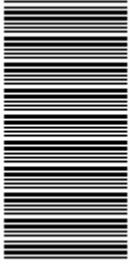


00000000



**higher education  
& training**

Department:  
Higher Education and Training  
**REPUBLIC OF SOUTH AFRICA**

**NATIONAL CERTIFICATE (VOCATIONAL)**

**PLANT AND EQUIPMENT  
NQF LEVEL 2**

**NOVEMBER 2010**

**(12030052)**

**24 November (X-Paper)  
09:00 – 12:00**

**This question paper consists of 7 pages.**

**TIME: 3 HOURS  
MARKS: 100**

---

**INSTRUCTIONS AND INFORMATION**

1. Answer ALL the questions.
  2. Read ALL the questions carefully.
  3. Number the answers according to the numbering system used in this question paper.
  4. Rule off across the page after each completed question.
  5. All work you do not want to be marked must be clearly crossed out.
  6. All sketches must be clear and neat.
  7. Write neatly and legibly.
-

**QUESTION 1: INTRODUCTION TO PLANT AND EQUIPMENT**

- 1.1 What is the most important invention of all time? (1)
- 1.2 State TWO reasons why it is important to care for equipment. (2)
- 1.3 Explain what is meant by *productivity*. (2)
- [5]**

**QUESTION 2: LEGISLATION AND SAFETY REGULATIONS**

- 2.1 Briefly explain the following concepts from the Occupational Health and Safety Act (OHSA), 1993 (Act 85 of 1993):
- 2.1.1 Commencement (2)
- 2.1.2 Consult (2)
- 2.1.3 Induction training (2)
- 2.1.4 Evaluation (2)
- 2.2 To protect a construction worker from falling, certain edge protection methods are used on a construction site. List FOUR of these protection methods. (4)
- 2.3 Describe the term *housekeeping*. (2)
- 2.4 Name ONE consequence of poor housekeeping. (1)
- [15]**

**QUESTION 3: EXPLAIN AND RENDER BASIC FIRST AID**

- 3.1 In life-threatening situations first aid is given with certain priorities. Name these priorities in their specific order. (3)
- 3.2 First-aid situations often pose risks because they demand quick action under dangerous conditions. The primary duty of a first-aider is to reduce risk of further injury to himself/herself, any bystander and the injured person. To do this he/she has to be aware of hazards in any accident situation. What are these hazards? (3)
- 3.3 Name TWO risk factors threatening the safety of a person administering first aid to an injured person. (2)
- 3.4 List any THREE emergency services required for any emergency. (3)

- 3.5 What steps will be taken in the following situations which needs basic first-aid assistance?
- 3.5.1 Broken bone
  - 3.5.2 Injured eye
  - 3.5.3 Cut finger
  - 3.5.4 Sprained muscle

(4)  
[15]

#### QUESTION 4: HAND TOOLS

- 4.1 Briefly describe the use of the following hand tools:
- 4.1.1 Vernier (1)
  - 4.1.2 Wheel brace (1)
  - 4.1.3 Pipe cutter (1)
  - 4.1.4 Hacksaw (1)
  - 4.1.5 Raking tool (1)
  - 4.1.6 Hawk (1)
  - 4.1.7 Notched trowel (1)
  - 4.1.8 Glass cutter (1)
  - 4.1.9 Torque wrench (1)
- 4.2 Which type of wood is used for simple shuttering for concrete mouldings? (1)
- 4.3 Give reasons why a blunt tool is more dangerous to work with than a sharp tool. (3)
- 4.4 You are required to drill a 6 mm hole through a mild steel plate. Explain all the steps in getting the job done. (5)
- 4.5 What is the name given to the stone used to sharpen chisels? (2)

4.6 Briefly describe the cleaning of the following hand tools:

4.6.1 Hand plane

4.6.2 Sockets

4.6.3 Sliding T-bevel

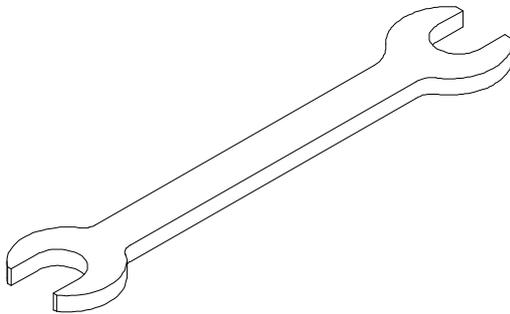
4.6.4 Brace and bits

4.6.5 Bricklayer's trowel

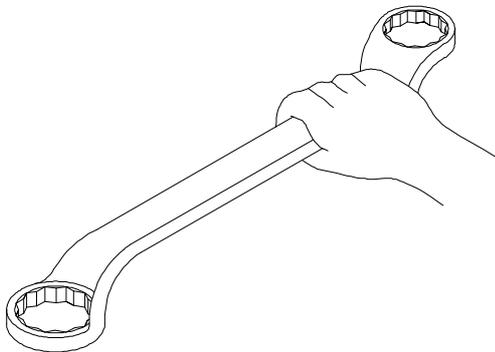
(5)

4.7 Identify the following spanners. Write only the answer next to the question number (4.7.1 – 4.7.5) in the ANSWER BOOK.

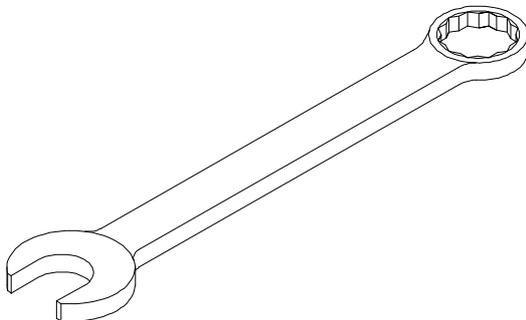
4.7.1



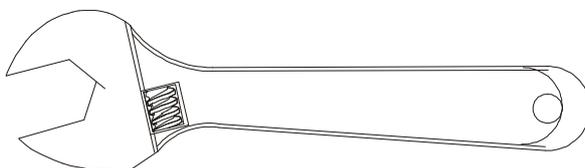
4.7.2



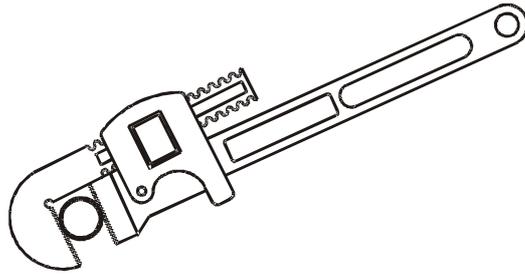
4.7.3



4.7.4



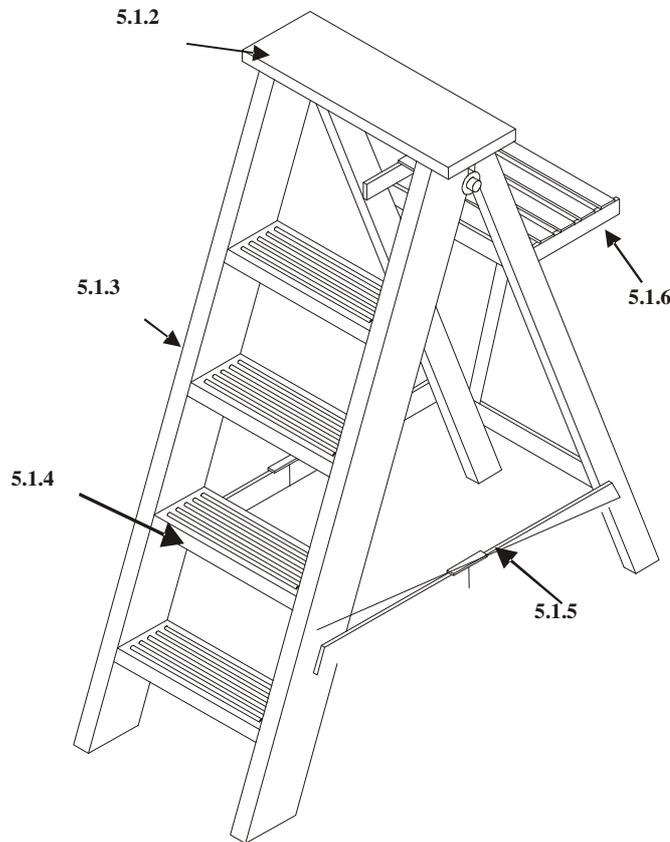
4.7.5



(5)  
[30]

**QUESTION 5: LADDERS**

5.1 The diagram below shows a type of ladder used on a construction site. Name the type of ladder (5.1.1) and its parts (5.1.2 – 5.1.6). Write only the answer next to the question number (5.1.1 – 5.1.6) in the ANSWER BOOK.



**5.1.1: Name of ladder**

(6)

5.2 Explain the correct positioning of a ladder against a wall by means of a sketch.

(4)  
[10]

**QUESTION 6: TRESTLES, SCAFFOLDING AND MOBILE TOWERS**

- 6.1 Explain in your own words what you understand by the term *independent scaffold*. (3)
- 6.2 Name FOUR scaffolding components and describe their functions. (4)
- 6.3 When inspecting a scaffold, what faults and non-compliances would you be looking for? (6)
- 6.4 Name TWO types of mobile towers. (2)
- 6.5 Why is it necessary to use bracing when building a scaffold? (2)
- 6.6 What would you look for when inspecting a builder's working platform? (3)
- 6.7 List FIVE safety rules to adhere to when working on a scaffold. (5)

**[25]**

**TOTAL: 100**