

LOCATION: SWANSEA

LLEOLIAD: ABERTAWE

LEVEL 5

LEFEL 5

**EXAMINATION PERIOD
JUNE 2020**

**CYFNOD ARHOLIADAU
MEHEFIN 2020**

**MODULE CODE:
M5X01176**

TIME: 2 HOURS

ALL CANDIDATES TO ANSWER 3 QUESTIONS

*Equipment or materials required – Calculators may be used
Open book exam.*

Question 1

Question 1

Drivers Ltd has decided to replace one of its old centrifuges for a more energy efficient model in order to reduce energy costs and improve process efficiency. An initial capital investment proposal of £200,000 has been allocated and the financial controller has calculated that the following cash flows can be expected from the following options over the next five years.

	Supernatant	Fuge 41	Centre 4
	£	£	£
Year			
0	(200,000)	(200,000)	(200,000)
1	20,000	80,000	60,000
2	40,000	60,000	60,000
3	60,000	60,000	60,000
4	60,000	40,000	60,000
5	60,000	40,000	60,000

- a) Calculate the payback for each option in years and months.

(8 marks)

- b) Calculate the net present value for each project using a discount factor of 10%.

Discount factors at 10%

Year	Discount factor
0	1.000
1	0.9091
2	0.8264
3	0.7513
4	0.6830
5	0.6210

(8 marks)

- c) Evaluate which project is the best option for the company to follow.

(4 marks)

- d) When making capital investment decisions evaluate two factors that should be considered as part of the decision-making process.

(5 marks)

Question 2

Arachne Ltd is a well-established engineering company manufacturing non-destructive testing equipment to inspect corrosion in pipes and tanks. The company has a well-established workforce many of whom have worked for them for over 25 years. They are installing a new SAP information system to keep track of their stocks and to control costs. Whilst many of their employees are used to working on computers and are competent, they also have some employees who are not so confident, who would also have to use the new system.

You have been employed by the company as the new factory manager and have been tasked with preparing a report as to why this change is needed and what issues will need to be considered to ensure that the change takes place smoothly.

(25 marks)

Question 3

Haemus Ltd own a rolling mill to form metal slabs into coils. The mill consists of; a roughing mill used to reduce the slab's thickness; a finishing mill to obtain the required width and gauge; a run out table to cool the strip and obtain the required material properties; and a coiler to coil the steel and wrap ready for transport. Each of these four areas has two technicians per shift who are trained to become specialists in that area. Recently, the company has had a lot of absenteeism, sometimes with more than one technician off at the same time from the same area. The company would like to overcome this problem by training the technicians in all areas so they are able to cover for any absent technician. Understandably, the technicians are resisting this change, which will mean a lot of training to cover the four areas and may mean they lose their specialist skills in their current area by working less there. The operators are also nervous about this change too, as it may affect their productivity bonuses.

As the production manager, write a report for your line manager detailing the factors you will need to consider and how you will use your knowledge of leadership theories to manage the project to achieve a successful outcome at each stage of the project.

(25 Marks)

Question 4

Attica PLC are expanding their range of products and wish to buy some 3D printing machines so they can provide a bespoke 3D printing service. They are setting aside a space within the factory to house the machines, which is going to be partitioned off from the rest of the factory. Some of the tasks that need to be completed are;

- installing telephone line
- putting in the required number of electrical sockets
- painting
- sectioning off an area with plasterboard walls

- internet connections
- installing fire safety equipment

As the project manager you need to provide a high level work breakdown structure and a critical path analysis network diagram with the critical path clearly marked.

(25 Marks)

End of Paper