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JUNE EXAMINATION GRADE 12

2026

MARKING GUIDELINES

**MECHANICAL TECHNOLOGY:
FITTING AND MACHINING**

21 pages



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MECHANICAL TECHNOLOGY:
FITTING AND MACHINING

GR12 0626

Instructions to marker: Mechanical Technology – Fitting and Machining

1. General marking instructions:

- 1.1 During marking of multiple-choice questions, only ONE possible answer can be accepted. If the candidate indicated two or more responses, ONLY the first response will be recognised /acknowledged and marked according to marking guideline.
- 1.2 Where the number of responses of the candidate exceeds the required number stated in the question, only the first required number of responses will be accepted. E.g. if the question states, 'Name THREE ...' and the candidate stated four different responses, ONLY the first three will be accepted. The remaining responses must be ignored with a line drawn through it.
- 1.3 When the question clearly indicates what is expected of the candidate:
 - (a) If the candidate is required to describe a process step by step (e.g., a process in four steps), only the first four responses should be considered.
 - (b) However, if the candidate is required to explain a process, it should be noted that the response may be lengthy and not necessarily well organized. In such cases, the marker must evaluate the entire response to determine whether the candidate has explained the required outcome satisfactorily and allocate marks on merit.
- 1.4 If question numbering of sub-questions is not correct according to question paper sequence, the responses can be accepted if a sequence pattern can be identified or followed.
- 1.5 Attention must be given to mark allocation in questions where two (2) marks were allocated to one response, e.g. (**Any 1 x 2**).
- 1.6 ONE tick must be allocated for each mark awarded and no global marking is allowed.
- 1.7 Unanswered and incorrect responses of questions must be indicated with a cross (X).
- 1.8 All blank pages in an ANSWER BOOK must be crossed out to indicate that the pages have been seen by the marker.



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- 1.9 Attention must be given to questions where the candidate did not complete the answer and continued answer(s) on subsequent pages in the answer book. Continue marking such answers and award marks, if applicable. If a question is answered twice, mark the first response.
- 1.10 During calculation marking, pay attention to the position of the tick mark(s) in the marking guideline.
- 1.11 If a candidate skipped a step where a tick mark is allocated in the marking guideline and the final answer is correct, the total amount of tick marks must be indicated by the marker to indicate full marks awarded for the question correctly answered so that the examination assistants can verify marks awarded.
- 1.12 If the unit required for calculations is specified in the question, the final answer can be considered correct without explicitly stating the unit, provided that the numerical value matches the unit specified or used in the question.
- 1.13 If an incorrect unit is stated in the candidate's answer during calculations, the answer will be marked incorrect even if the value itself is correct.
- 1.14 Attention must be given to calculation type questions when different methods are used by candidates to obtain the correct answer. Consider answers where candidates have rounded off in sub-questions and it affects the final answer.
- 1.15 Attention must be given to special marking instructions to the marker which are stated for specific questions in the marking guideline.
- 1.16 A red line must be drawn by the marker to indicate the end of each question.
- 1.17 Marks of sub-questions must be indicated in the outside margins of the ANSWER BOOK pages and NOT in the inside margins.
- 1.18 When sub-question marks are allocated in the outside margins they must be in line with the sub-question and NOT be circled.
- 1.19 The total marks awarded for the question must be written on the red line drawn by the marker and circled to clearly indicate the marks awarded for that particular question.
- 1.20 Marker must transfer marks to cover page and ensure correctness of transfer.


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- 1.21 Markers should familiarise themselves with the question and answer before evaluating the responses of candidates.
- 1.22 Always interpret the responses of the candidates within the context of the question.
- 1.23 Mark what the candidate wrote and do not make assumptions about or predict intended responses.
- 1.24 Accept incorrect spelling in answers unless the spelling changes the meaning of the answer.
- 1.25 Pencil work is normally acknowledged as rough work and should not be considered/marked.
- 1.26 As a rule, marks are not awarded for formulas that are found in the attached formula sheet. If a formula was correctly manipulated, then only can a mark be awarded. Marks will also be awarded for correct formulas given by candidates if the particular formula is not found in formula sheet. Marks are awarded for correct substitution.
- 1.27 Incorrect values from previous calculations substituted at the right place in the formula will be awarded marks.
- 1.28 Markers must pay attention to calculations where an incorrect answer from a previous step was correctly substituted in the next calculation. In such cases, they must write “*sub*” next to the tick mark on the script to indicate that the mark was awarded for correct substitution only.
- 1.29 If during the calculations of a candidate, the formula that appear on the formula page was not indicated correctly but calculations and steps were done correctly, full marks may be awarded.
- 1.30 If, during a candidate’s calculations, the formula from the formula sheet was transferred incorrectly, no marks should be awarded for the values substituted in that calculation, as it renders the solution mathematically incorrect.



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QUESTION 1: MULTIPLE-CHOICE QUESTIONS (GENERIC)

- | | | |
|-----|-----|------------|
| 1.1 | B ✓ | (1) |
| 1.2 | C ✓ | (1) |
| 1.3 | D ✓ | (1) |
| 1.4 | B ✓ | (1) |
| 1.5 | D ✓ | (1) |
| 1.6 | C ✓ | (1) |
| | | [6] |

QUESTION 2: SAFETY (GENERIC)**2.1 Safety precautions:****2.1.1 Lathe:**

- Never leave the machine running unattended. ✓
- Check for oil or grease around the machine. ✓
- Use a brush or wooden rod to remove chips. ✓
- Do not reach around revolving parts. ✓
- Do not stop the chuck by hand. ✓
- Do not adjust machine while working. ✓
- Do not open guards while working. ✓
- Keep hands away from action points. ✓
- Do not force cut. ✓
- Apply cutting fluid if necessary. ✓
- Never leave the chuck-key in the chuck. ✓
- Make sure all guards are secure and in place. ✓

(Any 2 x 1) (2)**2.1.2 Pedestal drill:**

- Never leave drill press running unattended. ✓
- Check for oil or grease around the machine. ✓
- Switch off drill when leaving. ✓
- Use a brush or wooden rod to remove chips. ✓
- Do not reach around revolving parts. ✓
- Do not stop the chuck by hand. ✓
- Do not adjust machine while working. ✓
- Do not open guards while working. ✓
- Keep hands away from action points. ✓
- Do not force drill. ✓
- Apply cutting fluid if necessary. ✓

(Any 2 x 1) (2)

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2.1.3 Horizontal band saw:

- Secure the workpiece securely in the vice. ✓
- Check for oil and grease around the machine. ✓
- Ensure all guards are functioning properly. ✓
- Use a steady feed rate/do not force cut. ✓
- Do not reach around revolving parts. ✓
- Support long material. ✓
- Do not adjust machine while working. ✓

(Any 2 x 1) (2)

2.2.1 Advantages of product layout:

- Optimum utilisation of machines. ✓
- Less supervision required. ✓
- Production costs less. ✓
- Large volume output. ✓
- Saves time. ✓
- Less inspection. ✓

(Any 2 x 1) (2)

2.2.2 Advantages of process layout:

- More flexible. ✓
- Less interruption if a machine breaks. ✓
- Less investment needed. ✓
- Optimum use of machines ✓
- Less supervision. ✓

(Any 2 x 1) (2)

2.3 2.3.1 Identify machine:

Bench/Pedestal grinder. ✓

(1)

2.3.2 FOUR safety information on safety sign:

- Safety goggles ✓
- Fire extinguisher ✓
- Maximum revolutions ✓
- Maximum distance between disk and tool rest. ✓

(4)

2.4 Two-hand control device:

- Operator must use both hands without reaching the machine. ✓
- Reduces hazard of getting hands between the blades ✓

(2)

2.5 Second stage of first aid:

Diagnosis ✓

(1)

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QUESTION 3: MULTIPLE-CHOICE QUESTIONS (SPECIFIC)

3.1	D ✓	(1)
3.2	D ✓	(1)
3.3	B ✓	(1)
3.4	C ✓	(1)
3.5	D ✓	(1)
3.6	C ✓	(1)
3.7	C ✓	(1)
3.8	B ✓	(1)
3.9	C ✓	(1)
3.10	B ✓	(1)
3.11	A ✓	(1)
3.12	C ✓	(1)
3.13	C ✓	(1)
3.14	A, B, C or D ✓	(1)
		[14]



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**QUESTION 4: TERMINOLOGY (LATHE AND MILLING MACHINE) (SPECIFIC)****4.1 Square screw thread angles:**

- (1) Helix angle ✓
- (2) Clearance angle ✓
- (3) Leading angle ✓
- (4) Following angle ✓ (4)

4.2 Importance of the screw-cutting dial gauge:

The screw-cutting dial gauge allows an operator to engage the leadscrew half-nuts accurately ✓, by engaging on the same number indicated on the dial for each pass. ✓ (2)

4.3 Disadvantages of tailstock method for taper:

- Big cuts cannot be taken. ✓
 - Only small tapers can be turned. ✓
 - This method can only be used for external tapers. ✓
 - Can only use a faceplate and centre, not a chuck. ✓
 - The work must be driven by using a dog clamp. ✓
 - Only practical when doing mass production. ✓
- (Any 2 x 1) (2)

4.4 Advantages of compound slide method:

- Tapers with large angles can be cut. ✓
 - Both external and internal tapers can be cut. ✓
 - Set up is simple. ✓
- (Any 2 x 1) (2)

4.5 Taper calculations:**4.5.1 Calculate the big diameter (D):**

$$\tan \frac{\theta}{2} = \frac{D - d}{2 \times l}$$

$$\tan \frac{10}{2} = \frac{D - 27}{2 \times 35} \quad \checkmark$$

$$\tan 5 = \frac{D - 27}{70} \quad \checkmark$$

$$\tan 5 \times 70 = D - 27 \quad \checkmark$$

$$6,124206447 = D - 27$$

$$D = 6,124206447 + 27 \quad \checkmark$$

$$D = 33,12420645$$

$$D = 33,12 \text{ mm} \quad \checkmark$$



**4.5.2 Tailstock set-over calculation:**

$$\begin{aligned}
 \text{Set-over} &= \frac{L(D-d)}{2 \times l} \\
 &= \frac{185(33,12-27)}{2 \times 35} \checkmark \\
 &= 16,17 \text{ mm } \checkmark
 \end{aligned}
 \tag{3}$$

4.6 Disadvantages of up-cut milling:

- There is always a tendency for the cutter to lift the job ✓
- The finish on the job is not of high standard ✓

(2)

4.7 Keyway calculations:**4.7.1 Width:**

$$\text{Width} = \frac{D}{4}$$

$$\text{Width} = \frac{102}{4} \checkmark$$

$$= 25,5 \text{ mm } \checkmark$$

(2)

4.7.2 Thickness:

$$\text{Thickness} = \frac{D}{6}$$

$$\text{Thickness} = \frac{102}{6} \checkmark$$

$$= 17,00 \text{ mm } \checkmark$$

(2)

4.7.3 Length:

$$\text{Length} = 1,5 \times \text{diameter of shaft}$$

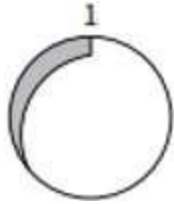
$$= 1,5 \times 102 \checkmark$$

$$= 153,00 \text{ mm } \checkmark$$

(2)



4. 8 Multi-start screw-thread sketches:



✓

Single-start screw
thread

✓

(2)

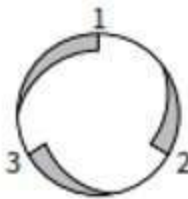


✓

Double-start screw
thread

✓

(2)



✓

Triple-start screw
thread

✓

(2)

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QUESTION 5: TERMINOLOGY (INDEXING) (SPECIFIC)**5.1 Calculate the depth of the hexagon (x):**

$$\sin 60^\circ = \frac{AF}{40} \quad \checkmark$$

$$AF = 40 \times \sin 60^\circ \quad \checkmark$$

$$AF = 34,64 \text{ mm} \quad \checkmark$$

$$x = \frac{\varnothing - AF}{2}$$

$$x = \frac{40 - 34,64}{2} \quad \checkmark$$

$$= 2,68 \text{ mm} \quad \checkmark$$

(5)

5.2 Gear calculations:

$$5.2.1 \quad \text{Addendum} = \text{Module}$$

$$= 3 \text{ mm} \quad \checkmark \quad (\text{UNIT MUST BE INDICATED})$$

(1)

5.2.2 The pitch circle diameter (PCD):

$$\text{PCD} = \text{module} \times T$$

$$= 3 \times 63 \quad \checkmark$$

$$= 189 \text{ mm} \quad \checkmark$$

(2)

5.2.3 Clearance:

$$\begin{aligned} \text{Clearance} &= 0,157 \times m \\ &= 0,157 \times 3 \quad \checkmark \\ &= 0,471 \text{ mm} \quad \checkmark \end{aligned}$$

OR

$$\begin{aligned} \text{Clearance} &= 0,25 \times m \\ &= 0,25 \times 3 \quad \checkmark \\ &= 0,750 \text{ mm} \quad \checkmark \end{aligned}$$

(2)

5.2.4 Outside diameter:

$$\begin{aligned} \text{OD} &= m (T + 2) \\ &= 3 (63 + 2) \quad \checkmark \\ &= 195 \text{ mm} \quad \checkmark \end{aligned}$$

OR

$$\begin{aligned} \text{OD} &= \text{PCD} + (2 \times \text{add}) \\ &= 189 + (2 \times 3) \quad \checkmark \\ &= 195 \text{ mm} \quad \checkmark \end{aligned}$$

(2)

5.2.5 Cutting depth:

$$\begin{aligned} \text{CD} &= 2,157 \times m \\ &= 2,157 \times 3 \quad \checkmark \\ &= 6,47 \text{ mm} \quad \checkmark \end{aligned}$$

OR

$$\begin{aligned} \text{CD} &= 2,25 \times m \\ &= 2,25 \times 3 \quad \checkmark \\ &= 6,75 \text{ mm} \quad \checkmark \end{aligned}$$

(2)



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5.3 Differential indexing:

$$\begin{aligned}
 5.3.1 \quad \text{Indexing} &= \frac{40}{n} \\
 &= \frac{40}{89} \\
 \text{Indexing} &= \frac{40}{A} \\
 &= \frac{40}{90} \quad \checkmark \\
 &= \frac{4}{9} \times \frac{6}{6} \\
 &= \frac{24}{54} \quad \checkmark
 \end{aligned}$$

 $\therefore$ 0 turns, 24 holes on a 54-hole circle $\checkmark$

(3)

Change gears:

$$\begin{aligned}
 5.3.2 \quad \frac{D_r}{D_n} &= \frac{A - N}{A} \times \frac{40}{1} \\
 &= \frac{90 - 89}{90} \times \frac{40}{1} \quad \checkmark \\
 &= \frac{1}{90} \times \frac{40}{1} \quad \checkmark \\
 &= \frac{4}{9} \times \frac{8}{8} \\
 \frac{D_r}{D_n} &= \frac{32}{72} \quad \checkmark
 \end{aligned}$$

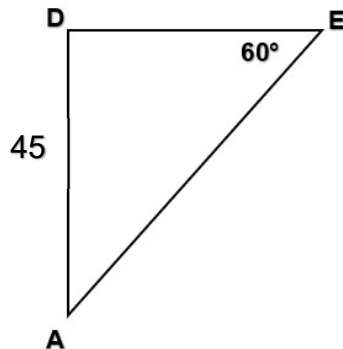
(4)


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5.4 Internal dovetail calculation:

5.4.1



$$\tan \theta = \frac{AD}{DE}$$

$$\tan 60^\circ = \frac{45}{DE} \quad \checkmark$$

$$DE = \frac{45}{\tan 60^\circ} \quad \checkmark$$

$$= 25,98 \text{ mm} \quad \checkmark$$

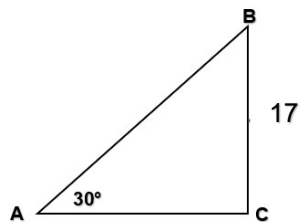
$$W = w + 2DE \quad \checkmark$$

$$W = 210 + 2(25,98) \quad \checkmark$$

$$W = 261,96 \text{ mm} \quad \checkmark$$

(6)

5.4.2



$$\tan \alpha = \frac{BC}{AC}$$

$$\tan 30^\circ = \frac{17}{AC} \quad \checkmark$$

$$AC = \frac{17}{\tan 30^\circ} \quad \checkmark$$

$$AC = 29,44 \text{ mm} \quad \checkmark$$

$$m = W - 2AC - 2R \quad \checkmark$$

$$m = 261,96 - 2(29,44) - 2(17) \quad \checkmark$$

$$m = 169,08 \text{ mm} \quad \checkmark$$

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(6)
[33]

**QUESTION 6: TOOLS AND EQUIPMENT (SPECIFIC)****6.1 Measuring instrument:**

- Measuring microscope ✓
- Brinell microscope ✓

(Any 1 x 1) (1)

6.2 Function of a moment tester:

- To determine the reactions on either side of a simply loaded beam. ✓

(1)

6.3 Methods to determine Brinell Hardness Number:

- Measure indentation and use Brinell Hardness Number table ✓
- Calculate using Brinell Hardness Number formula ✓

(2)

6.4 Property:

Hardness ✓

(1)

6.5 Purpose of ratchet:

Ensures constant measuring pressure ✓

(1)

6.6 Care of force tester:

- Keep clean ✓
- Store correctly ✓
- Avoid overloading ✓
- Handle carefully ✓

(Any 3 x 1) (3)

6.7 Hardness assessment:

- Hardness test ✓
- Scratch/file test ✓

(2)

6.8 Label A – C:

A – Test piece/Material being tested ✓

B – Indenter ✓

C – Diameter of indenter ✓

(3)

6.9 Cutting depth:

$$\begin{aligned}\text{Cutting depth} &= 0,613 \times 1,25 \checkmark \\ &= 0,77 \text{ mm } \checkmark\end{aligned}$$

(2)

6.10 Depth micrometer:

$$\checkmark \checkmark \checkmark$$

$$67,36 \text{ mm}$$

(3)





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6.11 **Difference between scales:**

- Depth micrometer reads from left to right ✓ while the screw-thread micrometer reads from right to left. ✓
- Depth micrometer reads opposite ✓ to the screw-thread micrometer readings. ✓

(Any 1 x 2) (2)

6.12 **Use:**

Measures ✓ pitch diameter ✓ of screw threads

(2)

6.13 **Label A–C:**

- A – Adjustable anvil ✓
- B – Ratchet ✓
- C – U–frame ✓

(3)

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QUESTION 7: FORCES (SPECIFIC)**7.1 Forces calculations:****7.1.1. Horizontal components:**

$$\begin{aligned}\sum HC &= 70 \cos 0^\circ + 40 \cos 90^\circ - 130 \cos 210^\circ + 35 \cos 290^\circ \\ &= 70 \checkmark + 0 - 112,58 \checkmark + 11,97 \checkmark \\ &= -30,61 \text{ N } \checkmark\end{aligned}$$

OR

	X Cos θ	
70 N	$70 \cos 0^\circ$	70 N ✓
40 N	$40 \cos 90^\circ$	0 N
130 N	$130 \cos 210^\circ$	- 112,58 N ✓
35 N	$35 \cos 290^\circ$	11,97 N ✓
	Y =	-30,61 N ✓

Vertical components:

$$\begin{aligned}\sum VC &= 70 \sin 0^\circ + 40 \sin 90^\circ - 130 \sin 210^\circ - 35 \sin 290^\circ \\ &= 40 \checkmark - 65 \checkmark - 32,89 \checkmark \\ &= -57,89 \text{ N } \checkmark\end{aligned}$$

OR

	Y Sin θ	
70 N	$70 \sin 0^\circ$	0 N
40 N	$40 \sin 90^\circ$	40 N ✓
130 N	$130 \sin 210^\circ$	- 65 N ✓
35 N	$35 \sin 290^\circ$	-32,89 N ✓
	Y =	-57,89 N ✓

(8)

7.1.2. Resultant:

$$R^2 = X^2 + Y^2$$

$$\sqrt{R^2} = \sqrt{(-30,61)^2 + (57,89)^2} \checkmark$$

$$R = \sqrt{4288,22}$$

$$R = 65,48 \text{ N } \checkmark$$

(2)

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7.1.3. **Angle and direction:**

$$\begin{aligned}\tan \theta &= \frac{y}{x} \\ &= \frac{57,89}{30,61} \quad \checkmark \\ \tan \theta &= 1,891212022 \quad \checkmark \\ \theta &= 62,13^\circ \quad \checkmark\end{aligned}$$

 $\therefore R = 65,48\text{N}$ and $62,13^\circ$ West of South $\therefore E = 65,48\text{N}$ and $62,13^\circ$ East of North $\checkmark$ **OR**

$$\begin{aligned}\tan \theta &= \frac{x}{y} \\ &= \frac{30,61}{57,89} \quad \checkmark \\ \tan \theta &= 0,528761444 \\ \theta &= 27,87^\circ \quad \checkmark\end{aligned}$$

 $\therefore R = 65,48\text{ N}$ and $27,87^\circ$ South of West $\therefore E = 65,48\text{ N}$ and $27,87^\circ$ North of East $\checkmark$

(4)

7.2 **Define strain:**

It is defined as the ratio of the change in length $\checkmark$ to the original length $\checkmark$
and has no units. $\checkmark$

(3)

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7.3 7.3.1 **Point load:**

$$= 18 \text{ N/m} \times 7 \text{ m} \quad \checkmark$$

$$= 126 \text{ N} \quad \checkmark$$

(2)

7.3.2 **Reaction in support A:**

$$A \times 15 = (80 \times 0) + (126 \times 6,5) + (45 \times 13,5)$$

$$\frac{A \times 15}{15} = \frac{1426,5}{15}$$

$$A = 95,10 \text{ N} \quad \checkmark$$

Reaction in support B:

$$B \times 15 = (45 \times 1,5) + (126 \times 8,5) + (80 \times 15)$$

$$\frac{B \times 15}{15} = \frac{2338,5}{15}$$

$$B = 155,90 \text{ N} \quad \checkmark$$

(7)

7.4 **Stress and strain calculations:**7.4.1 **Calculate the diameter:**

$$\text{Stress} = \frac{F}{A}$$

$$\text{Area} = \frac{\text{Force}}{\text{Stress}} \quad \checkmark$$

$$\text{Area} = \frac{65 \times 10^3}{25 \times 10^6} \quad \checkmark$$

$$\text{Area} = 2,6 \times 10^{-3} \text{ m}^2$$

$$\frac{\pi(d)^2}{4} = 2,6 \times 10^{-3} \text{ m}^2 \quad \checkmark$$

$$d^2 = \frac{4(2,6 \times 10^{-3} \text{ m}^2)}{\pi} \quad \checkmark$$

$$d^2 = \sqrt{3,31 \times 10^{-3} \text{ m}^2}$$

$$d = 0,057536 \text{ m} \quad \checkmark$$

$$d = 57,54 \text{ mm} \quad \checkmark$$

(6)



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7.4.2 Calculate the strain:

$$\text{Young's modulus} = \frac{\text{Stress}}{\text{Strain}}$$

$$\text{Strain} = \frac{\text{Stress}}{\text{Young's modulus}} \quad \checkmark$$

$$\text{Strain} = \frac{25 \times 10^6}{90 \times 10^9} \quad \checkmark$$

$$= 2,78 \times 10^{-4} \quad \checkmark$$

(3)

7.4.3 Calculate the length:

$$\varepsilon = \frac{\Delta L}{l}$$

$$\Delta L = \varepsilon \times l \quad \checkmark$$

$$\Delta L = 2,78 \times 10^{-4} \times 0,3 \quad \checkmark$$

$$\Delta L = 8,33 \times 10^{-5} \quad \checkmark$$

$$\Delta L = 0,083 \text{ mm} \quad \checkmark$$

(4)

7.5 Hooke's law:

Stress is proportional to strain $\checkmark$ provided the limit of elasticity has not been exceeded. $\checkmark$

(2)

7.6 Stress and Strain Diagram:

A Limit of proportionality $\checkmark$ B Elastic limit $\checkmark$ C Yield point $\checkmark$ D Maximum stress $\checkmark$

(4)

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QUESTION 8: MAINTENANCE (SPECIFIC)

- 8.1 **Preventative maintenance:**
Planned maintenance ✓ to prevent failure. ✓ (2)
- 8.2 **Mechanical drives:**
- Belt ✓
 - Chain ✓
 - Gear ✓
- (3)
- 8.3 **Types of belts:**
- V-belts ✓
 - Tooth belts ✓
 - Flat belts ✓
 - Multi V-groove belts ✓
- (Any 2 x 1) (2)
- 8.4 **Lubrication importance:**
Reduces wear ✓ and prevents overheating ✓ (2)
- 8.5 **Difference:**
Condition-based maintenance is based on wear and tear found on machines ✓ where scheduled maintenance happens in fixed intervals ✓ (2)
- 8.6 **Chain drive malfunction:**
- 8.6.1 **Causes:**
- Worn chain ✓
 - Poor lubrication ✓
 - Chain lengthened ✓
- (Any 2 x 1) (2)
- 8.6.2 **Action:**
- Replace chain ✓
 - Set tension ✓
 - Lubricate ✓
- (Any 1 x 1) (1)
- 8.7 **Polyester resins:**
Acts as binding agent ✓ (1)
- 8.8 **Difference:**
- Thermo-hardened: permanently set ✓ and cannot be re-heated. ✓
 - Thermoplastic: re-heatable/re-usable ✓ and can be heated and reshaped again. ✓
- (4)



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8.9 Uses of materials:

8.9.1 Fibreglass:

- Boats ✓
- Wall panels ✓
- Roof sheets ✓
- Car body panels ✓
- Cable trays ✓

(Any 2 x 1)

Marker to look for any other correct answers (2)

8.9.2 Bakelite:

- Switches ✓
- Insulators ✓
- Distribution boards ✓
- Pots and pan handles ✓
- Distributor caps ✓
- Light duty gears ✓
- Light duty pulleys ✓

(Any 2 x 1)

Marker to look for any other correct answers (2)

8.10 Classification of plastics:

8.10.1 Carbon fibre:

Thermo-hardened ✓ (1)

8.10.2 Nylon:

Thermoplastic ✓ (1)

8.10.3 Vesconite:

Thermoplastic ✓ (1)

[26]

TOTAL: 200



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