

**2018  
RAMOSUDI COMMON  
ASSESSMENT**

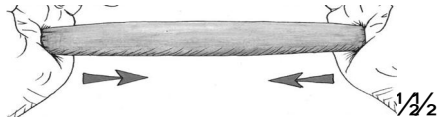
**GRADE 9**

**TECHNOLOGY MEMORANDARM  
JUNE 2018**

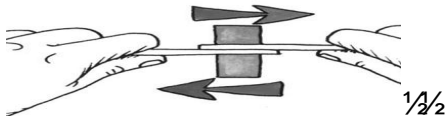
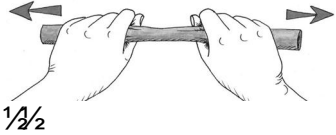
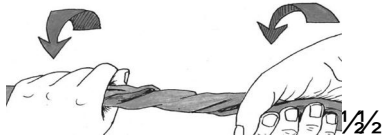
**Marks:80**

This memorandum consists of 5pages.

## Memorandum

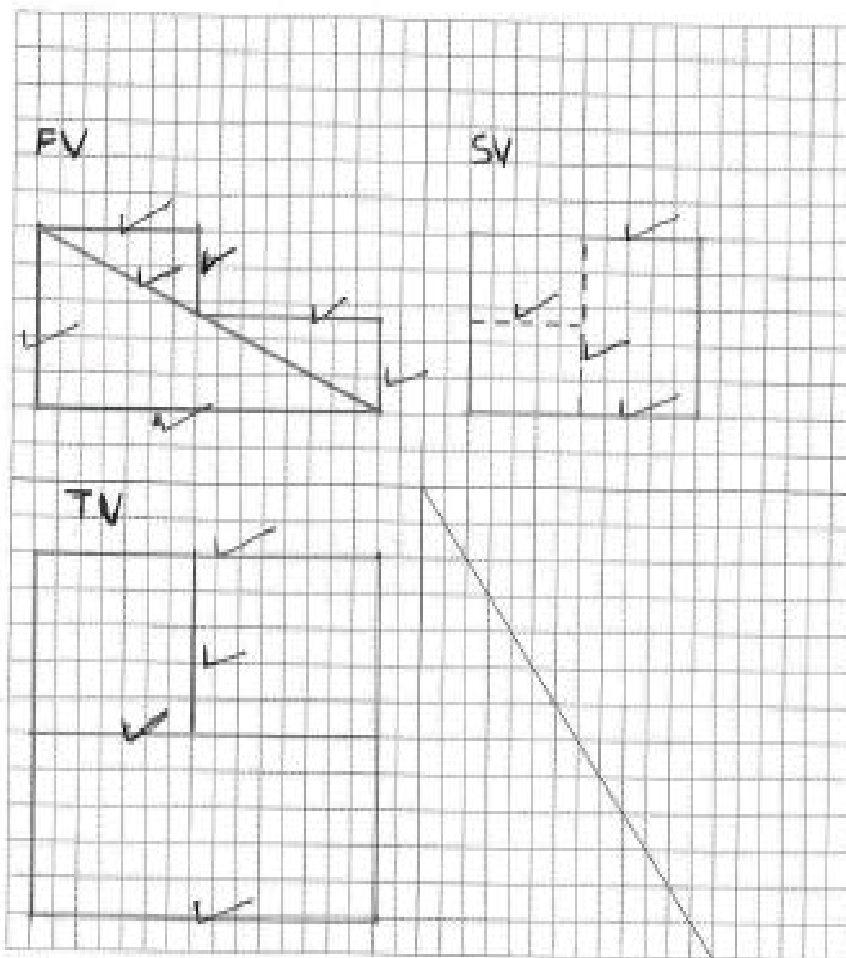
| QUESTION | ANSWER   | MARKS       |
|----------|--|-------------|
| 1.       | <b>SECTION A</b>   | 1           |
| 1.1      | C ½  | 1           |
| 1.2      | A ½  | 1           |
| 1.3      | D ½  | 1           |
| 1.4      | D ½  | 1           |
| 1.5      | B ½  | 1           |
|          |  | <b>[5]</b>  |
| 2.       |  |             |
| 2.1      | True ½   | 1           |
| 2.2      | False ½  | 1           |
| 2.3      | True ½   | 1           |
| 2.4      | True ½   | 1           |
| 2.5      | False ½  | 1           |
|          |  | <b>[5]</b>  |
| 3.       |  |             |
| 3.1      | E ½  | 1           |
| 3.2      | F ½  | 1           |
| 3.3      | B ½  | 1           |
| 3.4      | A ½  | 1           |
| 3.5      | D ½  | 1           |
|          |  | <b>[5]</b>  |
|          | <b>TOTAL SECTION A</b>   | <b>[15]</b> |
| 4        | <b>SECTION B</b>   |             |
| 4.1      | People might drown while crossing a dangerous river. ½<br>People might be killed by crocodiles. (any acceptable answer)  | 2           |
| 4.2      | I am going to design and make a bridge ½ for people to cross over the river. ½   | 2           |
| 4.3      | a. Static force ½<br>b. Dynamic force ½  | 2           |
| 4.4      | a. Steel (I-beam, rods) ½ can rust, water resistant, strong ½<br>b. Concrete ½. dense, strong, water resistant ½<br>c. Wires . bend easily, water resistant<br>d. Wood- light in mass, it can be shaped<br>(Any suitable material) | 4           |
| 4.5      | a. Safety rail ½<br>b. Ramp for wheelchairs ½<br>c. Signage<br>d. Sufficient lighting<br>(any other relevant answer)   | 2           |
| 4.6      | i compression<br>   | 8           |

Memorandum

|   |   | <p>ii. shearing</p>    |             |         |        |   |   |  |   |
|---|---|---|-------------|---------|--------|---|---|--|---|
|   |   | <p>iii tension</p>   |             |         |        |   |   |  |   |
|   |   | <p>iv.torsion</p>    |             |         |        |   |   |  |   |
|   |   |   | <b>[20]</b> |         |        |   |   |  |   |
| 5   | 5.1   | <p>Gear ratio = <math>\frac{20}{4} = 5:1</math></p>   | 4           |         |        |   |   |  |   |
|   | 5.2   | Decreasing Gear B (driven) rotates once when gear A (driver) rotates five times   | 2           |         |        |   |   |  |   |
|   | 5.3   | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Input</th> <th style="width: 33%;">Process</th> <th style="width: 33%;">Output</th> </tr> </thead> <tbody> <tr> <td style="text-align: center; vertical-align: middle;"> <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     Gear B rotates in one direction                 </div> </td> <td style="text-align: center; vertical-align: middle;"> <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     gears are meshed and force is transferred from Gear B to Gear A                 </div> </td> <td style="text-align: center; vertical-align: middle;"> <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     Gear A rotates in the opposite direction                 </div> </td> </tr> </tbody> </table> | Input       | Process | Output | <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     Gear B rotates in one direction                 </div> | <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     gears are meshed and force is transferred from Gear B to Gear A                 </div> | <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     Gear A rotates in the opposite direction                 </div> | 6 |
| Input   | Process   | Output  |             |         |        |   |   |  |   |
| <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     Gear B rotates in one direction                 </div> | <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     gears are meshed and force is transferred from Gear B to Gear A                 </div> | <div style="border: 1px solid black; padding: 5px; width: 80%; margin: auto;">                     Gear A rotates in the opposite direction                 </div>  |             |         |        |   |   |  |   |
|   | 5.4   | Gear B will rotate five times   | 2           |         |        |   |   |  |   |
|   | 5.5   | Anticlockwise   | 1           |         |        |   |   |  |   |
|   | 5.6   | An idler gear must be placed between the driver and driven  | 2           |         |        |   |   |  |   |
|   | 5.7   | <p>a. egg beater<br/>                     b. hand drill<br/>                     c. motor car (gearbox, steering rack)<br/>                     d. shifting spanner<br/>                     e. analog watch<br/>                     (any other relevant answer)</p>   | 3           |         |        |   |   |  |   |
|   |   | <b>TOTAL SECTION B</b>  | <b>40</b>   |         |        |   |   |  |   |

NAME OF LEARNER: MEMOCLASS: 9.

## QUESTION 6 (ANSWER SHEET)



**NB. Ticks should be used to show where marks are allocated as shown above.**

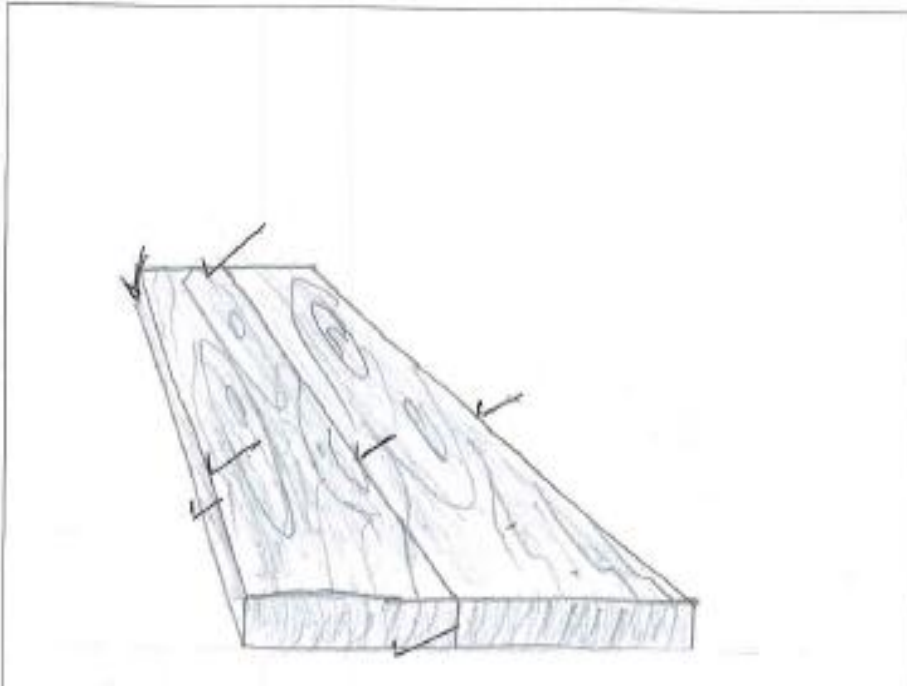
[15]

Memorandum

NAME OF LEARNER: MEMO

CLASS: 9

QUESTION 7 (ANSWER SHEET)



Single point drawing = 7 marks

Shading & texture = 2 marks

Wood texture = 1 mark

**The vanishing point may be placed at any position**

[10]

**GRAND TOTAL = [80]**