Province of the
EASTERN CAPE
EDUCATION

DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)

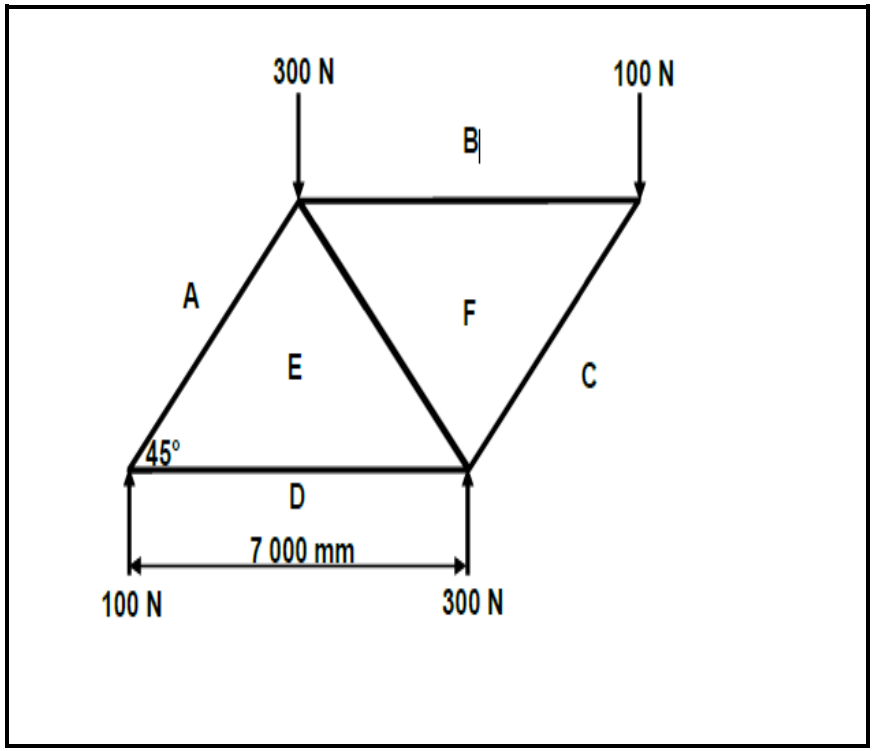
HOME SCHOOLING SELF-STUDY WORKSHEET

<table>
<tr><td>SUBJECT</td><td>WELDING & METALWORK</td><td>GRADE</td><td>12</td><td>DATE</td><td>20 MAY 2020</td></tr>
<tr><td>TOPIC</td><td>FORCES</td><td>TERM 1
REVISION</td><td>( )</td><td>TERM 2
CONTENT</td><td>(√)</td></tr>
<tr><td>TIME
ALLOCATION</td><td>2 hrs.</td><td colspan="4" rowspan="2"><u>TIPS TO KEEP HEALTHY</u>

1. WASH YOUR HANDS thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%.
2. PRACTICE SOCIAL DISTANCING – keep a distance of 1m away from other people.
3. PRACTISE GOOD RESPIRATORY HYGIENE: cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use.
4. TRY NOT TO TOUCH YOUR FACE. The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick.
5. STAY AT HOME.</td></tr>
<tr><td>INSTRUCTIONS</td><td>ANSWER ALL QUESTIONS ON THIS SELF – STUDY WORKSHEET.</td></tr>
</table>

QUESTION 1 (JUNE. 19)

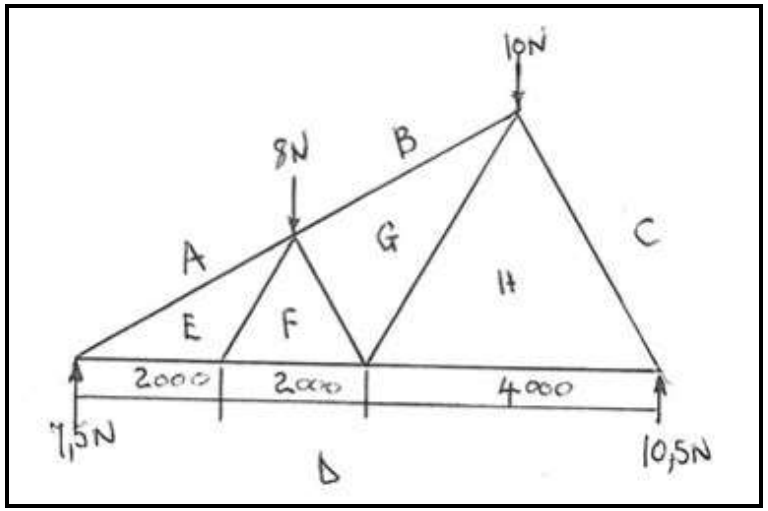
1.1 Graphically determine the magnitude and type of member in the framework shown below. Members: AE, BF, CF, DE and EF.
SCALE: Space diagram: 1: 100
Force diagram: 1 mm = 5 N



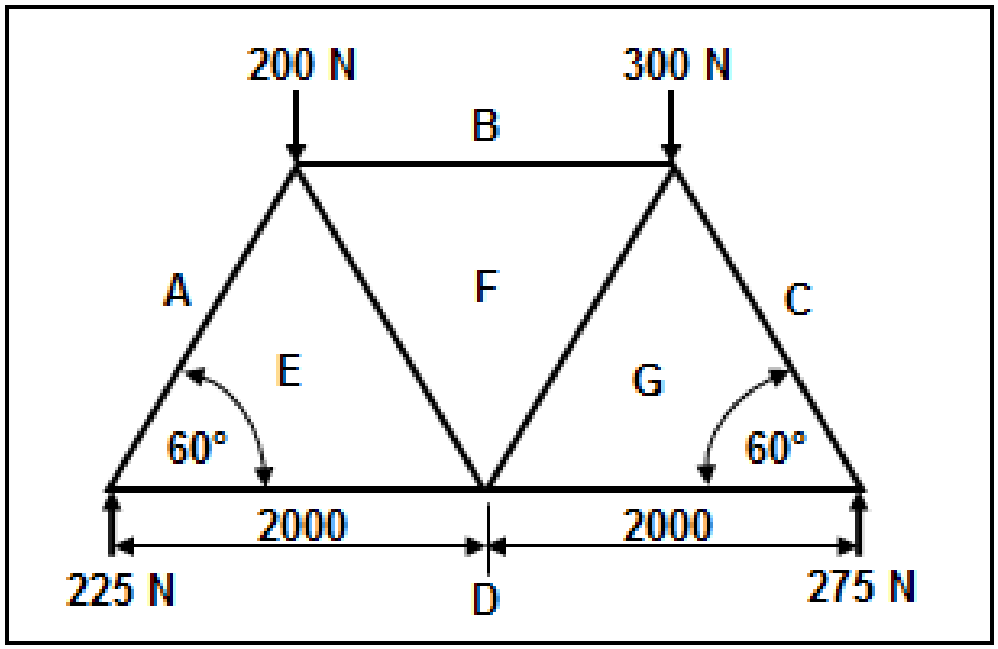
1.2 Determine graphically the magnitude and nature of the forces in ALL the members in FIGURE below.

SCALE: Space diagram 1: 100

Vector/Force diagram 2 mm = 1 kN



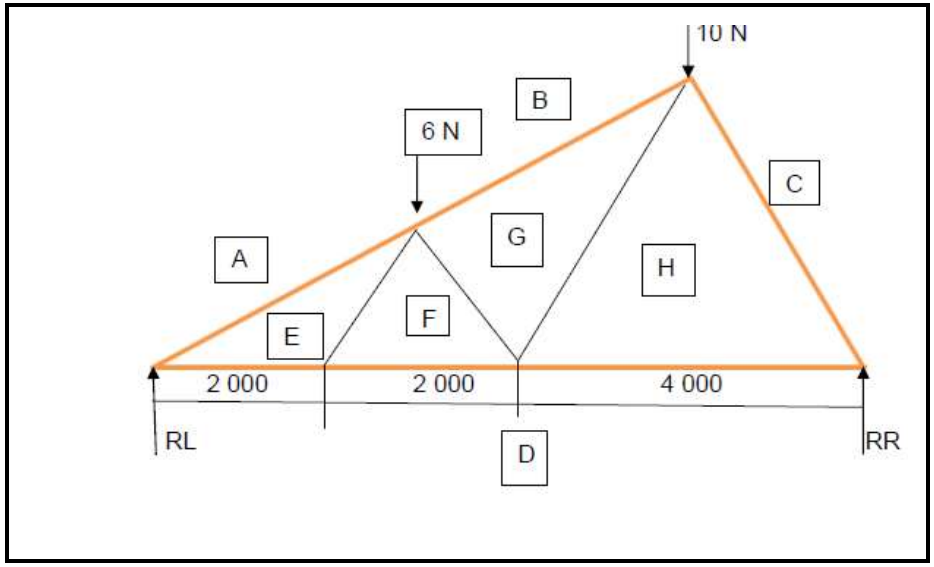
1.3 Determine graphically (Bow's notation) the magnitude and nature of ALL the members of the framework in the diagram below.
SCALE: Vector diagram 1 mm = 5 N



1.4 Below shows a roof truss with two vertical point loads, 6 N and 10 N respectively, as well as two supports RL and RR at its ends.

1.4.1 Calculate the reactions at RL and RR.

1.4.2 Draw the force diagram. Marks will be deducted for incorrect scale.


10 N
B
6 N
C
A
G
H
F
E
2 000
2 000
4 000
RL
D
RR