

# 1.1 Measurements in Physics

## Question Paper

Course	DPIB Physics
Section	1. Measurement & Uncertainties
Topic	1.1 Measurements in Physics
Difficulty	Easy

**Time allowed:** 20  
**Score:** /10  
**Percentage:** /100

### Question 1

Which of the following is not an SI base unit?

- A. volt
- B. kilogram
- C. kelvin
- D. mole

[1 mark]

### Question 2

What are the SI base units for frequency,  $f$ ?

- A. s
- B.  $s^{-1}$
- C.  $s^{-2}$
- D.  $s^{-3}$

[1 mark]

### Question 3

Which line in the table shows the metric multipliers in order of increasing value?

<b>A.</b>	$\mu$	c	k	G	M
<b>B.</b>	G	T	n	c	p
<b>C.</b>	k	n	M	T	G
<b>D.</b>	p	n	c	G	T

[1 mark]

**Question 4**

Which product-pair of metric multipliers has the greatest magnitude?

- A. pico × mega
- B. nano × kilo
- C. micro × giga
- D. milli × tera

[1 mark]

**Question 5**

Which of the following values is not given to 3 significant figures?

- A.  $4.00 \times 10^2$
- B. 5190
- C. 6230.00
- D. 50300

[1 mark]

**Question 6**

A physicist measured the reaction time of a person pushing a buzzer to be 0.00289354 s.

Which answer gives the measurement to 4 significant figures?

- A. 0.0028
- B. 0.002893
- C. 0.003
- D. 0.0028935

[1 mark]

**Question 7**

What are the SI base units for gravitational field strength,  $g$ ?

- A. N
- B.  $\text{m s}^{-2}$
- C.  $\text{N kg}^{-1}$
- D.  $\text{J kg}^{-1}$

[1 mark]

**Question 8**

Some physical quantities can be measured directly, whereas others can only be estimated.

Which of the following rows in the table is correct?

	Physical Quantity	Measurable or estimated
<b>A.</b>	length of a football field	estimated
<b>B.</b>	age of the universe	measurable
<b>C.</b>	potential difference of a mains supply	estimated
<b>D.</b>	speed of sound	measurable

[1 mark]

**Question 9**

The length of a bacterium is approximately  $2 \times 10^{-6}$  m, and the distance from Earth to the Moon is approximately  $3.8 \times 10^8$  m.

How many orders of magnitude greater is the distance from Earth to the Moon than the length of a bacterium?

- A.  $10^2$
- B.  $10^6$
- C.  $10^{14}$
- D.  $10^{22}$

[1 mark]

**Question 10**

Cape Town is 9 700 000 m from London.

What is the order of magnitude of this distance?

- A.  $10^6$
- B.  $10^7$
- C.  $10^8$
- D.  $10^9$

[1 mark]