

**UNIVERSITY OF BOLTON**  
**INSTITUTE OF MANAGEMENT**  
**BA(HONS) ACCOUNTANCY**  
**SEMESTER ONE EXAMINATIONS 2022/2023**  
**MANAGEMENT ACCOUNTING AND DECISION**  
**MAKING**  
**MODULE NO: ACC5002**

Date: Tuesday 10 January 2023

Time: 2.00 – 5.00pm

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**INSTRUCTIONS TO CANDIDATES:**

There are **SIX** questions on this paper.

Answer **FOUR** questions as follows:

**TWO** questions in Section A  
**TWO** questions in Section B

This is a closed book examination.

You must hand in this exam paper with your answer booklet.

Use of calculators is allowed.

Discount tables and Formula sheet are attached at the back of this question paper.

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Institute of Management  
BA(Hons) Accountancy  
Semester One Examination 2022/2023  
Management Accounting and Decision Making  
Module No. ACC5002

**SECTION A – ANSWER 2 QUESTIONS ONLY FROM THIS SECTION**

**Question 1**

Bridge Co Fisheries catch and process crabs. There are four employees processing and dressing the crabs which are then supplied to local markets.

The time allowed to dress and prepare a crab is 3 standard minutes. Each employee works a standard 35-hour week, although overtime is often worked. The standard labour rate per hour is £6.20.

The standard material cost per crab is £1.30 but not all the crabs processed, i.e. dressed, meet the quality standard as wastage occurs.

The budgeted fixed cost for the month is £3,750. For the month of August 20X2, its budgeted output was 12,000 'dressed crabs', or 3,000 units per week.

During the week ending 18 August 20X2:

- 3,050 crabs were dressed satisfactorily but 3,110 were used.
- The actual cost of the crabs was £4,354.
- The actual hours worked were 162.
- The actual cost of labour for the period was £1,021.
- The fixed overheads incurred were £990.

**Question 1 continues over the page  
Please turn the page**

Institute of Management  
BA(Hons) Accountancy  
Semester One Examination 2022/2023  
Management Accounting and Decision Making  
Module No. ACC5002

**Required:**

**(a) Calculate the following for the week ending 18 August 20X2 (assume 4 weeks in a month):**

- i. The standard hours** (2 marks)
- ii. The budgeted hours** (2 marks)
- iii. The direct material price variance.** (2 marks)
- iv. The direct material usage variance** (2 marks)
- v. The direct labour rate variance.** (2 marks)
- vi. The direct labour efficiency variance.** (2 marks)
- vii. The fixed overhead expenditure variance.** (2 marks)
- viii. The fixed overhead capacity variance.** (2 marks)
- ix. The fixed overhead efficiency variance.** (2 marks)

**(b) Evaluate the causes of the above variances.**

**(7 marks)**

**Total 25 marks**

**End of question 1  
Questions continue over the page  
Please turn the page**

Institute of Management  
 BA(Hons) Accountancy  
 Semester One Examination 2022/2023  
 Management Accounting and Decision Making  
 Module No. ACC5002

**Question 2**

Sadiq & Co is a multi-divisional company. One of the divisions has net assets of \$420,000. The profit statement for the division for the latest period is as follows:

	£
Revenue	630,000
Variable costs	(390,000)
	-----
Contribution	240,000
Attributed fixed costs	(180,000)
Allocated central costs	(25,000)
	-----
Divisional Profit	35,000
	-----

The divisional manager is considering investing in a machine costing \$50,000. The machine would earn annual profits, after depreciation, of \$5,500. The company's cost of capital is 10%.

Additionally, the divisional manager wishes to have some additional information on transfer pricing policies and would require your advice.

**Required:**

a)

- I. Calculate the division's controllable return on investment, without the new machine (to 1 decimal place)?  
(2 marks)
- II. Compute the division's controllable return on investment, with the new machine (to 1 decimal place)?  
(3 marks)
- III. Evaluate the controllable residual income for the division without the new machine?  
(2 marks)
- IV. Calculate the controllable residual income for the division with the new machine?  
(3 marks)

Question 2 continues over the page  
 Please turn the page

Institute of Management  
 BA(Hons) Accountancy  
 Semester One Examination 2022/2023  
 Management Accounting and Decision Making  
 Module No. ACC5002

**Question 2 continues**

- b) Evaluate the strengths and weaknesses of using Return on Investment as a performance measure tool over Residual Interest.

(8 Marks)

- c) Analyse the characteristics of a good transfer price policy and the methods of transfer pricing.

(7 marks)

**Total 25 Marks**

**Question 3:**

All projects require an initial investment of £1,250,000 and the net cash flows for each of the project are as follows:

	Project Ant £	Project Bot £	Project Cut £
Year 1	300,000	119,000	114,000
Year 2	500,000	60,000	236,000
Year 3	725,000	125,000	452,500
Year 4	127,000	557,000	521,500
Year 5	658,000	96,000	421,000

In addition, at the end of the five-year project, the assets initially bought for Project Bot will be sold for £320,000.

The cost of capital is 10% for all projects.

**Question 3 continues over the page  
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Institute of Management  
BA(Hons) Accountancy  
Semester One Examination 2022/2023  
Management Accounting and Decision Making  
Module No. ACC5002

**Question 3 continues**

**Required:**

- (a) Compute the Net Present Value (NPV) for each project and recommend which project should be taken up. (10 marks)
- (b) Calculate the payback period for Project Ant only. (3 marks)
- (c) Calculate the Accounting Rate of Return (ARR) for Project Bot using the average method. (3 Marks)
- (d) Calculate the Internal rate of return (IRR) for Project Cut only. (4 Marks)
- (e) Critically evaluate the use of future cash flows over accounting profits in capital investment appraisal. (5 Marks)

**Total 25 Marks**

**End of question 3  
End of Section A**

**Questions continue over the page  
Please turn the page**

Institute of Management  
BA(Hons) Accountancy  
Semester One Examination 2022/2023  
Management Accounting and Decision Making  
Module No. ACC5002

**SECTION B – ANSWER 2 QUESTIONS ONLY FROM THIS SECTION**

**Question 4**

**Part (a)**

Javed Co is an engineering company that specialises in providing engineering facilities to businesses that cannot justify operating their own facilities in house. Javed Co employs a number of engineers who are skilled in different engineering techniques that enable Javed Co to provide a full range of engineering facilities to its customers.

Most of the work undertaken by Javed Co is unique to each of its customers, often requiring the manufacture of spare parts for its customers' equipment, or the building of new equipment from customer drawings. As a result most of Javed Co's work is short-term, with some jobs being completed within hours while others may take a few days.

To date, Javed Co has adopted a cost plus approach to setting its prices. This is based upon an absorption costing system that uses machine hours as the basis of absorbing overhead costs into individual job costs. The Managing Director is concerned that, over recent months, Javed Co has been unsuccessful when quoting for work with the consequence that there has been an increase in the level of unused capacity. It has been suggested that Javed Co should adopt an alternative approach to its pricing based on marginal costing since 'any price that exceeds variable costs is better than no work'.

**Required:**

**With reference to the above scenario:**

- I. Evaluate absorption and marginal cost approaches to pricing.**

**(10 Marks)**

- II. Discuss the validity of the comment 'any price that exceeds variable costs is better than no work'.**

**(5 Marks)**

**Question 4 continues over the page  
Please turn the page**

Institute of Management  
 BA(Hons) Accountancy  
 Semester One Examination 2022/2023  
 Management Accounting and Decision Making  
 Module No. ACC5002

**Question 4 continues**

**Part (b)**

JBS Co is considering whether to administer its own purchase ledger or to use an external accounting service. It has obtained the following cost estimates for each option:

**Internal service department**

	<b>Cost</b>
Purchase hardware/software	£320 pa
Hardware/software maintenance	£750 pa
Accounting stationery	£500 pa
Part-time account clerk	£6,000 pa

**External services**

	<b>Cost</b>	<b>Volume</b>
Processing of invoices/credit notes	£0.50 per document	5,000 pa
Processing of cheque payments	£0.50 per cheque	4,000 pa
Reconciling supplier accounts	£2.00 per supplier per month	150 suppliers

**Required:**

**Evaluate the cost effectiveness of outsourcing the accounting activities and identify the qualitative factors involved.**

**(10 Marks)**

**Total 25 Marks**

**End of question 4**

**Questions continue over the page  
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Institute of Management  
BA(Hons) Accountancy  
Semester One Examination 2022/2023  
Management Accounting and Decision Making  
Module No. ACC5002

**Question 5**

Budgets contribute to performance management by providing benchmarks against which to compare actual results and develop corrective measures. Budgets give managers 'preapproval' for execution of spending plans and allow them to provide forward looking guidance to investors and creditors.

**Required:**

a) Evaluate the following approaches to budgeting:

- I. Imposed budget and participatory budget
- II. Incremental Budget
- III. Zero based budgeting
- IV. Activity based budgeting
- V. Rolling Budget

(20 Marks)

b) Analyse the issues that should be considered before changing to a new budgetary system.

(5 Marks)

**Total 25 Marks**

**End of question 5**

**Questions continue over the page  
Please turn the page**

Institute of Management  
 BA(Hons) Accountancy  
 Semester One Examination 2022/2023  
 Management Accounting and Decision Making  
 Module No. ACC5002

**Question 6****Part (a)**

Z Ltd makes three products, A, B and C, for which unit costs, machine hours and selling prices are as follows:

	Product A	Product B	Product C
Machine hours	10	12	14
	£	£	£
Direct materials @ £0.50 per kg	7	6	5
Direct wages @ £7.50 per hour	9	6	3
Variable overheads	3	3	3
	—	—	—
Marginal cost	19	15	11
Selling price	25	20	15
	—	—	—
Contribution	6	5	4
	—	—	—

Sales demand for the period is limited as follows.

Product A	4,000
Product B	6,000
Product C	6,000

Company policy is to produce a minimum of 1,000 units of Product A.

The supply of materials in the period is unlimited, but machine hours are limited to 200,000 and direct labour hours to 5,000.

**Question 6 continues over the page**  
**Please turn the page**

Institute of Management  
BA(Hons) Accountancy  
Semester One Examination 2022/2023  
Management Accounting and Decision Making  
Module No. ACC5002

**Question 6 continues**

**Required:**

- (a) Evaluate the production levels that should be adopted for the three products in order to maximise profitability, and calculate the maximum contribution.

**(12 Marks)**

**Part (b)**

The balanced scorecard approach to performance measurement and control emphasises the need to provide management with a set of information which covers all relevant areas of performance.

**Required:**

Evaluate the four perspectives of the balanced scorecard as a performance measurement tool and any associated problems with it.

**(13 Marks)**

**Total 25 Marks**

**END OF QUESTIONS  
END OF EXAM PAPER**

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Institute of Management  
BA(Hons) Accountancy  
Semester One Examination 2022/2023  
Management Accounting and Decision Making  
Module No. ACC5002

**Formula**

**Internal Rate or Return (IRR)**

$$IRR = r_a + \frac{NPV_a}{NPV_a - NPV_b} (r_b - r_a)$$

- $r_a$  = lower discount rate chosen
- $r_b$  = higher discount rate chosen
- $N_a$  = NPV at  $r_a$
- $N_b$  = NPV at  $r_b$

**PLEASE TURN THE PAGE**

Institute of Management  
 BA(Hons) Accountancy  
 Semester One Examination 2022/2023  
 Management Accounting and Decision Making  
 Module No. ACC5002

**Present Value Table**

Present value of 1 i.e.  $(1 + r)^{-n}$

Where  $r$  = discount rate

$n$  = number of periods until payment

Periods (n)	Discount rates (r)										
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	1
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	2
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	3
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	4
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	5
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	6
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	7
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	8
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	9
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	10
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	11
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	12
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	13
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	14
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	15
(n)	11%	12%	13%	14%	15%	16%	17%	18%	19%	20%	
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833	1
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694	2
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579	3
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482	4
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402	5
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335	6
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279	7
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233	8
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194	9
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162	10
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135	11
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112	12
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093	13
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078	14
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065	15