

FOR OFFICIAL USE



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National
Qualifications
2022

Mark

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X823/77/01

**Engineering Science
Answer booklet**

WEDNESDAY, 18 MAY

1:00 PM – 3:30 PM



* X 8 2 3 7 7 0 1 *

Fill in these boxes and read what is printed below.

Full name of centre

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Town

--

Forename(s)

--

Surname

--

Number of seat

--

Date of birth

Day

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Month

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Year

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Scottish candidate number

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Write your answers clearly in this answer booklet. You must clearly identify in the margin the question number you are attempting.

Worksheets for questions 3 (b), 4 (a) and 9 (a) are included. Write your answers to these questions clearly in the spaces provided.

Use **blue** or **black** ink. Sketches, diagrams and graphs may be drawn in pencil.

Before leaving the examination room you must give this booklet to the Invigilator; if you do not, you may lose all the marks for this paper.



* X 8 2 3 7 7 0 1 0 1 *

Worksheet for question 3 (b)

Stage	Precedents	Duration
A	----	4
B	----	1
C	B	4
D	A, B	7
E	C	3
F	E	6
G	A, C	7
H	D, F, G	3

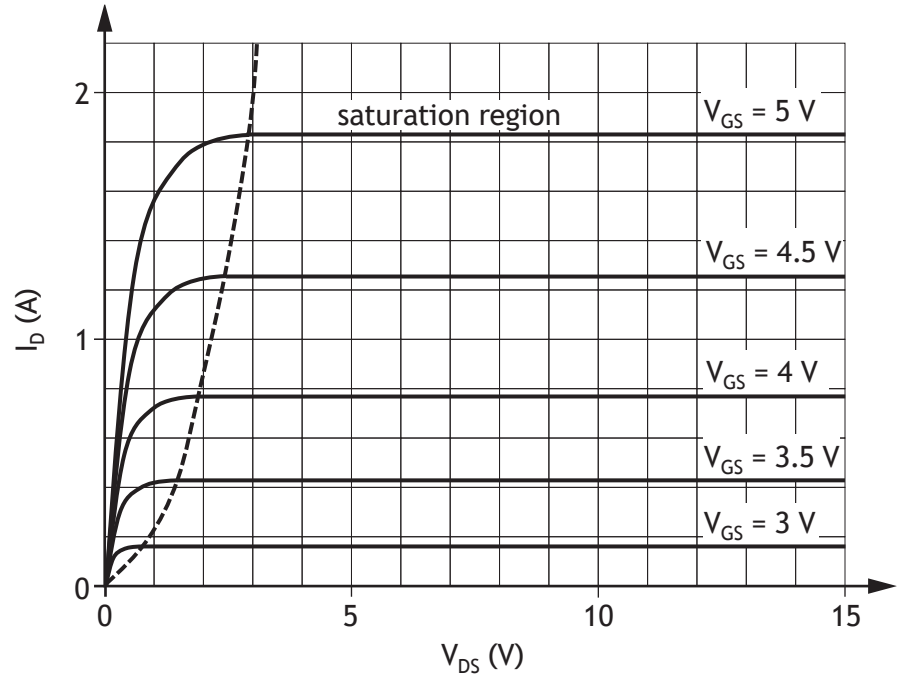
(i)

	Week																
Stage	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
A	█	█	█	█	F	F	F										
B	█																
C		█	█	█	█												
D					█	█	█	█	█	█		F	F	F			
E						█	█	█									
F									█	█	█	█	█	█			
G																	
H																	

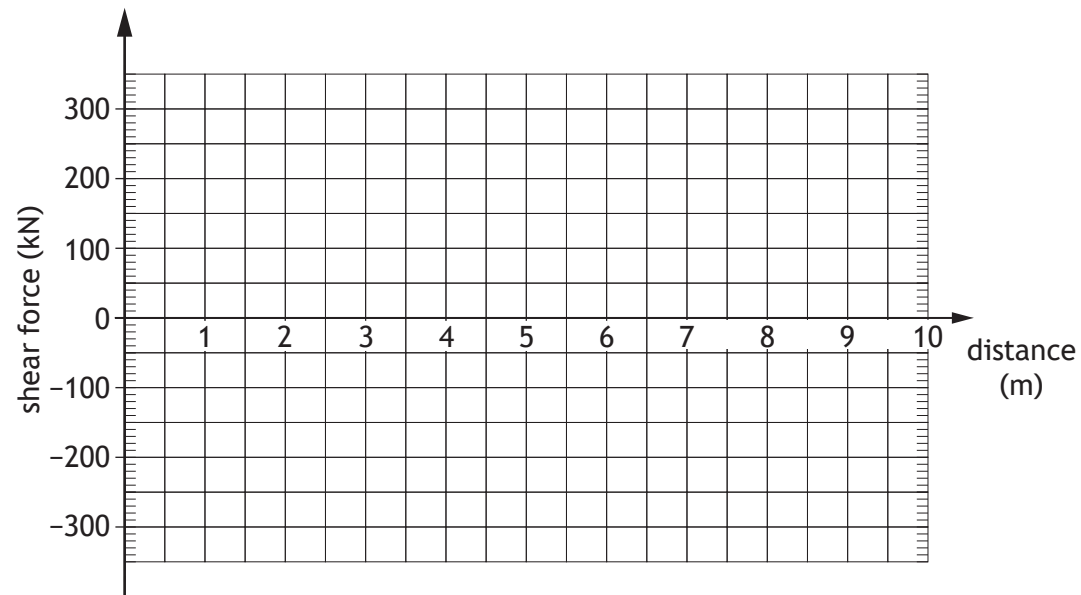
(ii) Critical path _____



Worksheet for question 4 (a)



Worksheet for question 9 (a)





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* X 8 2 3 7 7 0 1 0 9 *



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For marker's use

Question	Marks

