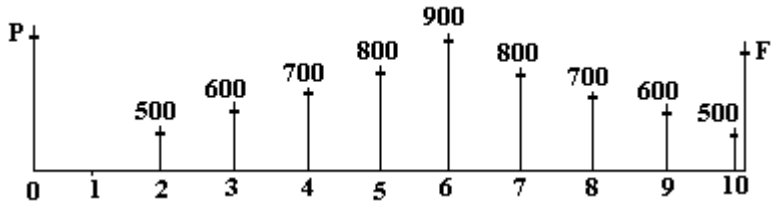

Fig. 13

14. Find the present value P of the geometric series shown assuming that the interest rate is 15 %.

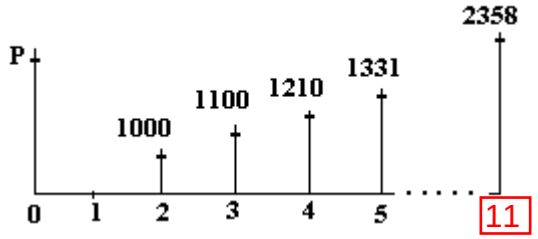

Fig. 14