



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Examination Answer Books

12 Pages

Instructions to Candidates

1. Please give the information requested in the boxes below.
2. Enter your name in the space provided to the right, fold over and seal down (using the label provided) to hide your name.
3. The answers must be legibly written. The Examiners can either ignore illegible script or have it typed and the expense of typing charged to the candidate.
4. Write your answers in ink.
5. Begin each answer on a fresh page. Do all rough work in the answer book and cross it through.
6. No part of this book is to be torn out; it must be handed in complete.
7. If more books than one are used, fasten them together using the tags available from the invigilator(s).
8. **Every book must be handed in. In no circumstances may answer books, used or unused, be taken out of the examination venue.**

Complete, fold and seal
(see note 2 below)

SURNAME:

Watkins

FORENAME(S):

David Gary

1	Student Number	P150289
2	Title of Examination Paper	Industrial Placement & team management
3	Module Code	MSX 02199
4	Date and Time of Examination	17 th May 2019 3pm
5	Examination Venue	IQ310
6	Seat Number	G062
7	Number of Answer Books handed in	

List the numbers of the questions you have attempted	Office Use
1	5 1/2
2	-
3	7
4	5
~~17 1/2~~	
Total	23.3%



Q1) £500,000 per annum
£7 per unit
60,000 per annum
Sells £20 per unit

$$7 \times 60,000 = 420,000$$

Cost per annum

Sells: $20 \times 60,000$
= 1,200,000 per annum

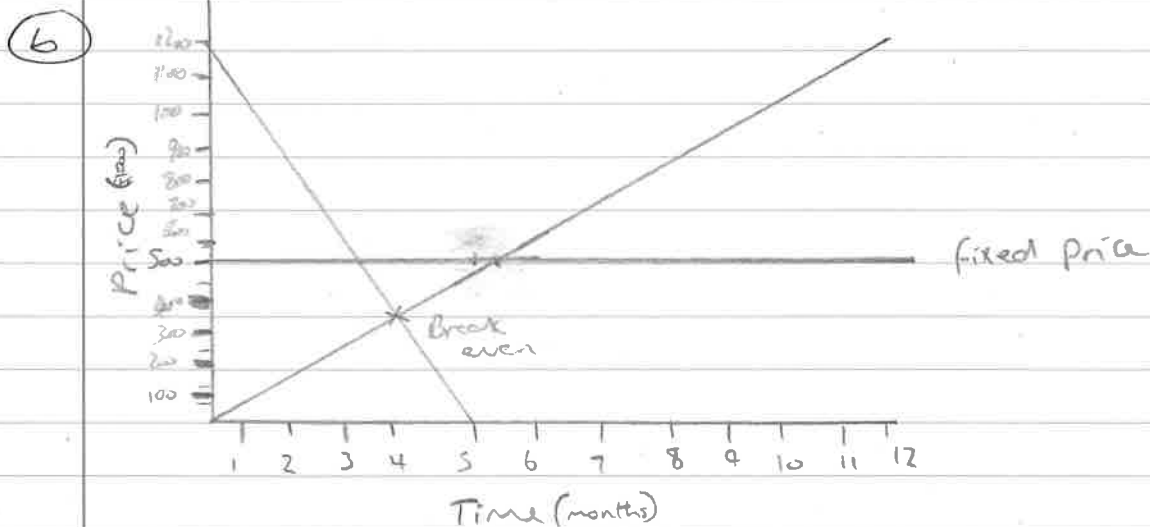
~~1,200,000 per annum~~
 ~~$1,200,000 \div 12 = 100,000$ per month~~
 ~~$500,000 \div 100,000 = 5$~~ * 5 months to break even

~~$1,200,000 - 500,000 = 700,000$~~
 ~~$700,000 \div 12 = 58,333$ per month~~

a) 1,200,000 per annum
 $1,200,000 \div 12 = 100,000$ per month ✓

To pay off £500,000 Fixed Cost: $\frac{500,000}{100,000} = 5$ months

1/4



1 1/2 / 5

c) 45000 units
£20 per unit

$45000 \times 20 = 900,000$ per annum
 $900,000 \div 12 = 75,000$ per month
 $500,000 \div 75,000 = 6.6$ months to break even.

1/4

(d) annual output & 75%.

$$75\% \text{ of } 1,200,000 = £900,000 \text{ per annum } \checkmark$$

$$£900,000 - £500,000 = £400,000$$

a profit of £400,000 per annum.

1/7

(e) A break even analysis shows how many months it would take for a company to begin making profit from a negative, this explains that for many months to start the company is not making any money at all until the debts are paid off. This is based on the entire outcome per month being used to pay back costs until it is completely paid for the company to start profit.

1/3

8/25

Q2)

(b) Life cycle costing is where over many years, an item will lose value.

for every year the item is kept, the more value it would lose.

for example, a machine costing £20,000 could lose £2,000 value per year. If kept for 4 years, it could sell on around £12,000, losing £8,000 from the original selling price.

1/3

(c) Factors to be considered can include:

- The demand for the autoclave, a higher demand could increase the selling price.
- Duration & use, keeping the autoclave for many years would increase the amount of wear which would lower the value when selling it on.
- Regular usage, being used on a regular basis would also increase the amount of wear over years.

- Research a Competitive Price, If a similar item has been used for 4 years and is now reduced from £20,000 to £12,000 then selling the item for a higher price would lower the chances of selling yours instead.

1/10

Q3) Total quality management is where the manager of the company would run each department to a high standard to produce the best quality items. A higher standard department would be fitted with better tools to produce a better outcome of products with more consistencies, where a lower standard company would use worse tools and work with a lower consistency, ~~work to a low tolerance~~.

a)

1/5

- The best method of producing a quality component is to frequently quality check the product after each department or few departments. This helps to guarantee a consistent product line and allows the manager to diagnose a fault from a department to be corrected before production continues, this minimises the amount of faulty parts being produced. If a department is falling behind and producing consistent faults then this can be rectified with improved funding, tools and training, ~~work to a low tolerance~~.

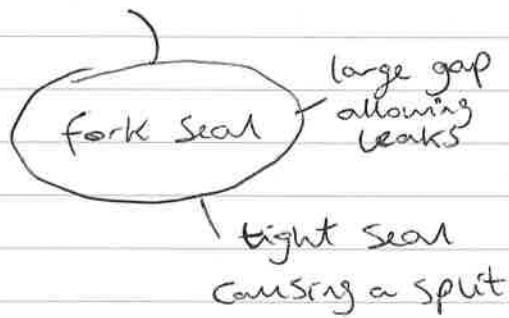
in specification?

1/6

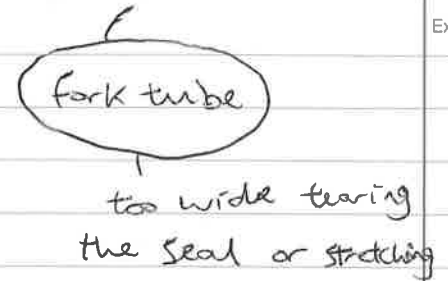
- If a quality system is not implemented, the company could release a high amount of faulty products, resulting in a loss of profit and potentially a decrease in customers to further reduce the company's income.

2/3

cheap material



Too thin allowing excess fluid past



- If the fork seal is made of a cheap, non flexible rubber, it is possible to split easily under pressure when stretched by moving parts.
- If the rubber seal is too flexible then it could stretch under pressure and allow fluid to slip through the gap.
- If the fork tube is too thin then it would produce a poor seal which allows fluid to pass through the gap under pressure.
- If the fork tube is too thick then it could drag the seal when being compressed or decompressed, causing the seal to stretch or split.
- The rubber seal and fork tube would be most likely to need investigating due to a high chance of leaking between the contact of both components.

2/11

7/15

Q4)

i) A hybrid diesel electric bus is more environmentally friendly

- It would reduce the outputted emissions ✓
- It would produce a higher output power on a hill and be city friendly because of the ~~batteries~~ electrical power.
- It would produce a higher overall travelling distance due to using both an engine and a high capacity battery, increasing the mpg.

2/4

b) 9/16

iii)

running hybrid buses would be a great method of producing reliable, efficient methods of transport for a busy city.

The buses would make more trips due to the higher mpg, be more environmentally friendly. ✓
Climb a hill much easier without producing clouds of smoke, be quieter when travelling through a busy town and would be used on longer journeys without the need to stop so frequently. ✓

3/5

I believe it would be a good step to take and benefit the city.

5

25

Question No.

Examiner Or

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if y Cwestiwn