



**TOE408W  
ZAC408H  
FIRST PAPER**

October/November 2011

**APPLIED MANAGEMENT ACCOUNTING**

Duration : 3 Hours

100 Marks

EXAMINATION PANEL AS APPOINTED BY THE DEPARTMENT.

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Use of a non-programmable pocket calculator is permissible.

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue.

**READING TIME: 30 MINUTES**

**THIS PAPER CONSISTS OF 6 PAGES WHICH CONSISTS OF ONE QUESTION (QUESTION 1) (EXCLUDING THE REQUIRED PART WHICH WILL BE HANDED OUT SEPARATELY).**

**NO CANDIDATE WILL BE ALLOWED EITHER TO LEAVE THE VENUE DURING THE FIRST HOUR OF THE EXAMINATION OR TO ENTER THE VENUE AFTER ONE HOUR AFTER THE EXAMINATION HAS BEGUN.**

**THIS IS NOT AN OPEN BOOK EXAMINATION**

**PLEASE COMPLETE THE COVER PAGE OF EACH ANSWER BOOK IN FULL.**

**[TURN OVER]**

**QUESTION 1****100 marks**

Filmstars (Pty) Ltd is an entertainment company with its primary focus being the African continent. The company manufactures and distributes DVD's and related products as well as distributing the rights relating to movies produced by a variety of producers. They also sell the movies to cinema chains for viewing in South Africa and other African countries.

Both the company's manufacturing and distribution divisions have experienced difficulties recently due to falling demand as a result of the economic recession, as well as difficulty experienced in sourcing sufficient movies to maintain profitability.

**MOVIE AND DVD BUSINESS SEGMENT***DVD Manufacturing and distribution division*

New technology has provided an opportunity to produce a new type of DVD which entails utilising its existing facilities. Filmstars (Pty) Ltd anticipates that this will improve its market share. It has already paid R1 million towards development expenditure, market research and a feasibility study for DVD production as well as R50 000 on a market research survey to determine the potential for the DVD production business.

Sales of 165 000 DVD's per annum for five years at a selling price of R40 per DVD are anticipated.

Estimated operating costs, at today's prices, are as follows:

Current cost per DVD:	R
Material cost	16
Direct labour	4
Variable overhead	3
Fixed overhead (allocated)	3
Distribution	4

The existing facilities will need to be redesigned and set-up at a cost of R4 million after allowing for all the relevant tax relief. The current tax rate is 28%.

Filmstars (Pty) Ltd's shareholders require a nominal return of 14% per annum after tax, which includes an allowance for inflation of 5,56% per annum.

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*Movie production division*

Filmstars (Pty) Ltd's board has expressed its concern regarding the increasing uncertainty about the potential success or failure of independently produced movies. None the less it was decided at a recent board meeting, to commission movies in its own right and to invest in such productions.

One option is to purchase an existing company at a cost of R800 000. Cinema chains are adopting a policy of only buying movies from large international movie companies, and while Filmstars (Pty) Ltd understands that more movies may fail than succeed, they believe this part of their business will still be profitable.

Data has been collected covering a five year period. A target of producing three movies a year has been set.

Sales in year one will probably be:

<b>Sales (R million)</b>	<b>Probability</b>
8	0,2
10	0,4
14	0,3
20	0,1

Sales, in terms of value, are expected to grow at an annual rate of 5% from year two onwards.

Costs are as follows:

	<b>R'000</b>
Purchase of film-making company	800
Annual legal and professional costs	40
Annual operating lease payments (office equipment)	24
Studio and set hire per movie (incurred annually)	360
Camera or specialist equipment hire per movie (incurred annually)	80
Technical staff wages per movie (incurred annually)	1 040
Screenplay per movie (incurred annually)	100
Actors' salaries per movie (incurred annually)	1 400
Costume and wardrobe hire per movie (incurred annually)	120
Set design and painting per movie (incurred annually)	300
Annual wages of non-production staff	120

**[TURN OVER]**

**Additional information gathered**

- All the above expenses are deductible in terms of section 24F (film allowances) of the Income Tax Act.
- Tax is payable one year in arrears and the tax benefits of any assessed losses can be taken into account as they arise, when performing net present value (NPV) calculations.
- Wages for technical and non-production staff as well as actors' salaries are expected to rise by 7% per annum from the beginning of year 2 onwards.
- Studio hire costs will be subject to an increase of 25% at the beginning of year three and 10% per annum thereafter.
- Screenplay costs per film are expected to rise by 12% per annum from the beginning of year 2 onwards, due to a shortage of skilled writers.
- The new business will occupy office accommodation that is currently being rented out for R40 000 per annum, with no escalation provided for in the rental contract.
- Other costs not specified above will remain stable as cost savings due to efficiencies and technological advances will counter inflationary increases.

**MANUFACTURING SEGMENT**

The manufacturing segment focuses on the manufacturing of specialised film industry equipment, decoders and wiring sets. Each of the three product ranges occupies dedicated space in their Brits factory.

*Decoders*

Although the employees of this section boast excellent credentials in their field and are upbeat about future prospects in the market, 70% spare capacity currently exists. The hard working sales manager has recently won a contract to manufacture and supply 6 000 decoders to a new pay-to-view TV station, Hot TV, during the following year.

The price of this decoder is critical as Hot TV subsidizes the decoder price to entice users to subscribe to their services. Hot TV believes there is a direct positive correlation between decoder sales and subscriptions and would like to use this as a growth tool. Hot TV is likely to order additional decoders in the event of higher demand. The sales manager has asked for your help in setting the right price for the order and has supplied you with the following information:

**[TURN OVER]**

- Sales have been budgeted at R3 627 000 at full capacity for the coming year with a budgeted contribution margin of 35%. Without special orders, capacity utilisation is likely to remain at 30%.
- The production manager has set the overhead recovery rate at R38,50 per machine hour. Fixed production overheads include labour, depreciation and rent. The budgeted machine hours have been determined as being 34 500 hours for the year.
- Due to highly skilled technical staff, management is confident that production will derive an 85% cumulative average learning rate during the manufacturing of the required 6 000 units. The time taken to manufacture the first batch of 1 500 units was 5 463 machine hours. The order will be manufactured in batches of 1 500 units. All decoders manufactured after the special order will take the same average time per unit as that of the special order.
- Variable costs will amount to
 

Materials	R123,65 per unit
Production overheads	R24,60 per machine hour
- This project will incur additional fixed costs of R28 500 per annum.
- Hot TV would like to earn a 50% mark-up on their cost, but has consciously made a decision to subsidize the decoder price to grow their fledgling business. Hot TV has provided you with the following schedule of their projected sales volumes at different price levels:

Price per decoder R	Projected volume
305	9 200
320	8 800
340	8 200
360	7 500
380	6 800
400	6 000

#### *Wiring sets*

A wire set consists of the wiring to connect to different devices as well as the dish connection. This enables the independent installers to cut down substantially on their installation time. After the wiring is put together, colour coded plastic is moulded onto it. Products are inspected before being released for distribution and a 10% loss is considered normal and acceptable. A completed set is sold for R90 while a rejected set is sold for R10 to a welfare society, which recovers the wiring components. The proceeds from the rejected sets are set off against the normal loss incurred. No material inventories of accepted or rejected sets are held at month ends.

**[TURN OVER]**

For budget purposes, the following cost structure has been prepared:

<b>Monthly volume (sets)</b>	<b>Total overheads<sup>1</sup> (R)</b>
400 – 500	11 760 – 12 225
600 – 1 000	22 490 – 24 350
1 100 – 1 500	36 115 – 37 950
1 600 – 1 700	42 340 – 42 805

<sup>1</sup>The range of the budgeted total overheads indicates the total overhead costs on a monthly basis for the budgeted volume of wire sets indicated above

The fixed overhead rate for each production month is calculated using the average quantity of the range, in which production fell during that month.

The following actual figures were recorded in this division during September 2011:

- 1 320 wire sets at a cost of R19 800 (the cost being the material component of the sets only) were sent for inspection. The rejection rate was as expected.
- Labour cost incurred was R17 754.
- Variable overhead incurred was as per budget.
- The fixed overhead actually incurred was R28 248.

### **EXAMINATION PANEL AS APPOINTED BY DEPARTMENT**

#### **EXAMINERS:**

##### **FIRST**

MRS A COMBRINK  
 MR A DE GRAAF  
 MRS J FOOT  
 MR S NDLOVU

MR AE NOBATYI  
 MRS A RAVAT  
 MRS F TAYOB  
 MRS F VENTER

##### **SECOND:**

MR FJC BENADE  
 PROF B VAN HEERDEN

MR L CRAFFORD

##### **EXTERNAL:**

MR GJ PLANT (UP)

**TOE408W/ZAC408H**

**APPLIED MANAGEMENT ACCOUNTING**

**OCTOBER / NOVEMBER EXAM 2011**

**PAPER 1**

**REQUIRED**

**YOU HAVE 2,5 HOURS TO ANSWER THIS PAPER**

**THIS REQUIRED PART CONSISTS OF 2 PAGES.**

**[TURN OVER]**

REQUIRED	Marks
(a) Assess the financial feasibility of producing the DVD's in <b>real terms</b> , computing both the net present value (NPV) and the internal rate of return (IRR). For this assessment, <b>assume no delay in respect of the tax cash flows exists.</b>	(12)
(b) Determine the values for the: (i) price (ii) Volume at which the DVD project's NPV becomes zero. Discuss your results and suggest appropriate management action.	(4) (4) (2)
(c) Calculate the NPV of the proposed investment in the movie production company. (Workings to be in R'000)	(20)
(d) Distinguish between specific (diversifiable) and market (non-diversifiable) risk with specific reference to Filmstars (Pty) Ltd's activities.	(4)
(e) Making use of the risk measure – coefficient of variation – comment on the risk associated with the company's anticipated sales of produced films for the current year.	(10)
(f) Briefly explain how the tax treatment of capital purchases can affect an investment decision.	(2)
(g) Calculate the budgeted breakeven point in <b>Rand</b> for Filmstars (Pty) Ltd's decoder section.	(2)
(h) <b>Address the following in respect of the order received by Filmstars (Pty) Ltd for 6 000 decoders to be supplied to Hot TV:</b> • Calculate the minimum price at which the decoders could be supplied. • Calculate the price(s) at which the decoders could be supplied on the assumption that the decoder division does not want to make a loss during the ensuing year. • Make a final recommendation to management regarding a possible course of future action.	(6) (15) (4)
(i) Briefly explain whether the subsidization process used by Hot TV is reasonable and sustainable from a business perspective.	(5)
(j) Calculate the: (i) Fixed overhead over or under allocated and the (ii) Normal loss incurred  during September 2011 for/by the wiring set division. Do calculations for this section to 3 decimals where necessary.	(6) (4)

**Formulae**Fisher:  $1 + \text{nominal rate \%} = (1 + \text{real rate \%}) \times (1 + \text{inflation rate \%})$ Discount factor:  $\frac{1}{(1 + r)^n}$ Standard deviationCoefficient of variation:  $\frac{\text{Standard deviation}}{\text{Expected value}}$