

GRADE 12 PHYSICAL SCIENCES MARCH TEST

QUESTION 1

Various options are provided as possible answers to the following questions. Choose the correct answer and write **ONLY** the LETTER (A-D) next to the QUESTION NUMBER (1.1-1.7) on your folio paper. Example 1.8. D.

- 1.1 Which of the following pairs of compounds contains members of the same homologous series?
- A Ethanol and butane
 B Ethanol and ethanoic acid
 C Ethanol and propanal
 D Ethanol and propanone
- 1.2 In which of the following cases would the resultant force acting on an object be equal to 0N.



- A A constant number of electrons in the outer shell.
 B A constant number of protons in the nucleus.
 C An element that undergoes a gradual change in its properties.
 D An element that forms a variable number of compounds.
- 1.3 Which of the statements below best describes Weightlessness?
- A An object is free of contact forces.
 B An object is free of contact forces and is in a state of free fall.
 C An object is free of contact forces and is in a state of free fall.
 D An object is free of contact forces and is in a state of free fall.
- 1.4 The inertia of an object...
- A is the same for all objects.
 B is the same for all objects in the same state of motion.
 C is the same for all objects in the same state of motion.
 D is the same for all objects in the same state of motion.

- 1.5 An astronaut has a weight E_E on Earth. What distance, in terms of the radius of the Earth (r), will the astronaut be if his weight is a 1/4 of his weight (E_E) on the surface of the Earth?
- A r
 B $2r$
 C $4r$
 D $16r$

- 1.6 A box is pushed forward with a force of 100N but does not move. A possible reason for this is that:
- A The box is too heavy.
 B The box is too light.
 C The box is too smooth.
 D The box is too rough.
- 1.7 A box is pushed forward with a force of 100N but does not move. A possible reason for this is that:
- A The box is too heavy.
 B The box is too light.
 C The box is too smooth.
 D The box is too rough.

[14]

QUESTION 2

Three organic compounds (A, B and C) with different functional groups are given below.

A: 2,3-dimethyl-2-one



C: $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$

- 2.1 Write down the functional group in compound C and name the cation to form such a variety of organic compounds. (2)
- 2.2 Define the term functional group. (2)
- 2.3 Write down the:
 2.3.1 IUPAC name of compound A. (2)
 2.3.2 IUPAC name of compound B. (2)

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