

- 3 Force-fields may be represented using lines that have direction.

(a) State

- (i) what is meant by a *field of force*,

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[1]

- (ii) how, using lines of force, changes in the strength of a force-field are represented.

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[2]

- (b) Conventionally, arrows on field lines define the direction of a force acting on an object.

State the property of the object that experiences a force in this direction for

- (i) a gravitational field,

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[1]

- (ii) an electric field,

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[1]

- (iii) a magnetic field.

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[1]

- (c) Explain how an electric field and a magnetic field may be used for the velocity selection of charged particles. You may draw a diagram if you wish.

For
Examiner's
Use

[4]

[4]