ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ ΚΑΙ ΠΟΛΙΤΙΣΜΟΥ
ΔΙΕΥΘΥΝΣΗ ΑΝΩΤΕΡΗΣ ΚΑΙ ΑΝΩΤΑΤΗΣ ΕΚΠΑΙΔΕΥΣΗΣ
ΥΠΗΡΕΣΙΑ ΕΞΕΤΑΣΕΩΝ

ΠΑΓΚΥΠΡΙΕΣ ΕΞΕΤΑΣΕΙΣ 2018

ΜΑΘΗΜΑ: ΛΟΓΙΣΤΙΚΗ

ΗΜΕΡΟΜΗΝΙΑ ΚΑΙ ΩΡΑ ΕΞΕΤΑΣΗΣ: Πέμπτη, 17 Μαΐου 2018
08:00 - 11:00

ΤΟ ΕΞΕΤΑΣΤΙΚΟ ΔΟΚΙΜΙΟ ΑΠΟΤΕΛΕΙΤΑΙ ΑΠΟ ΔΕΚΑ (10) ΣΕΛΙΔΕΣ

<u>ΟΔΗΓΙΕΣ:</u>

- Να απαντήσετε σε όλες τις ερωτήσεις (Answer all questions)
- Όλοι οι υπολογισμοί πρέπει να φαίνονται καθαρά στο τετράδιό σας
- Επιτρέπεται η χρήση μη προγραμματιζόμενης υπολογιστικής μηχανής
- Δεν επιτρέπεται η χρήση διορθωτικού υγρού/ταινίας
- Δεν επισυνάπτεται τυπολόγιο Λογιστικών Αριθμοδεικτών επειδή δεν είναι απαραίτητο για την επίλυση των ασκήσεων.

QUESTION 1

The managers of Alpha Printers Ltd wish to purchase a new printing machine. They will use the machine for four (4) years. There are two machines that are capable of producing the quality of work that is desired**,** machine CN and machine HP. The current cost of capital for Alpha Printers Ltd is 10%.

The following is an extract from the present value tables of €1:

	Discount factors at 10 %
Years: 1	0,909
2	0,826
3	0,751
4	0,683

The following information is available for the two machines:

	Machine CN	**Machine HP**
	€	**€**
Initial Cost	200.000	200.000
Net Cash Flows		
Years: 1	80.000	40.000
2	92.000	100.000
3	110.000	118.000
4	106.000	212.000

Additional information:

- All receipts and payments will take place at the end of the year
- Profit accrues evenly throughout each year
- The depreciation is charged on a straight line basis (zero scrap value).

REQUIRED:

(a) Calculate for each machine the:

i. Payback Period **(Marks 4)**

ii. Net Present Value (NPV) **(Marks 7)**

iii. Accounting Rate of Return (ARR) **(Marks 6)**

(b) Να συμβουλεύσετε τους διευθυντές ποια μηχανή πρέπει να επιλέξουν. Να δικαιολογήσετε την απάντησή σας.
(Advise the managers of Alpha Printers Ltd, giving reasons, as to which machine they should purchase). **(Marks 3)**

(Total Marks 20)

QUESTION 1 ***(Answer)***

(a)

i. Payback period

Machine CN			**Machine YP**		
		Net cash flow €			Net cash flow €
Initial Cost		200.000	Initial Cost		200.000
Net cash flow year	1	(80.000)	Net cash flow year	1	(40.000)
	2	(92.000)		2	(100.000)
		28.000			60.000
	3	110.000		3	118.000
2,25* years *28.000/110.000 Or					
2 years and 3** months			2,51* years *60.000/118.000		
			Or 2 years and 6 months		
**28.000/110.000x12					
			**60.000/118.000 x12		

(Marks 4)

ii. Net Present Value

		Machine CN			**Machine HP**	
Year	**10%**	**Net cash flow €**	**Present Value €**		**Net Cash flow €**	**Present Value €**
0	1,000	(200.000)	(200.000)		(200.000)	(200.000)
1	0,909	80.000	72.720		40.000	36.360
2	0,826	92.000	75.992		100.000	82.600
3	0,751	110.000	82.610		118.000	88.618
4	0,683	106.000	72.398		212.000	144.796
		NPV	**103.720**		**NPV**	**152.374**

(Marks 7)

iii. Accounting rate of return

$$\boldsymbol{Μέση\ απόδοση}\ (\boldsymbol{ARR}) = \frac{Μέσα\ ετήσια\ μελλοντικά\ καθαρά\ κέρδη\ (Annual\ Average\ Profits)}{Αρχικό\ κόστος\ επένδυσης\ (Initial\ cost\ of\ investment)}$$

CN: $\boldsymbol{ARR} = \frac{47.000*}{200.000} X\ 100 = \mathbf{23.5}\%$ *(30.000+42.000+60.000+56.000)/4

HP: $\boldsymbol{ARR} = \frac{67.500**}{200.000} X100 = \mathbf{33.75}\%$ ** (-10.000+50.000+68.000+162.000) /4

Working

Annual Profits	Machine CN € (Net cash flow -Depn)	Machine HP € (Net cash flow -Depn)
Year 1	80.000-50.000* = 30.000	40.000-50.000 = (10.000)
Year 2	92.000-50.000 = 42.000	100.000-50.000 = 50.000
Year 3	110.000-50.000 = 60.000	118.000-50.000 = 68.000
Year 4	106.000-50.000 = 56.000	212.000-50.000 = 162.000
	***Annual Depn = 50.000** 200.000:4=50.000	***Annual Depn = 50.000** 200.000:4=50.000

(Marks 6)

(b) The managers should purchase machine HP because it gives the highest Positive NPV and it gives the highest Rate of Return although Machine CN has a shorter payback period

Οι διευθυντές πρέπει να αγοράσουν το μηχάνημα HP επειδή δίνει την υψηλότερη θετική Καθαρή παρούσα αξία (NPV) και έχει την υψηλότερη μέση απόδοση (ARR) παρόλο που το μηχάνημα CN έχει συντομότερη περίοδο αποπληρωμής.

(Marks 3)
(Total Marks 20)

QUESTION 2

PART (A)

The following balances were extracted from the books of Dreamers Designs, a manufacturer of bedroom furniture, at 31 December 2017:

	Opening Inventory	**Closing Inventory**	
	€	**€**	
Raw materials	46.000	49.000	
Work in progress	34.000	32.000	
Finished goods	25.000	27.000	
Purchases of raw materials			345.000
Purchases of finished goods			60.000
Sales of finished goods			1.560.000
Office salaries			90.500
Light and heat			18.000
Factory wages			190.000
Factory manager's salary			50.800
Manufacturing royalties			28.000
Rent			36.000
Insurance			23.000
Fuel and power			54.000
Carriage inwards of raw materials			48.000
Returns inwards			60.000
Plant and machinery at cost			480.000
Accumulated depreciation of plant and machinery			140.000

Additional information at 31 December 2017:

1. 80% of the light & heat is utilized in the factory
2. Factory wages accrued amounted to €2.000, five-sixths (5/6) of wages are direct and one-sixth (1/6) is indirect
3. Rent paid in advance €3.000 and Insurance accrued €1.000

4. Rent and insurance are to be apportioned as follows:

   i. Factory 2/3
   ii. Office 1/3

5. Plant and machinery is depreciated at 25% per annum using the reducing balance method
6. Goods manufactured should be transferred to the Statement of Profit or Loss at a standard cost of €900.000.

REQUIRED:

Prepare the Manufacturing Account for the year ended 31 December 2017.

(Marks 10)

PART (B)

Procopis purchases and sells energy saving bulbs and provides the following information for January 2017:

January 1	80 units in inventory at cost of €10 per unit
January 4	90 units purchased at a cost of €14 per unit
January 10	60 units sold at €32 per unit
January 20	30 units purchased at a cost of €18 per unit
January 26	50 units sold at €38 per unit

REQUIRED:

Calculate the value of inventory at 31 January 2017 using the:

(a) First In First Out (FIFO), periodic, inventory method **(Marks 3)**

(b) Last In First Out (LIFO), periodic, inventory method **(Marks 2)**

(c) Weighted Average Cost (AVCO), perpetual, inventory method
(Calculations to be shown to the nearest two decimal places). **(Marks 5)**

(Total Marks 20)

QUESTION 2 ***(Answer)***

PART (A)

Dreamers Designs
Manufacturing A/c for the year ended 31 December 2017

	€	€
Raw Materials:		
Opening inventory		46.000
Add Purchases	345.000	
Add Carriage Inwards	48.000	393.000
		439.000
Less Closing inventory		49.000
Cost of Raw Materials used		390.000
Direct Wages(190.000 +2.000)x5/6		160.000
Royalties		28.000
PRIME COST		578.000
Factory overhead		
Light and heat (18.000x80%)	14.400	
Fuel and Power	54.000	
Factory Rent (**36.000-3.000**)x2/3	22.000	
Factory Insurance(**23.000+1.000**) x 2/3	16.000	
Indirect Wages(190.000 +2.000)x1/6	32.000	
Factory manager's Salaries	50.800	
Depreciation on Plant & Machinery (480.000– 140.000) x25%	85.000	274.200
Work in Progress		
Add work in progress at start	34.000	
Less work in progress at end	(32.000)	2.000
COST OF PRODUCTION		854.200
Manufacturing Profit		**45.800**
Cost of goods transfer to Income Statement		900.000

(Marks 10)

PART (B)
(a) FIFO (periodic): (60x€14) + (30x18) = €1.380

Workings
Opening inventory 80
Units purchased (90+30) = 120
Units sold (60+50) = (110)
Closing inventory 90 units **(Marks 3)**

(b) LIFO (periodic): (80x€10) + (10x€14) = €940 **(Marks 2)**

(c) AVCO **Inventory A/c**

Date	Details	Units	Price per unit	Balance
Jan 1	Balance	80	10,00	800
Jan 4	Purchases	90	14,00	1.260
		170	**12,12***	2.060
Jan 10	Cost of Sales	(60)	12,12	(727)
		110	12,12	1.333
Jan 20	Purchases	30	18,00	540
		140	**13,38****	1.873
Jan 26	Cost of Sales	(50)	13,38	(669)
Jan 31	**Closing Inventory**	**90**	13,38	**1.204**

(Marks 5)

***2.060:170**
****1.873:140**

(Total Marks 20)

QUESTION 3

The following balances have been extracted from the books of Shire Plc as at 31 December 2017:

	Dr	Cr
	€	€
Office buildings at cost	600.000	
Office buildings – accumulated depreciation		120.000
8% Loan Notes		100.000
Bank	99.000	
Issued ordinary share capital of €0,50 each		400.000
Retained earnings at 1 January 2017		68.000
Share premium		21.000
Dividends paid	30.000	
Allowance for receivables		6.000
Trade receivables	200.000	
Trade payables		162.000
Other payables		18.000
Other receivables	4.000	
Inventory at 1 January 2017	200.000	
Revenue (Sales)		1.260.000
Purchases	700.000	
Returns Outwards		50.000
Salaries	200.000	
Rent and rates	56.000	
Warehouse rent	26.000	
Loan Notes interest	4.000	
Auditors remuneration	28.000	
Distribution expenses	58.000	
	2.205.000	2.205.000

The following adjustments are also required:

1. Inventory on 31 December 2017 valued at cost was €180.000. This includes some items which cost €12.950 and have been hard to sell. It was decided to

have the items repacked at a cost of €450. This will allow them to sell for €6.400

2. 80% of salaries relate to marketing and sales staff

3. The interest on the 8% Loan Notes for the second half of the year was outstanding

4. Write off €5.000 as irrecoverable debts and adjust the allowance for receivables to 3% of the remaining trade receivables

5. During December 2017 a rights issue of 1 for every 4 shares was made to ordinary shareholders at a price of €1,00 per share. This issue has not yet been entered into the accounts

6. Corporation tax on profits is estimated at €29.900
7. Rent and rates, will be apportioned in accordance with the floor space as follows:

Delivery and marketing office	2 000 m^2
Administration	3 000 m^2

8. Depreciation is to be charged on Office buildings 10% using the reducing balance method.

REQUIRED:

Prepare the:

(a) Statement of Profit or Loss for the year ended 31 December 2017, in line with IAS 1 **(Marks 15)**

(b) Statement of Changes in Equity for the year ended 31 December 2017.

(Marks 5)

(Total Marks 20)

QUESTION 3 ***(Answer)***

(a)

Shire Plc
Statement of Profit or Loss for the year ended 31 December 2017

	€	**€**
Revenue		1.260.000
Cost of sales (W1)		(677.000)
Gross profit		583.000
Administrative expenses (W2)	154.450	
Distribution expenses (W3)	266.400	(420.850)
Profit from operations		162.150
Finance cost (W4)		(8.000)
Profit before taxation		154.150
Taxation		(29.900)
Profit for the year		124.250

Workings
(W1) Cost of sales

	€
Opening inventory	200.000
Purchases (700.000-50.000)	650.000
Closing inventory (180.000-12.950+5.950*)	(173.000)
** (6.400-450)*	677.000

(W2) Administrative expenses

	€
Salaries 200.000x20%	40.000
Auditors remuneration	28.000
Depn –office building (600.000-120.000)x10%	48.000
Irrecoverable debts	5.000
Rent & rates 56.000x3/5	33.600
Allowance for receivables (200.000 – 5.000)x3%-6.000	(150)
	154.450

(W3) Distribution costs:

	€
Salaries 200.000x80%	160.000
Rent & rates 56.000x2/5	22.400
Distribution expenses	58.000
Warehouse rent	26.000
	266.400

(W4) Loan Notes interest

€100.000 x 8% = €8.000 €8.000 - €4.000 (paid) = €4.000 due

(Marks 15)

(b) **Shire Plc**

Statement of Changes in Equity for the year ended 31 December 2017

	Ordinary Share capital	Share premium	Retained earnings	Total
	€	€	€	€
Balance at 1 January 2017	400.000	21.000	68.000	489.000
Shares issued	100.000	100.000	-	200.000
Profit for the year	-	-	124.250	124.250
Dividends paid			(30.000)	(30.000)
Balance at 31 December 2017	500.000	121.000	162.250	783.250

WORKINGS:

(W5) Rights issue- Journal entry	€	€
Dr Cash (200 000*x€1,00)	200.000	
Cr Share capital (200 000x€0,5)		100.000
Cr Share premium (200 000x€0,5**)		100.000

*800 000X1/4=200 000 shares

**Share premium=Issue price – par value
Share premium= €1,00 - €0,5 = €0,50

(Marks 5)

(Total Marks 20)

QUESTION 4

PART (A)

Aphrodite owns a business producing and selling frozen yogurt at Kato Paphos, in areas popular with tourists. The following information is available for the year ended 31 December 2017.

- Rent of factory €9.600 per year
- Machinery was purchased at a cost of €14.500 with a life span of 8 years and a residual value of €500. Depreciation is to be charged on a straight line basis
- Direct labour in production was €0,30 per frozen yogurt
- Other fixed cost €10.500 per year
- Insurance for the year €1.120
- Milk and fruits costs per frozen yogurt €0,15
- The supervisor's salary €15.000 per year
- Selling price of a frozen yogurt €1,20
- Sales of frozen yogurts are 135 100 (units) per year
- Advertising cost €2.455 per year
- Salesmen commission per frozen yogurt €0,20
- All production was sold.

REQUIRED:

Calculate for the year ended 31 December 2017 the:

(a) Number of frozen yogurts to be sold to break even **(Marks 9)**

(b) Break - even point in sales value **(Marks 1)**

(c) Margin of safety in units **(Marks 2)**

(d) Profit for the year ended 31 December 2017 **(Marks 3)**

PART (B)

Η Εταιρεία Columbus Engineering Plc κατασκευάζει μηχανές αεροπλάνων και προγραμματίζει την αγορά καινούργιας μηχανής. Οι διευθυντές προβληματίζονται εάν θα εκδώσουν μετοχές ή ομολογίες για τη χρηματοδότηση της αγοράς της μηχανής.

(Columbus Engineering Plc manufactures airplane engines and plans to purchase a new machine. The directors are uncertain whether to make a new issue of shares or issue debentures to finance the purchase of the new machine).

REQUIRED:

Να αναφέρετε δύο (2) διαφορές μεταξύ μετοχών και ομολογιών.
(State two differences between shares and debentures)

(Marks 5)

(Total Marks 20)

QUESTION 4 ***(Answer)***

PART A

Workings

Fixed Costs -per year		**Variable costs per unit**	
	€	Direct labour	€0,30
Rent	9.600	Milk and fruits	€0,15
Machinery Depreciation	1.750*	Salesmen commission	€0,20
Other Fixed costs	10.500	**Total VC**	**€0,65**
Insurance	1.120		
Supervisor's salary	15.000	**Contribution per unit**	
Advertising	2.455	(€1,20 - €0,65) = €0,55	
Total FC	**40.425**		
*(14.500-500/8)			

(a) Break Even Point = $\frac{€40.425}{€0,55}$ = **73.500 units** **(Marks 9)**

(b) Break Even Point=73.500 unitsx€1,2= **€88.200** **(Marks 1)**

(c) Margin of safety = 135 100 – 73 500 =**61 600 units** **(Marks 2)**

(d) Profit for 2017 **€**

Sales revenue = 135 100 x 1,20 = 162.120

Less VC = 135 100 x 0,65 = (87.815)

Less FC = (40.425)

Profit **= €33.880**

OR/ Sales (units) x contribution less Fixed costs

(135 100X €0,55) – 40.425 = ***€33.880***

OR/ Margin of safety x contribution /unit**=**

61 600 units x €0,55/unit **=** ***€33.880***

all accepted

(Marks 3)

PART B

Μετοχές	**Ομόλογα**
1.Ο μέτοχος (shareholder) είναι ιδιοκτήτης και έχει δικαίωμα ψήφου *(shareholders are owners and have voting rights)*	Ο κάτοχος ομολόγων (debenture holder) δεν είναι μέτοχος αλλά δανειοδότης και δεν έχει δικαίωμα ψήφου (*Debenture holders are payables and do not have voting rights)*
2.Το μετοχικό κεφάλαιο δεν επιστρέφεται *(The shareholders do not have to be repaid)*	Τα ομόλογα έχουν ημερομηνία λήξης και πρέπει να αποπληρωθούν κατά τη λήξη τους *(The debentures have be repaid on the expiring date)*
3. Μερίσματα πληρώνονται μόνον αν υπάρχουν κέρδη μετά από απόφαση των διευθυντών (παρουσιάζονται στο Statement of changes in Equity) *(Dividends are paid if there are profits available and are stated in the Statement of changes in Equity)*	Η εταιρεία είναι υποχρεωμένη να πληρώνει τόκους (finance cost) είτε υπάρχουν κέρδη είτε όχι *(Interest has to be paid -finance cost – on its due date)*
4.Κατά τη διάλυση της επιχείρησης έχουν δικαίωμα στα περιουσιακά στοιχεία της εταιρείας που απομένουν μετά την αποπληρωμή των πιστωτών *(In the case of dissolution the shareholders have the right to surplus assets after the repayment of payables)*	Κατά τη διάλυση της επιχείρησης οι κάτοχοι ομολόγων έχουν προτεραιότητα στη αποπληρωμή τους αλλά δεν έχουν περαιτέρω δικαίωμα στα περιουσιακά στοιχεία της εταιρείας που απομένουν μετά την αποπληρωμή των πιστωτών (*In the case of dissolution the debenture holders have priority for repayment but they do not have any other rights to surplus assets)*

(*Any two differences)* **(Marks 5)**

(Total Marks 20)

QUESTION 5

The Statements of Financial Position (***extracts***) of Terra Constructions Plc at 31 December 2016 and 31 December 2017 were as follows:

	2016 **31 December**	**2017** **31 December**
	€	**€**
ASSETS		
Non-Current assets		
Property, plant and equipment at cost	13.500.000	12.300.000
Accumulated depreciation	(4.520.000)	(4.440.000)
Property, plant and equipment at NBV	8.980.000	7.860.000
Current assets		
Inventories	3.020.000	2.958.000
Trade receivables	1.020.000	1.150.000
Cash and Cash Equivalents	----	200.000
	4.040.000	4.308.000
Current liabilities		
Bank overdraft	120.000	---
Trade payables	980.000	860.000
Tax payable	240.000	360.000
	1.340.000	1.220.000
Non-Current liabilities		
6% Bank loan		600.000

Additional information:

1. Profit after interest but before tax for the year ended 31 December 2017 was €380.000
2. Interest on the bank overdraft was €14.000 for the year
3. On 31 December 2017, equipment that cost €2.115.000 with depreciation to date of €560.000 was sold for €1.570.000
4. On 31 March 2017 the company took out a 6%, ten-year, bank loan for €600.000
5. Loan interest was paid at the end of the year
6. The corporation tax for the year was €280.000
7. **Cash Flows used in Investing Activities was €450.000**
8. **Cash Flows from Financing Activities was €273.000.**

REQUIRED:

(a) Prepare for the year ended 31 December 2017

i. The Accumulated Depreciation Account **(Marks 4)**

ii. The Statement of Cash Flows, in accordance with IAS 7. **(Marks 14)**

(b) Να αναφέρετε δύο περιπτώσεις στοιχείων που κατατάσσονται στην κατηγορία Χρηματοδοτικές Δραστηριότητες στη Κατάσταση Ταμειακών Ροών
(State two items that would be found in the Financing Activities section of the Statement of Cash Flows). **(Marks 2)**

(Total Marks 20)

(GRAND TOTAL MARKS 100)

……THE END……

QUESTION 5 ***(Answer)***

(a) (i) PPE- Accumulated Depreciation Account

2017		€000	2017		€000
Dec 31	Disposals	560	Jan 01	Balance b/d	4.520
Dec 31	Balance c/d	4.440	Dec 31	**SOPL**	**480**
		5.000			5.000

(Marks 4)

(a) (ii) **Statement of Cash Flow for year ended 31 December 2017**

Cash Flows from operating activities		
Profit before taxation	380.000	
Add Depreciation	480.000	
Less: Profit on Sale of Non-current Asset (2.115.000-560.000)-1.570.000	(15.000)	
Add: Finance cost (14.000 + 27.000)	41.000	
Operating cash flow before working capital changes	886.000	
Add Decrease in inventories	62.000	
Less Increase in trade receivables	(130.000)	
Less Decrease in trade payables	(120.000)	
Cash generated from operations	698.000	
Less Interest Paid (14.000 + 27.000) (W1)	(41.000)	
Less Tax Paid (280.000+240.000-360.000) (W2)	(160.000)	
Net Cash from Operating Activities		497.000
Net Cash Flows used in investing activities		(450.000)
Net Cash Flows from financing activities		273.000
Net increase in cash and equivalent		**320.000**
Cash and cash equivalents 1 January 2017		-120.000
Cash and cash equivalents 31 December 2017		200.000
Net increase in cash and equivalent		**320.000**

Workings:

(1) Bank loan Interest (6%x600.000) x9/12=€27.000

(2) **Corporation tax**

	€000		€000
Cash - paid	**160**	Balance b/d	240
Balance c/d	360	SOPL- charge for the year	280
	520		520

(Marks 14)

(b) Items found in the Financing Activities section include:

- Έκδοση μετοχικού κεφαλαίου στην ονομαστική τους αξία ή υπέρ το άρτιο
- Σύναψη ή αποπληρωμή δανείων
- Έκδοση ή αποπληρωμή ομολόγων
- Η καταβολή μερισμάτων.

- *Issue of shares at par or at a premium*
- *Taking out or repayment of a bank loan*
- *Issue of debentures, or repayment of debentures*
- *Dividends paid*

(Marks 2)

(Total Marks 20)

(GRAND TOTAL MARKS 100)

,