

Modified Enlarged 24 pt

**OXFORD CAMBRIDGE AND RSA
EXAMINATIONS**

Wednesday 19 January 2022 – Morning

**Level 3 Cambridge Technical in
Engineering**

05873

Unit 24: Project management for engineers

**Time allowed: 2 hours plus your additional
time allowance**

You must have:

a calculator

the Resource Booklet

Please write clearly in black ink.

**Centre
number**

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**Candidate
number**

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First name(s) _____

Last name _____

**Date of
birth**

D	D	M	M	Y	Y	Y	Y
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READ INSTRUCTIONS BELOW

INSTRUCTIONS

Use black ink. You can use an HB pencil, but only for graphs and diagrams.

Write your answer to each question in the space provided. If you need extra space use the lined pages at the end of this booklet. The question numbers must be clearly shown.

Answer ALL the questions.

INFORMATION

The total mark for this paper is 80.

The marks for each question are shown in brackets [].

ADVICE

Read each question carefully before you start your answer.

3

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Answer ALL the questions.

1 Refer to TEXT 1.

(a) Identify and describe **THREE** leadership styles that Oliver could use to manage this project. [6]

Leadership style 1 _____

Description _____

Leadership style 2 _____

Description _____

Leadership style 3 _____

Description _____

(b) (i) State the main customer of Dynamic Defence plc.

_____ **[1]**

(ii) Explain how the market power of a customer might affect the outcome of a project.

_____ **[2]**

(c) Oliver has produced a graph in the Resource Booklet which shows the power and interest levels of project stakeholders, Fig. 1.

(i) Rank the stakeholders according to their levels of power shown in Fig. 1. [2]

Rank:	Stakeholder
1 (most power)	
2	
3	
4	
5	
6 (least power)	

(ii) Rank the stakeholders according to their levels of interest shown in Fig. 1. [2]

Rank:	Stakeholder
1 (most interest)	
2	
3	
4	
5	
6 (least interest)	

(iii) Based on their levels of power and interest, explain how Oliver should manage the General Public.

[2]

(iv) Explain ONE possible consequence for Dynamic Defence plc of disregarding the Ministry of Defence (MOD).

[3]

(d) Oliver has good information management skills.

Explain how good information management skills can help Oliver mitigate risks during this project.

[2]

(e) The Steering Committee has chosen 'quality', rather than 'time' or 'cost', to be the critical control for this project.

Explain ONE likely reason why 'quality' has been chosen as the critical control for this project.

[2]

2 Refer to TEXT 2.

- (a) Explain, using examples from TEXT 2, the meaning of each of the following terms:**

Computer hardware _____

Computer software _____

(b) Oliver uses PERT to estimate the expected duration of the project.

His calculations suggest:

‘optimistic time’ = 20 months

‘pessimistic time’ = twice as long as ‘optimistic time’

‘most likely time’ = 35% longer than ‘optimistic time’.

Calculate, using PERT, the estimated expected duration of this project.

Show your workings. [6]

-
-
-
-
- (c) Oliver is considering whether to use critical path analysis to monitor this project.**

Evaluate the advantages to Dynamic Defence plc of Oliver using critical path analysis to monitor this project. [12]

(b) Explain ONE benefit and ONE drawback to Dynamic Defence plc of using advancing technologies in the 'Mark 3' radar equipment.

Benefit _____

Drawback _____

[4]

(d) Explain TWO ways the project will benefit from Oliver having excellent problem-solving skills.

1

2

[6]

19

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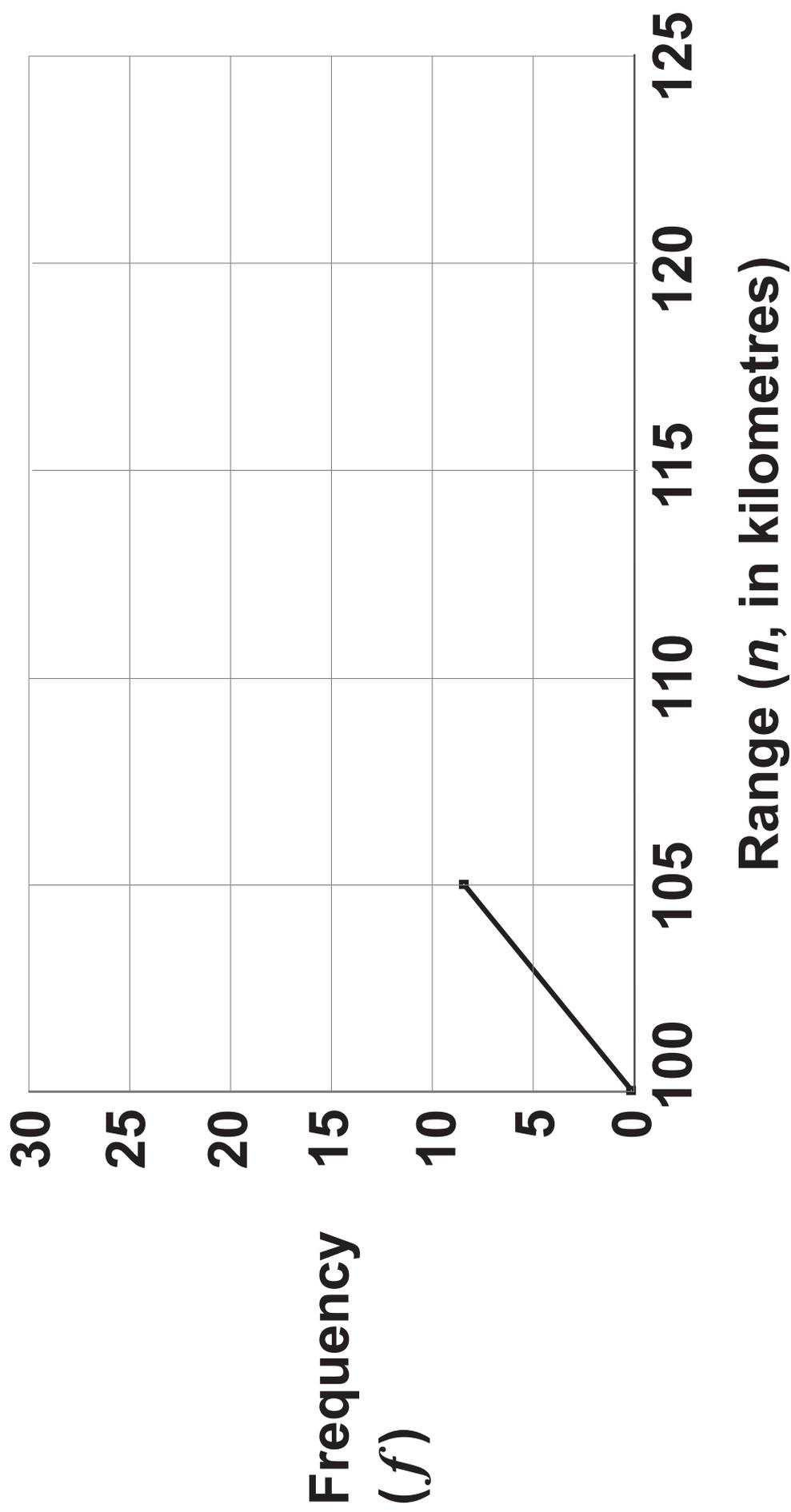
4 Refer to TEXT 4.

- (a) (i) **Circle** below the ‘type of information’ AND ‘source of information’ shown in TABLE 1.

You should only draw **TWO** circles. [2]

Type of information:	
Quantitative	Qualitative
Source of information:	
Internal	External

- (ii) Complete the frequency polygon opposite to show the results of the 5 m² aerial target range detection test. [3]



- (iii) Identify the skew of this distribution and explain what this means.

Skew _____

Meaning _____

[3]

- (b) When this project reaches completion, Oliver intends to gather several different types of feedback using a range of methods.

- (i) State ONE key feature of subjective feedback.

[1]

(ii) Explain, using examples, the difference between formal methods of gathering subjective feedback and informal methods of gathering subjective feedback.

[4]

(iii) Explain ONE benefit and ONE drawback to Oliver of using complaints analysis to gather feedback.

Benefit

Drawback

[4]

END OF QUESTION PAPER



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