## **Useful Constants and Equations**

The following useful equation may be unfamiliar to some students:

$$\rho = \ ^m/_V \qquad \qquad {\rm density = mass \div volume}$$

$$c = f \times \lambda$$
 wave speed = frequency x wavelength

$$p \times V = constant$$
 pressure x Volume = constant

$$rac{1}{2}mv^2$$
 kinetic energy

$$P = V \times I$$

## The following constants should be used

 $g = 9.8 \, N/kg$  gravitational field strength on Earth



## 2023 IPC Answer Booklet (online)

Name:	School:	Account Number:				
Section A:	Multiple choice questions. (10	marks)				
Please re	Please record your answers from 1 to 10 in the online system.					
Section B: Short written questions ( 10 marks )						
Question 1	1					

Question 12	
Section C: Extended numerical questions (30 marks)	
Question 13	
Question 13 (a)	
(a)	
(a)	
(a)	
(a)	
(a)	
(a)	
(a)	

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(c)	
(d)	
	••••
(e)	
(f)	

## **Question 14** (a) (b) (c) (d)

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(e)		
(f)		