

# **FIN303**

**Examination – July Semester 2016**

## **Financial Management**

**Tuesday, 22 November 2016**

**10:00 am – 12:00 pm**

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**Time allowed: 2 hours**

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### **INSTRUCTIONS TO STUDENTS:**

1. This examination contains **FIVE (5)** questions and comprises **SIX (6)** printed pages (including cover page).
2. You must answer **ALL** questions.
3. This is an open book examination.
4. All answers must be written in the answer book.

### **At the end of the examination**

Please ensure that you have written your examination number on each answer book used.

**Failure to do so will mean that your work cannot be identified.**

If you have used more than one answer book, please tie them together with the string provided.

**THE UNIVERSITY RESERVES THE RIGHT NOT TO MARK YOUR  
SCRIPT IF YOU FAIL TO FOLLOW THESE INSTRUCTIONS.**

**You must answer ALL the questions. (Total 100 marks)**

Heavy Machinery manufacturing Company (HMM) manufactures and sells heavy equipment used in mining, construction and shipbuilding industries.

The management is concerned about its financial performance. It considers Metal Stamping Company (MS) as a major player in the industry and would like to compare its performance with that of MS. One of the managers suggests that it is also useful to compare the performance with that of Hi-tech Software Company (HTS) to get a better picture. HTS is involved in providing software solutions to Machinery manufacturing companies. The balance sheet, income statement and relevant ratios for HMM, MS and HTS are shown in Exhibit 1.

The management of HMM is planning to introduce a new machine in the market. The details of this investment are shown in Exhibit 2.

**Exhibit 1 - Balance Sheet, Income Statement and Relevant Ratios**

**Balance Sheet (\$'000)**

	<b>HMM</b>	<b>MS</b>	<b>HTS</b>
Current Assets	25,000	12,000	20,000
Cash	5,000	4,000	7,000
Accounts Receivables	10,000	5,000	10,000
Inventory	10,000	3,000	3,000
Gross Fixed Assets	85,000	80,000	100,000
Accumulated Depreciation	10,000	12,000	20,000
Net Fixed Assets	75,000	68,000	80,000
Total Assets	100,000	80,000	100,000
Accounts Payables	20,000	10,000	10,000
Long-term debt	40,000	40,000	0
Total Liabilities	60,000	50,000	10,000
Common Stock	15,000	10,000	25,000
Retained earnings	25,000	20,000	65,000
Total equity	40,000	30,000	90,000
Total Liabilities and Equity	100,000	80,000	100,000

**Income Statement (\$'000)**

	<b>HMM</b>	<b>MS</b>	<b>HTS</b>
Sales	75,000	50,000	100,000
Cost of goods sold	45,000	35,000	20,000
Gross Profit	30,000	15,000	80,000
Selling and Administrative Expenses	20,000	5,000	40,000
Operating Profit	10,000	10,000	40,000
Interest Expenses	3,000	3,000	0
Earnings Before taxes	7,000	7,000	40,000

	<b>HMM</b>	<b>MS</b>	<b>HTS</b>
Taxes	2,800	2,800	16,000
Net Income	4,200	4,200	24,000

### **Ratios**

	<b>HMM</b>	<b>MS</b>	<b>HTS</b>
Return on equity	10.50%	14.00%	26.67%
Return on Assets	4.20%	5.25%	24.00%
Total Asset Turnover	0.75	0.625	1
Current Asset Turnover	3	4.17	5
Fixed Asset Turnover	1	0.74	1.25
Gross Profit margin	40.00%	30.00%	80.00%
Operating profit margin	13.33%	20.00%	40.00%
Net profit margin	5.60%	8.40%	24.00%
Total Liabilities/assets	60.00%	62.50%	10.00%
Long-term debt to assets	40.00%	50.00%	0.00%
Long-term debt to equity	100.00%	133.33%	0.00%
Interest Coverage	3.33	3.33	NA
Inventory turnover	4.50	11.67	6.67
Average Collection period	48.00	36.00	36.00
Accounts Payables Turnover	2.25	3.50	2.00
Net working capital turnover	15.00	25.00	10.00
Equity Multiplier	2.50	2.67	1.11

### **Exhibit 2 - Details of the Project**

Investment in new machinery \$10,000,000  
 Useful life of the machinery 5 years  
 Depreciated using straight line depreciation to zero salvage value over the useful life of machinery

Expected life of the project 4 years  
 Expected incremental annual sales in the next 4 years \$12,500,000  
 Cost of goods sold 60% of sales  
 Fixed Operating Expenses per year \$500,000  
 Estimated selling price at the end of 4 years \$1,750,000  
 Working capital needs to support sales of \$12,500,000 \$3,000,000  
 Working capital will be provided at the beginning of the project and recouped at the end of project

Tax rate 40%  
 Beta of HMM 1.5  
 Risk-free rate 3%  
 Market risk premium 6%  
 After tax cost of debt 6%  
 Target debt ratio 40%

### Question 1

- (a) Analyse the difference in the return on equity of HMM and MS during 2015. Use the Du Pont system. (15 marks)
- (b) Analyse whether comparing the performance of HMM against HTS will be meaningful. (5 marks)

### Question 2

- (a) HMM is looking at investment in the new machine. In order to evaluate the project, estimate the relevant cash flows and calculate the following:
- (i) Weighted average cost of capital (8 marks)
  - (ii) Initial Investment (Investment in net working capital of \$3,000,000 is at the start of the project and recovered at the end of the project) (4 marks)
  - (iii) Annual cash flows (8 marks)
  - (iv) Terminal Cash flows (4 marks)
  - (v) Net present value (4 marks)
- (b) Recommend whether the project should be undertaken. (2 marks)

### Question 3

HMM is looking at the working capital policy.

- (a) Analyse the need for working capital and calculate the cash conversion cycle for HMM. (6 marks)
- (b) Analyse the importance of cash conversion cycle for management. (3 marks)
- (c) HMM is being offered a credit policy of 2/10 net 40 by its suppliers. The opportunity cost for HMM is 12%. Analyse the offer and advice whether discount should be taken. (6 marks)

### Question 4

The company would like to prepare a cash budget for the months of April, May, and June. The relevant details are given below (figures given are in \$000):

	January	February	March	April	May	June
<b>Sales</b>	5,000	8,000	10,000	12,000	10,000	15,000
<b>Purchases</b>	3,000	6,000	8,000	10,000	8,000	12,000
<b>Operating Expenses</b>	1,600	1,600	1,600	1,600	1,600	1,600

20% of sales every month is for cash. 80% of credit sales are collected in the month following sales and the rest during the second month after sales.

40% of purchase are for cash and credit purchases are paid in the following month.

Operating expenses are paid in the month in which it is incurred.

HMM will pay a dividend of \$10,000,000 in the month of June.

Cash balance as of April 1 is \$6,000,000

- (a) Prepare a cash budget for the months April, May, and June. (15 marks)
- (b) Discuss the use of cash budgets. (5 marks)

### **Question 5**

HMM is debating whether to issue a callable bond or a convertible bond to raise funds.

- (a) Discuss the circumstances under which callable bond will be issued and when these bonds will be called back.  
(5 marks)
- (b) Discuss when the company will issue a convertible bond and when the bond will be converted by shareholders.  
(5 marks)
- (c) Discuss which of these bonds will have a higher yield to maturity and why?  
(5 marks)

**----- END OF PAPER -----**