



basic education

Department  
Basic Education  
REPUBLIC OF SOUTH AFRICA

# FULL MEMORANDUM GRADE 12 PHYSICS 2022 FINAL

This question paper consists of 18 pages and 3 data sheets.

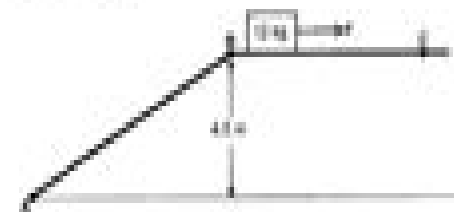
(QUESTION 6 (Start on a new page.)

A 12 kg block is initially at rest at point A at the bottom of a ROUGH inclined plane. The block is pulled up the incline by a constant force  $F$  acting parallel to the incline. The block reaches point B, which is at a vertical height of 4.0 m above the horizontal, with a speed of 2.0 m/s. See the diagram below.



- 6.1 Define the term non-conservative force.
- 6.2 Draw a labelled free-body diagram for the block when it is pulled up the incline plane.
- 6.3 Calculate the total work done on the block by the NON-CONSERVATIVE forces when the block moves from point A to point B. (4)

The same constant force  $F$  now moves the block at a CONSTANT VELOCITY across a rough horizontal surface from point B to point C, as shown below. Force  $F$  acts parallel to the horizontal surface.



The magnitude of the constant frictional force acting on the block while moving from point B to point C is 40 N, 40% greater than the magnitude of the constant frictional force acting on the block when it moves from point A to point B.

- 6.4 Calculate the distance from point A to point B. (5)

(10)

# Physical Science 2013 Paper1 November Memorandum

**D Kirk**



**Physical Science 2013 Paper1 November Memorandum:**

*Physical Science ,1981*

The Top Books of the Year Physical Science 2013 Paper1 November Memorandum The year 2023 has witnessed a remarkable surge in literary brilliance, with numerous engrossing novels enthralling the hearts of readers worldwide. Lets delve into the realm of top-selling books, exploring the fascinating narratives that have captivated audiences this year.

Physical Science 2013 Paper1 November Memorandum : Colleen Hoover's "It Ends with Us" This touching tale of love, loss, and resilience has captivated readers with its raw and emotional exploration of domestic abuse. Hoover masterfully weaves a story of hope and healing, reminding us that even in the darkest of times, the human spirit can succeed.

Physical Science 2013 Paper1 November Memorandum : Taylor Jenkins Reid's "The Seven Husbands of Evelyn Hugo" This spellbinding historical fiction novel unravels the life of Evelyn Hugo, a Hollywood icon who defies expectations and societal norms to pursue her dreams. Reid's compelling storytelling and compelling characters transport readers to a bygone era, immersing them in a world of glamour, ambition, and self-discovery.

Discover the Magic : Delia Owens' "Where the Crawdads Sing" This evocative coming-of-age story follows Kya Clark, a young woman who grows up alone in the marshes of North Carolina. Owens spins a tale of resilience, survival, and the transformative power of nature, captivating readers with its evocative prose and mesmerizing setting.

These bestselling novels represent just a fraction of the literary treasures that have emerged in 2023. Whether you seek tales of romance, adventure, or personal growth, the world of literature offers an abundance of compelling stories waiting to be discovered.

The novel begins with Richard Papen, a bright but troubled young man, arriving at Hampden College. Richard is immediately drawn to the group of students who call themselves the Classics Club. The club is led by Henry Winter, a brilliant and charismatic young man. Henry is obsessed with Greek mythology and philosophy, and he quickly draws Richard into his world. The other members of the Classics Club are equally as fascinating. Bunny Corcoran is a wealthy and spoiled young man who is always looking for a good time. Charles Tavis is a quiet and reserved young man who is deeply in love with Henry. Camilla Macaulay is a beautiful and intelligent young woman who is drawn to the power and danger of the Classics Club. The students are all deeply in love with Morrow, and they are willing to do anything to please him. Morrow is a complex and mysterious figure, and he seems to be manipulating the students for his own purposes. As the students become more involved with Morrow, they begin to commit increasingly dangerous acts.

The Secret History is a masterful and thrilling novel that will keep you wondering until the very end. The novel is a cautionary tale about the dangers of obsession and the power of evil.

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