

EXAMINATION NO. _____



2014 EXAMINATIONS

KNOWLEDGE LEVEL

PAPER 3 : MANAGEMENT INFORMATION

FRIDAY 5 DECEMBER 2014

**TIME ALLOWED : 3 HOURS
9.00 AM - 12.00 NOON**

INSTRUCTIONS: -

1. You are allowed **15 minutes** reading time **before the examination begins** during which you should read the question paper and, if you wish, make annotations on the question paper. However, you will **not** be allowed, **under any circumstances**, to open the answer book and start writing or use your calculator during this reading time.
2. Number of questions on paper - 5.
3. Answer all the questions. Each question carries 20 marks.
Question 1 is a multiple choice question that is divided into items a – t. Indicate the correct answer to each item by circling (i), (ii) (iii) or (iv) on the specially prepared answer sheet. Fasten the answer sheet to the main answer book.
4. Formulae Sheet, Graph Paper and Financial Tables are provided.
5. This question paper must **not** be removed from the examination hall.
6. **DO NOT OPEN THIS PAPER UNTIL YOU ARE INSTRUCTED BY THE INVIGILATOR**

This question paper contains 10 pages

SECTION A

This is a compulsory multiple choice question.

Answer ALL the items of this question

1. (a) A company employs four factory supervisors to oversee the production of all its products. The salaries paid to these supervisors are:
- (i) A direct labour cost;
 - (ii) A direct production expense;
 - (iii) A production overhead;
 - (iv) An administration overhead.
- (b) The economic batch quantity is used to establish an optimal:
- (i) re-order quantity;
 - (ii) cumulative production quantity;
 - (iii) re-order level;
 - (iv) inventory level for production.
- (c) The most frequently occurring value in a set of data is called:
- (i) mode;
 - (ii) mean;
 - (iii) median;
 - (iv) mean deviation.
- (d) A cost which is described as staying the same over a certain activity range and then increasing but remaining stable over a revised activity range in the short term is called:
- (i) A fixed cost;
 - (ii) A variable cost;
 - (iii) A semi-variable cost;
 - (iv) A stepped fixed cost.

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- (e) A flexible budget is:
- (i) a budget which, by recognizing different cost behavior patterns, is designed to change as the volume of activity changes;
 - (ii) a budget for a defined period of time which includes planned revenues, expenses, assets, liabilities and cash flow;
 - (iii) a budget which is prepared for a period of one year and is reviewed monthly, whereby each time actual results are reported, a further forecast period is added and the intermediate period forecasts are updated;
 - (iv) a budget of semi-variable production costs only.
- (f) An independent variable is best described as:
- (i) a variable that changes in response to changes in other variables;
 - (ii) a variable that changes in response to time;
 - (iii) a variable that causes changes to a dependent variable(s);
 - (iv) a variable that does not change with time.
- (g) A string of income which is expected to be received in equal instalments over a given period is referred to as :
- (i) interest;
 - (ii) a perpetuity;
 - (iii) geometric progression;
 - (iv) an annuity.
- (h) A graph of frequency distribution is called:
- (i) a histogram;
 - (ii) an ogive;
 - (iii) a bar chart;
 - (iv) a polygon

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- (i) A random variable whose observation can take any value in an interval which is said to generate continuous data, and that any value between a lower and upper limit is valid is called:
- (i) continuous data;
 - (ii) discrete data;
 - (iii) ratio-scaled data;
 - (iv) random data.
- (j) The type of sampling which gives every item in the population an equal chance of being chosen without any bias is called:
- (i) systematic sampling;
 - (ii) stratified sampling;
 - (iii) random sampling;
 - (iv) quota sampling.
- (k) The discount rate used in Discounted Cash Flow (DCF) calculations is known as:
- (i) interest rate;
 - (ii) cost of capital;
 - (iii) internal rate of return;
 - (iv) compound interest.
- (l) In process costing, normal loss is the loss which is:
- (i) the excess of anticipated loss over actual loss;
 - (ii) the loss which will have a scrap value;
 - (iii) anticipated to arise during the process;
 - (iv) the loss which can be controlled.

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- (m) Which of the following statements is correct?
- (i) An adverse direct material cost variance will always be a combination of an adverse material price variance and an adverse material usage variance;
 - (ii) An adverse direct material cost variance will always be a combination of an adverse material price variance and a favourable material usage variance;
 - (iii) An adverse direct material cost variance can be a combination of favourable material price variance and a favourable material usage variance;
 - (iv) An adverse direct material cost variance can be a combination of a favourable material price variance and an adverse material usage variance.
- (n) A resource allocation technique where some objective, for example to maximize contribution, is required to be optimized subject to resource constraints is called:
- (i) capital rationing;
 - (ii) linear programming;
 - (iii) forecasting;
 - (iv) assignment.
- (o) An internal rate of return is:
- (i) a return on investment which gives zero net present value;
 - (ii) a return on sales less costs which gives zero net present value;
 - (iii) a return on assets which gives zero net present value;
 - (iv) a discount rate which gives zero net present value.
- (p) The study of observations of well defined data items obtained through repeated measurements over time is called:
- (i) forecasting;
 - (ii) probability;
 - (iii) time series analysis;
 - (iv) regression analysis.

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- (q) Relevant information for decision-making:
- (i) is incremental to the decision in hand;
 - (ii) can include sunk costs;
 - (iii) usually includes historical costs;
 - (iv) includes all of the above .
- (r) The margin of safety is:
- (i) sales minus variable costs;
 - (ii) the difference between actual sales and budgeted sales;
 - (iii) the difference between zero sales and breakeven sales;
 - (iv) the difference between budgeted sales and breakeven sales.
- (s) Using process costing, the amount of cost transferred to finished goods stock is the cost of:
- (i) the equivalent production for the period;
 - (ii) the units completed during the period;
 - (iii) the units started and completed during the period;
 - (iv) the units in the opening finished goods stock.
- (t) Marginal costing gives a different profit to absorption costing when:
- (i) opening and closing stocks are different;
 - (ii) all production costs are fixed;
 - (iii) all production costs are variable;
 - (iv) there are no opening or closing stocks.

1 Mark each
(TOTAL : 20 MARKS)

SECTION B

Answer FIVE questions ONLY from this Section

2. (a) The managers of a company are preparing revenue plans for the last quarter of 2013/14 and for the first three quarters of 2014/15. The data below refers to one of the main products:

Revenue	April – June Quarter 1 K'000	July – Sept Quarter 2 K'000	Oct – Dec Quarter 3 K'000	Jan – March Quarter 4 K'000
2010/11	49	37	58	67
2011/12	50	38	59	68
2012/13	51	40	60	70
2013/14	50	42	61	-

Required:

- (i) Calculate the four-quarterly moving average trend for this set of data. **7 Marks**
- (ii) Mention **four** factors into which a time series can be separated. **4 Marks**
- (b) State **four** limitations of the basic moving averages system. **4 Marks**
- (c) State **five** assumptions behind the basic Economic Order Quantity formula. **5 Marks**

(TOTAL : 20 MARKS)

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3. XYZ chemicals produces three joint products in one common process but each product is capable of being further processed separately after the split-off point.

The estimated data given below relate to May 2014.

	Product X	Product Y	Product Z
Selling price at split-off point (per litre)	K600	K800	K900
Selling price per litre after further processing	K1,000	K2,000	K3,000
Post-separation point costs	K20,000,000	K10,000,000	K22,500,000
Output in litres	35,000	25,000	20,000

Pre-separation point joint costs are estimated to be K40,000,000 and it is the current practice to apportion these to the three products according to the litres produced.

Required:

- (a) Define a 'joint-product' and distinguish it from a "by-product". **4 Marks**
- (b) State any **four** most common methods of dealing with by-product costs. **4 Marks**
- (c) (i) Prepare a statement of estimated profit or loss for each product and in total for May 2014 if all the three products are processed further. **6 Marks**
- (ii) Advise how profits could be maximized if one or more products were sold at the split-off point. Your advice should be supported by a profit statement. **6 Marks**

(TOTAL: 20 MARKS)

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4. (a) Distinguish between a “fixed” and a “flexible” budget. **2 Marks**
- (b) State any **four** benefits associated with budgeting. **4 Marks**
- (c) Super Freezer Ltd makes a single product and has an average production of 5,000 units a month although this varies widely. The following extract from the overhead statement for the extrusion department shows the make-up of the budget and a month’s actual results.

		Budget for the average production of 5,000 units	Actual results for October production of 4,650 units
	K	K	K
Indirect labour:			
Fixed	3,000		
Variable K1/unit	<u>5,000</u>	8,000	7,900
Consumables (all variable)		15,000	14,250
Variable overheads		20,000	18,200
Fixed overheads		<u>12,500</u>	<u>12,500</u>
		<u>55,500</u>	<u>52,850</u>

Required:

Prepare a budgetary control statement for October based on a flexible budget for the actual level of production. **5 Marks**

- (d) State any **four** assumptions behind the Cost Volume Profit (CVP) Analysis. **4 Marks**
- (e) A manufacturer incurred the following costs in September 2014 for his sole product:

	K
Labour (25% variable)	800,000
Materials (100% variable)	1,200,000
Selling costs (10% variable)	200,000
Other costs (fixed)	<u>700,000</u>
	<u>2,900,000</u>

A normal month’s sales are 50,000 units at K70 each, but up to 65,000 units could be made in a month. Various alternatives are being considered some of which are the following:

- (1) Reduce the price to K63 each and sell all that could be made.
- (2) Maintain the current levels of sales and price.

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Required:

- (i) Which of the above two alternatives is more profitable? (Support your answer with figures). **2 Marks**
- (ii) What is the contribution sales (CS) ratio for each alternative? **1 Mark**
- (iii) What is the break-even point for each alternative? **2 Marks**
- (TOTAL: 20 MARKS)**

5. (a) An engineer has recorded the time taken by maintenance staff to repair a particular type of equipment fault. The following table shows the time taken in minutes to repair 280 recent faults.

Time taken (Minutes)	Frequency
Under 10	40
10 and under 20	50
20 and under 30	60
30 and under 40	80
40 and under 50	30
50 and under 60	20
60 and over	0

Required:

- (i) Calculate the mean of the time taken to repair the faults. **4 Marks**
- (ii) Calculate the standard deviation of the time taken to repair the faults. **4 Marks**

- (b) Information relating to a proposed investment project X whose initial cost is K80,000,000 is as follows:

Year	Profit/(Loss) K'000
1	35,000
2	30,000
3	25,000
4	(40,000)
5	5,000

Included in the annual figures of profit and loss is a depreciation charge which is based on the assumption that at the end of five years, the project would be terminated, with K8,000,000 scrap value.

Assume that cash flows occur evenly throughout the year. The company's cost of capital is 25%.

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Required:

- (i) Calculate the payback period in years, to 1 decimal place. **4 Marks**
- (ii) Calculate the net present value of the proposed investment. **6 Marks**
- (iii) Based on your answer to (ii) above, state whether or not the proposed investment should be undertaken. **2 Marks**

(TOTAL : 20 MARKS)**E N D**

NOT FOR SALE