

Menoufia University
Faculty of Engineering, Shebin El-Kom
Electric department
Second Semester Examination, 2018-2019
Date of Exam: 17 / 06 / 2019



Subject: Economics & project
management
Code: PRE 127
Year : First
Time Allowed: 2 hours
Total Marks: 50 Marks

Answer the Following Questions:

Question No. [1] :

Define the Following Economic Concepts:-

1. Cash flow diagram. 2. A cost. 3. An expense. (4 Marks) [a7]
4. Inflation

b. The following data is available for equipment being used in a machine shop: (9 Marks) [b8]

- Initial cost of machine = 16000 L.E
- Technical life = 5 years
- Installation cost = 1000 L.E
- Economical life = 4 years
- Salvage value = 5000 L.E

1-Use the straight line method, and sum-of-years- digits method to calculate the annual depreciation charge , and the book value at the end of each year.

2-Compare between the results after two years from the beginning of its life.

3-If the salvage value of the above equipment is equal to zero. Can you apply the declining balance method to compute the depreciation charge in this case? Clarify.

Question No. [2] :

- a. What are the difference between the replacement and displacement of machines. (2 Marks) [a16]
- b. A man deposits a sum of money in a bank on the day his son is born in order to the payments of 20000 L.E on each of the son's 18 th, 19 th, 20 th, and 21 st birthdays. How much money did he deposit, if $i = 5\%$ compounded annually. If the son does not draw the money but chooses to draw it on his 24 th birthday. How much money will be get? (6 Marks) [b9]
- c. A medium size consulting engineering company is trying to decide whether it should replace its office furniture now or wait and do it one year from now. If the firm does it now, the cost will be 14500 L.E if it waits one year, the cost is expected to be 16000 L.E. At interest rate of 12% per year, should the company replace the furniture now or after one year from now? (4 Marks) [b10]

Question No. [3] :

- a) A company for producing certain product. The general manager desires to compare between two machines to purchase one of them from the following to produce 600 units. (6 Marks) [d3]

	Machine 1	Machine 2
Machine price \$	1100	1800
Variable costs \$ /unit	6	4

Required:

- 1- Determine the units of the cost equalization.
- 2- What is the suitable decision to produce 600 units?

- b) A company manufactures a single product having a variable cost of \$ 1.5 per unit. Fixed cost is \$ 30,000 annually. The company can be sold at a price of \$ 3 per unit. The company has a planned profit of \$ 60,000. How many units must be made and sold? (4 Marks) [d7]

Question No. [4] : (15 Marks) [c1]

The following data for the direct costs of the normal and crash durations are shown in the table. The indirect cost equal \$5 per day. Construct the project net-work. Find the minimum time to finish this project and the total costs at this time.

Activity	Immediate predecessors	Normal		Crash	
		Duration(day)	Cost(\$)	Duration(day)	Cost(\$)
A	-	8	100	6	120
B	-	5	80	4	110
C	A	3	50	3	50
D	A	10	90	10	90
E	A	6	120	4	150
F	B, C	5	50	5	50
G	E, F	9	100	6	175
H	D	4	60	4	60

With our best wishes

This exam measures the following ILOs								
Question Number	Q1-a	Q2-a	Q1-b	Q2-b	Q2-c	Q4	Q3-a	Q3-b
Skills	a7	a16	b8	b9	b10	c1	d3	d7
	Knowledge & Understanding Skills		Intellectual Skills			Professional Skills	General Skills	