حل امتحانات سابقة
الامتحان الثالث – Spring 2021
23 / 6 / 2022

شرح وإعداد / محمد ماهر

Question - 1

Question (1): [12 Marks]

An apartment is sold cash at 500000 LE. By installment, you pay 20 % of the apartment cash price as down payment. You also pay 60 monthly payments each 7000 LE. Moreover, you have to pay 10 semiannually payments each 20000 LE and the first 20000 LE payment after 6 months of the down payment. Determine the annual interest rate of this deal.

Ans: 19.84%

Question - 2

Question (2): [12 Marks]

The initial cost of making a road is $15 millions. The AOC is $100,000. Every 5 years, the road needs to be resurfaced at a cost of $50,000. The expected number of cars passing this road is 150,000 cars per year. Find the passing fees per car to cover the road cost. Assume i = 10 %.

Ans: 10.7

Question (3): [12 Marks]

A private school discusses purchasing a bus to transport the students. There are two alternative buses A where the lifetime is 5 years and bus B where the lifetime is 10 years. The costs are listed in the Table below and MARR is 12 %. Determine the optimum economic choice using LCM method.

Item	Location A	Location B
First Cost ($)	40000	100000
AOC ($)	4500	3100
Salvage Value ($)	4000	10000
Rent Period (years)	5	10

Ans: A

Question - 4

Question: (4): [12 Marks]

An automobile company has equipment with an initial cost $200 million with 20 % salvage value after 5 years. The variable cost is $21000 and the market price is $33000 per car. The production capacity for first year will be 4000 units. At an interest rate of 12 % per year, by what uniform amount will production have to increase each year in order for the company to recover investment in 3 years?

Ans: 2327

Question - 5

Question: (5):   [12 Marks]

An equipment has an initial cost B and four years lifetime, regarding to the following table, if X=30000, determine: B, S, X1, X2, X3, and X4

Method	Straight line		Declining Balance		Sum of Years Digits	
Year (m)	BV	D	BV	D	BV	D
0	B	0	B	0	B	0
1				X		
2					X	
3	X1		X2			
4	S		S	X3	0	X4

Ans: B = 100000 – S = 24010 – X1 = 43006 – X2 = 34300 – X3 = 10290 – X4 = 10000

وَخَلِّصِ القَلْبَ مِنَ الأَغْيَارِ

بِالجِـدِّ وَالقِيَامِ بِالأَسْحَارِ

وَالفِكْرِ وَالـذِّكْرِ عَلَى الـدَّوَامِ

مُجْتَنِبـاً لِسَـائِرِ الآثَـامِ

مُرَاقِبـاً لله فِـي الأَحْـوَالِ

لِتَرْتَقِـي مَعَـالِمَ الكَمَـالِ

- للإمام العَلَم أحمد الدردير شيخ الأزاهرة في زمانه