EEFM MISAC-1

Name: **Reg no:**

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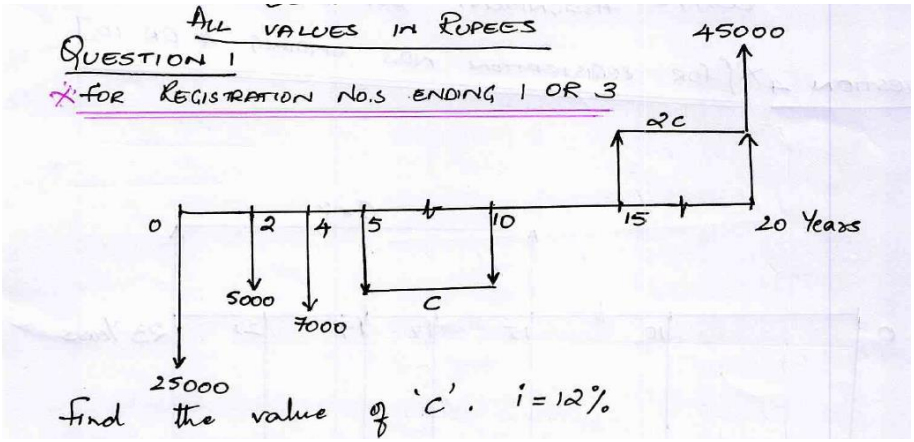
1.



$$25000 + 5000(P/F,12,2) + 7000(P/F,12,4) + C(P/A,12,6)(P/F,12,4) = 45000(P/F,12,20) + 2C(P/A,12,6)(P/F,12,14)$$

$$25000 + 5000(0.7972) + 7000(0.6355) + C((4.11)(0.6355)) = 45000(0.1037) + 2C(4.114)(0.204)$$

$$25000 + 3986 + 4448 + 2.61C = 4666 + 1.67C$$

$$28768 = 0.94C$$

$$C = 30604$$

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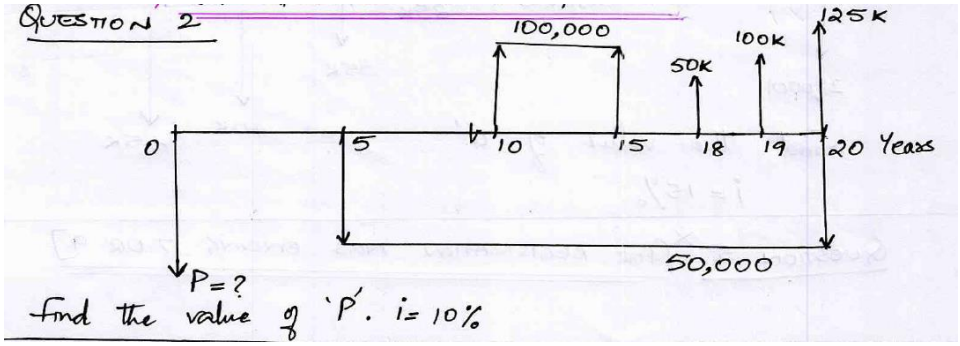
2.



P=?

$P = 50000(P/A,10,16)(P/F,10,4) - 100000(P/A,10,6)(P/F,10,9) - 50000(P/F,10,18) - 1000000(P/F,10,19) - 125000(P/F,10,20)$

$= 50000 * 7.82 * 0.68 - 100000(4.35)(0.42) - 50000(0.17) - 100000(0.16) - 125000(0.14)$

$= 265880 - 182700 - 8500 - 16000 - 17500$

$= 41180$

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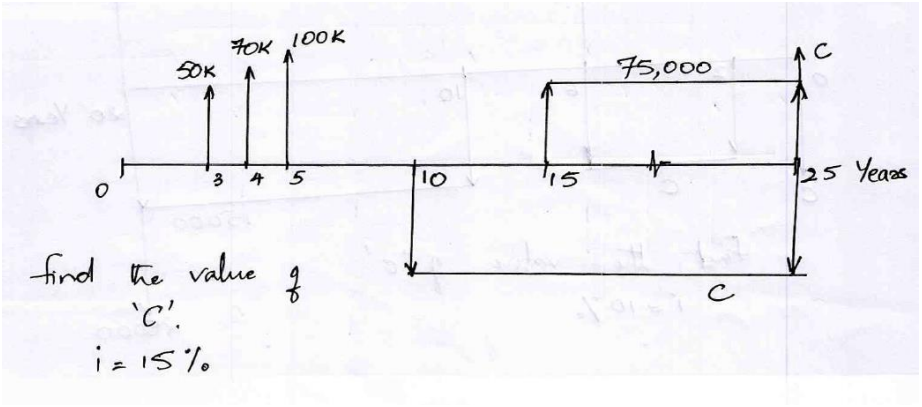
3.



$$50000(F/P,15,22)+70000(F/P,15,21)+100000(F/P,15,20)+75000(F/A,15,11)+C$$
$$= C(F/A,15,16)$$

$$50000*2.164+70000*18.82+100000*16.36+75000*24.34+C = C*55.71$$

$$1082000+1317400+1636000+1825500+C = 55.71C$$

$$5860900 = 54.71C$$

$$C = 107126$$

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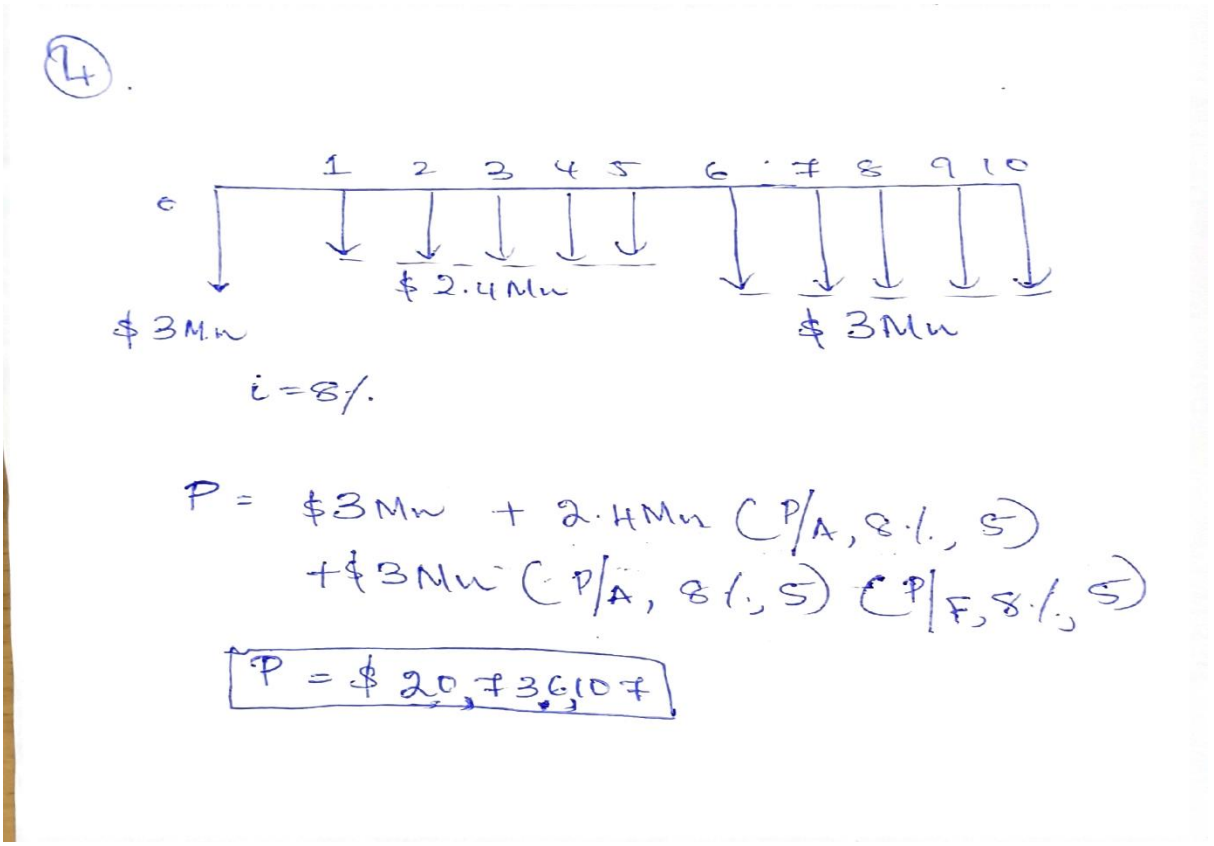
4.A local newspaper headline blared, "Bo Smith Signs for $30 Million." The article revealed that, on April 1, 2002, Bo Smith, the former record-breaking running back from Football University, signed a $30 million package with the Nebraska Lions. The terms of the contract were $3 million immediately, $2.4 million per year for the first five years (with the first payment after one year), and $3 million per year for the next five years (with the first payment at the end of year six). If the interest rate is 8% compounded annually, what is Bo's contract worth at the time of contract signing?



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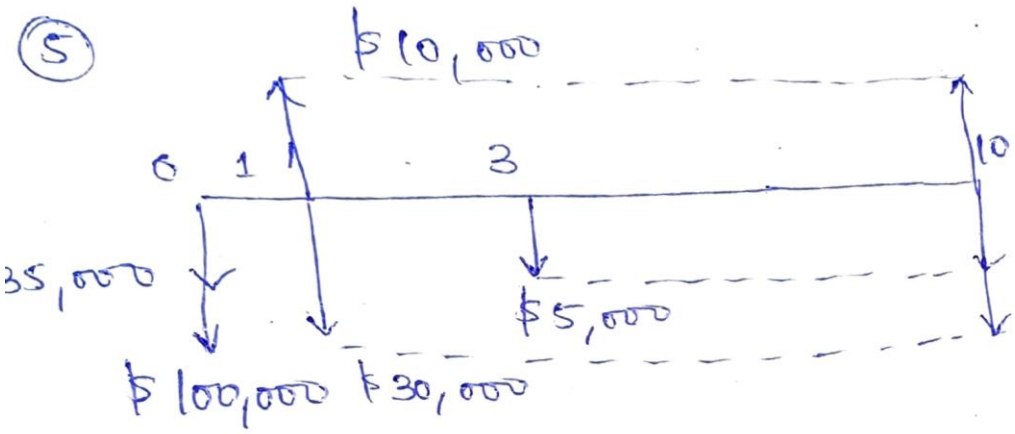
5. An industrial firm is considering purchasing several programmable controllers and automating the company's manufacturing operations now. It is estimated that the equipment will initially cost \$100,000, and the labour to install it will cost \$35,000. A service contract to maintain the equipment will cost \$5,000 per year, starting from the 3rd year to the 10th year of the machine's operating life. Trained service personnel will have to be hired at an annual salary expense of \$30,000. Also estimated is an approximate \$10,000 annual income-tax savings (cash inflow). The equipment is estimated to have an operating life of 10 years, with no salvage value because of obsolescence. If the interest rate is 10%, what is the total value of these cashflows now?

(5)



$i = 10\%$

$$P = \$135,000 + 20,000\,(P/A, 10\%, 10) + 5,000\,(P/A, 10\%, 8)\,(P/F, 10\%, 2)$$

$$P = \$279,944.22$$