**9010 FORMATIVE ASSESSMENT WORKBOOK**

***Unit Standard*** ***9010***

**Formative assessment 1 SO1 AC1-4**

***Question 1:*** Convert the following decimal numbers to binary numbers:

|  |  |  |
| --- | --- | --- |
| a | 3 |  |
| b | 5 |  |
| c | 7 |  |
| d | 11 |  |

***Question 2:*** Convert the following binary numbers to decimal numbers

|  |  |  |
| --- | --- | --- |
| a | 1 |  |
| b | 10 |  |
| c | 100 |  |
| d | 101 |  |

***Question 3:*** Add the following binary numbers and convert the answers to decimal

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Add binary numbers | Convert binary numbers to decimal |
| a | 10 and 11 |  |  |
| b | 101 and 11 |  |  |
| c | 100 and 101 |  |  |
| d | 111011 and 100001 |  |  |

***Question 4:*** Subtract the following binary numbers and convert the answers to decimal

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | Subtract binary numbers | Convert to decimal |
| a | 10 – 1 |  |  |
| b | 111 – 11 |  |  |
| c | 110 – 11 |  |  |
| d | 110 – 10 |  |  |

***Question 5:*** Which digits do we use to write any number in the decimal system?

|  |
| --- |
|  |
|  |

***Question 6:*** Which digits do we use to write any number in the binary system?

|  |
| --- |
|  |
|  |

***Question 7:*** Which systems use binary-coded decimal (BCD)?

|  |
| --- |
|  |
|  |

Formative assessment 2 SO2 AC 1-3

Complete the following table

|  |  |  |
| --- | --- | --- |
| **Quantity** | **Unit** | **Abbreviation** |
| Mass |  |  |
|  |  | m |
|  |  | s |
| Temperature |  |  |
|  | Ampére |  |
| Light |  |  |
| Chemical standard unit |  |  |

***Question2:*** Write the following in scientific notation:

|  |  |  |  |
| --- | --- | --- | --- |
| a | 0.0009 m |  | |
| b | 104869.4572 l |  | |
| c | 34,140089 m |  | |
| d | 395867.5264 cm |  | |
| e | 367.666 km |  | |
| f |  | |  |
| g |  | |  |

**Question 3:** Complete the table below:

|  |  |  |
| --- | --- | --- |
| **Prefix** | **Abbreviation** | **Value** |
|  | G | 109 |
|  | M | 106 |
|  | k | 103 |
|  | m | 10-3 |
|  | µ | 10-6 |
|  | n | 10-9 |
|  | p | 10-12 |

***Question 4:*** Convert the units in the table. Remember to show your calculations

|  |  |
| --- | --- |
| 12 lb to kg |  |
| 100 ft to m |  |
| 300 cm to in. |  |
| 23 ft/s to m/s |  |
| 6 pint to L |  |
| 156 mm to m |  |

***Question 5:*** *Convert into °C:*

|  |  |  |
| --- | --- | --- |
| a | 10°F |  |
| b | 38°F |  |
| c | 100°F |  |

***Question 6:*** Convert into °F:

|  |  |  |
| --- | --- | --- |
| a | 100 °C |  |
| b | 50 °C |  |
| c | 66 °C |  |