**Exam paper 2** **Two hours. Answer all questions.**

**Each question is worth 25 marks**

**QUESTION 1**

The Massive Music Company makes two instruments: Flutes and Whistles
Each Flute makes a contribution of £4 per unit and each Whistle £3.
The company wishes to maximise its contribution, subject to the following weekly production constraints:

| | Flute | Whistle | Available |
|---|---|---|---|
| Machine hours | 2 | 4 | 100 |
| Labour hours | 6 | 4 | 180 |
| Material (kgs) | 1 | 1 | 40 |

As part of a GATT trade agreement, production and sales of the Whistle must be limited to 20 per week.

a) Identify the constraints and the objective function and state them mathematically **8 marks**

b) Identify the optimum solution, in terms of the output of each product and the contribution produced, by drawing a graph **7 marks**
c) Identify the binding constraints and the shadow prices of the binding constraints. **4 marks**
d) What would be the effect of the following?

i) material availability increasing to 60kgs
ii) machine hour availability increasing to 120 hours **6 marks**

Total marks **25**

## Question 2

Pasternak PLC make and sell a product, the Varley. Annual sales in units for 2009 are expected to be 210,000, and standard cost and selling price per unit is:

| | £ |
|---|---|
| Selling price | 30 |
| Variable costs: | |
| Materials | 8 |
| Labour | 8 |
| Overheads | 2 |

**Annual** fixed overheads for 2009 are budgeted at:

| | |
|---|---|
| Manufacturing: | 528,000 |
| Non-manufacturing | 336,000 |

Actual production and sales for the month of January was 16,000 units. The actual revenue and expenditure for the month of January 2009 was as follows:

| | |
|---|---|
| Sales revenue | 502,000 |
| | |
| Expenditure: | |
| Materials | 118,500 |
| Labour | 125,500 |
| Variable overhead | 32,400 |
| Fixed overheads | |
| Manufacturing | 40,000 |
| Non-manufacturing | 35,000 |

Pasternak PLC divide the annual budget by 12 in order to produce monthly control reports.

**REQUIRED:**

a) Prepare the monthly control report showing original budget, flexed budget and variances. **12 marks**

a) Using your report, give a brief analysis of Pasternak's performance during the month. **7 marks**

b) Suggest how this control report could be improved, describing any extra information you would need in order to do so. **6 marks**

Total marks 25

**QUESTION 3**

A) Explain and evaluate the objectives of Kaplan and Norton's Balanced Scorecard approach to performance measurement. Give examples of some of the performance measures that this approach might use, and appraise its advantages and drawbacks.

**15 MARKS**

B) Explain the difference between demand-based pricing and cost-based pricing. Outline the circumstances where each approach may be appropriate, and discuss the possible implications of using an inappropriate pricing method. **10 MARKS**

**Total marks 25**

**Question 4**

Meridian Ltd makes 30,000 units per year of part AS400 used in the range of electrical goods it manufactures. The unit costs of this part are as follows;

| | **£** |
|---|---|
| Direct Materials | 24.70 |
| Direct Labour | 16.30 |
| Variable manufacturing overhead | 2.30 |
| Fixed manufacturing overhead | 13.40 |
| Total | **56.70** |

An outside supplier has offered to supply Meridian Ltd with as many of these parts as it needs, for £44.50 each.

If the part were purchased from the outside supplier, all direct labour costs associated with the product could be avoided, but in the short term, all fixed overhead costs would have to be reapportioned over the remaining product range.

a)Calculate the relevant cost per unit of part AS400 in relation to the decision of whether to make or buy in the part.

**6 marks**

b) If Meridian accept the offer to purchase the part from the outside supplier, the production facilities now being used to make the part could be used to make 4,000 more units of its best selling product, each of which generate a contribution of £11.
Taking into account this additional information, what is the total additional cost or saving of purchasing 30,000 units per year of AS400 rather than making it?

**10 marks**

c)“ The easiest way to distinguish between relevant & non-relevant costs is by cost behaviour; variable costs are relevant costs & fixed costs are not.”

Explain briefly why you might agree or disagree with this statement.

**9 marks**

**Total 25 Marks**