Effects of Forces

Question Paper

Course	CIE IGCSE Physics
Section	1. Motion, Forces & Energy
Topic	Effects of Forces
Difficulty	Easy

Time Allowed 10

Score /5

Percentage /100

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Question 1

Extended tier only

A planet orbits a star at a constant speed in a **circular** orbit.

Which of the statements below, about the force needed to maintain this motion, is correct?

A. No force is required

B. The force is directed away from the centre of the circle

C. The force is directed in the direction the planet is travelling

D. The force is directed towards the centre of the circle

[1 mark]

Question 2

Extended tier only

A car is driving around a circular track at a constant speed.

Which statement describes the motion of the car?

A. The car is accelerating because its speed is changing

B. The car is not accelerating as it is moving at a constant speed

C. The car is accelerating because its velocity is changing

D. The car is not accelerating, but its velocity is changing.

[1 mark]

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Question 3

In which of the following situations would no resultant force be required?

A. A motorbike travelling round a bend at a constant speed.

B. A rocket accelerating straight upwards into space.

C. A ship sailing at a constant speed across the ocean.

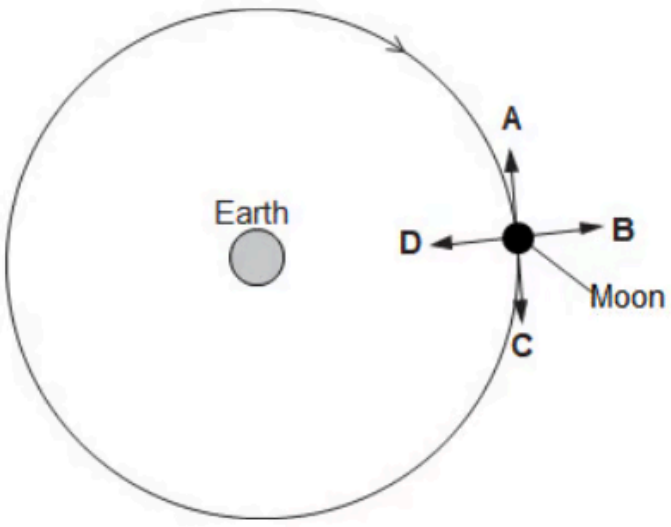
D. A Formula One car accelerating off the starting grid.

[1 mark]

Question 4

Extended tier only

The Moon orbits the Earth at a constant speed.



Which of the arrows on the diagram shows the direction of the resultant force on the Moon?

[1 mark]

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Question 5

A car starts from rest and rapidly increases speed.

There is a forward acting force on the car from the engine, and a backward acting force on the car from air resistance and friction.

Choose the force diagram and description that best describes the magnitude of the opposing forces.

A

The forward acting force is much larger than the backward acting force

B

The forward acting force is slightly larger than the backward acting force

C

The forward acting force is exactly the same size as the backward acting force

D

The forward acting force is smaller than the backward acting force

[1 mark]

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