



Province of the  
**EASTERN CAPE**  
EDUCATION

**DIRECTORATE SENIOR CURRICULUM MANAGEMENT (SEN-FET)**

**HOME SCHOOLING SELF-STUDY WORKSHEET**

<b>SUBJECT</b>	<b>AUTOMOTIVE</b>	<b>GRADE</b>	11	<b>DATE</b>	AUGUST 2020
<b>TOPIC</b>	CONTROL SYSTEMS (SPECIFIC)	<b>TERM 1 REVISION</b>	()	<b>TERM 2 CONTENT</b>	(√)
<b>TIME ALLOCATION</b>	2 hrs.	<b><u>TIPS TO KEEP HEALTHY</u></b>			
<b>INSTRUCTIONS</b>	This topic focused self-study material is intended to assist learners.	<ol style="list-style-type: none"><li>1. <b>WASH YOUR HANDS</b> thoroughly with soap and water for at least 20 seconds. Alternatively, use hand sanitizer with an alcohol content of at least 60%.</li><li>2. <b>PRACTICE SOCIAL DISTANCING</b> – keep a distance of 1m away from other people.</li><li>3. <b>PRACTISE GOOD RESPIRATORY HYGIENE:</b> cough or sneeze into your elbow or tissue and dispose of the tissue immediately after use.</li><li>4. <b>TRY NOT TO TOUCH YOUR FACE.</b> The virus can be transferred from your hands to your nose, mouth and eyes. It can then enter your body and make you sick.</li><li>5. <b>STAY AT HOME.</b></li></ol>			

## QUESTION 1

- 1.1 Mention TWO functions of the differential in the final drive assembly. (2)  
1.2 Mention THREE advantages of a limited-slip differential. (3)  
1.3 State TWO functions of each of the following steering control components:

1.3.1 Tie rod end



FIGURE 1.3.1

1.3.2 Ball joint



FIGURE 1.3.1

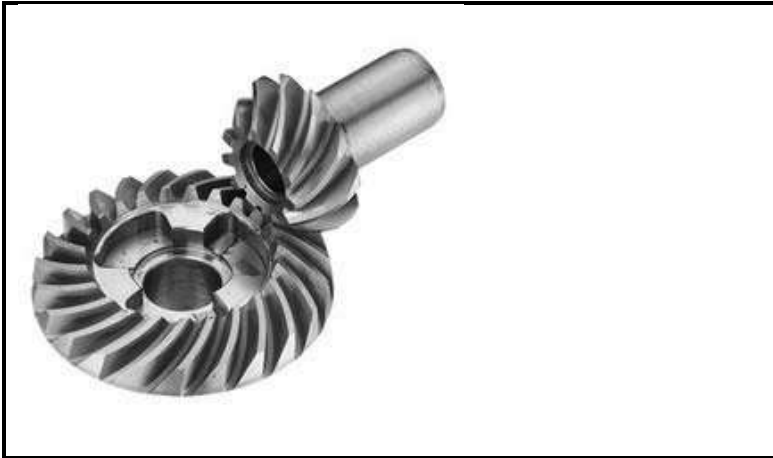
1.3.3 Drag link.



FIGURE 1.3.3

- 1.4 Give THREE advantages of the telescopic shock absorber. (2)
- 1.5 State the function of the shock absorber as fitted to the motor vehicle. (2)
- 1.6 State the function of a stabiliser bar. (2)
- 1.7 Describe the purpose of predetermined firing order. (2)
- 1.8 What is the firing order for a six cylinder in-line engine? (1)
- 1.9 What is the function of the electronic control limited slip differential? (1)
- 1.10 What is the function of the spark plug in ignition compression engine? (1)
- 1.11 Give TWO consequences of a too big spark plug gap. (2)
- 1.12 Mention any TWO consequences of too small a spark plug gap. (2)
- 1.13 What is the purpose/function of the distributor in the ignition system? (1)

## QUESTION 2



2.1 What is the name of the final drive gear shown in FIGURE 8.1 above? (1)

2.2 Give TWO functions of final drives in a motor vehicle. (2)

2.3 Give THREE advantages of using hypoid gear assembly in final drive. (3)

2.4 Mention TWO functions of a differential in a motor vehicle. (2)

2.5 Study FIGURE 2.5 below and answer the following questions:

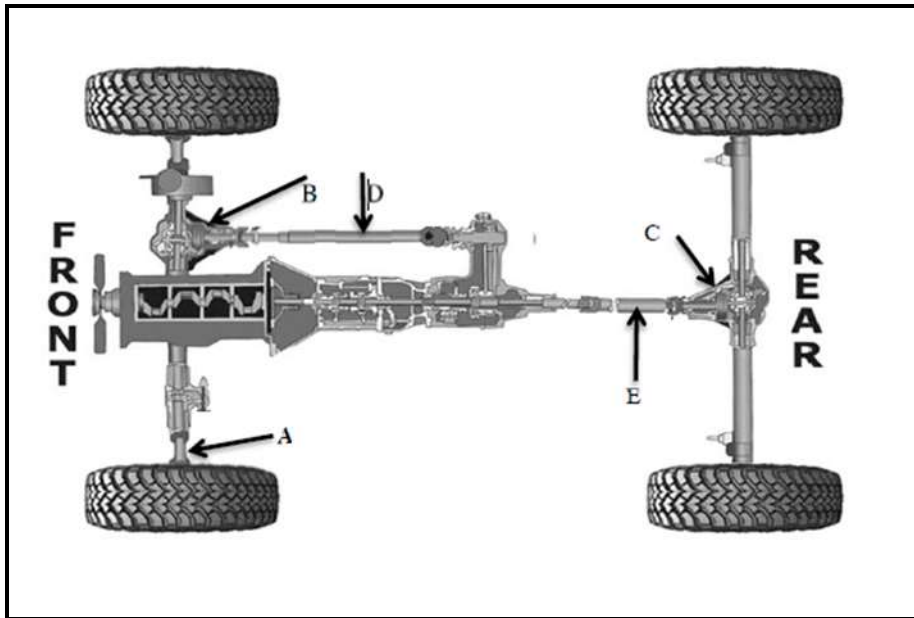


FIGURE 2.5

2.5.1 Identify the layout of the drive system shown in FIGURE 8.5 above.

2.5.2 Label parts A–E.

2.5.3 What is the purpose of the driver system shown in FIGURE 2.5?

2.6 What is the function of the following brake components?

2.6.1 Master cylinder. (1)

2.6.2 Vacuum servo unit. (2)

2.7 Give ONE factor that determines the braking distance of a car. (1)

2.8 Briefly explain the working principles of a starter solenoid. (3)

2.9 Name TWO types of drive mechanisms for a starter solenoid. (2)

2.10 What is the difference between a cold spark plug and a hot spark plug? (2)