

BUKU RAMALAN SPM TERBAIK!

PASTI SKOR

.COM.MY

ELIZIAK



Hi! Selamat Datang Ke PastiSkor

1. Buku ini disediakan melalui analisis soalan-soalan SPM sebenar, soalan-soalan percubaan SPM 2023 dan input guru yang berwibawa.

Hanya soalan-soalan yang penting, mungkin berulang dan mempunyai peluang yang tinggi untuk keluar dalam SPM disediakan dalam buku ini.

2. Buku ini mengandungi **Ramalan SPM 2023, Satu(1) set soalan kertas 1 dan Tiga(3) set soalan kertas 2 dengan jawapan lengkap.**
3. Cara menggunakan buku ini :

Langkah 1

Beri tumpuan pada topik-topik ramalan yang disertakan dalam buku ini.

Langkah 2

Sila jawab semua soalan dan semak jawapan anda dengan skema pemarkahan yang disertakan.

Semoga Berjaya

Daripada Semua Tenaga Pengajar Di Pastiskor!!

RAMALAN FIZIK SPM 2023

BAB	TINGKATAN 4
2 : Daya dan Gerakan I	2.5 Momentum (ms 58) ● Prinsip Keabadian Momentum 2.7 Impuls dan daya impuls (ms 67)
3 : Kegravitian	3.1 Hukum Kegravitan Semesta Newton (ms 78) 3.2 Hukum Kepler (ms 96) ● Hukum Ketiga Kepler ● daya sentripetal
4 : Haba	4.2 Muatan haba tentu (ms 125) ● aplikasi muatan haba tentu 4.3 Haba pendam tentu (ms 137)
5 : Gelombang	5.5 Pembelauan gelombang (ms 202) ● gelombang cahaya ● gelombang bunyi 5.7 Gelombang elektromagnet (ms 220) ● spektrum elektromagnet (gelombang mikro)
6 : Cahaya dan Optik	6.1 Pembiasan cahaya (ms 232) ● Indeks biasan 6.3 Pembentukan imej oleh kanta (ms 251) ● kanta cembung 6.6 Pembentukan imej oleh cermin sfera (ms 270) ● cermin keselamatan jalan

RAMALAN FIZIK SPM 2023

BAB	TINGKATAN 5
1 : Daya dan Gerakan II	1.2 Leraian daya (ms 13) 1.3 Keseimbangan daya (ms 18)
2 : Tekanan	2.2 Tekanan Atmosfera (ms 49) 2.4 Prinsip Pascal (ms 60) • sistem hidraulik
3 : Elektrik	3.2 Rintangan (ms 100) • litar bersiri 3.3 Daya gerak elektrik (d.g.e) dan rintangan dalam (ms 114) • pengiraan d.g.e dan rintangan dalam 3.4 Tenaga dan kuasa elektrik (ms 124) • penyelesaian masalah dalam kehidupan harian berkaitan dengan tenaga dan kuasa
4 : Keelektromagnetan	4.2 Aruhan elektromagnet (ms 149) 4.3 Transformer (ms 162)
5 : Elektronik	5.1 Elektron (ms 174) • pancaran fotoelektron • pelepasan ion haba 5.2 Diod semikonduktor (ms 181) • rektifikasi gelombang separuh • OSK 5.3 Transistor (ms 187)
6 : Fizik Nuklear	6.1 Reputan Radioaktif (ms 200) • separuh hayat
7 : Fizik Kuantum	7.2 Kesan Fotoelektrik (ms 234) • teori fotoelektrik Einstein

ANALISIS SOALAN PERCUBAAN FIZIK 2023

	1	2	3	4	5	6	7	8	9	10	11
Negeri Sembilan	T4B3 Centripetal force	T5B1 Force in equilibrium	T5B7 Photoelectric effect	T5B6 Mass defect	T5B4 Magnetic field Catalput field	T5B2 Pressure in liquid Barometer	T4B4 Latent heat of vaporisation Comparison of garment steamer	T4B6 Mirror	T4B2 Impulsive force Comparison of bathing equipment set	T5B3 Current and resistance Comparison of hair dryer	T5B5 Thermionic emission Modification of phone battery
Kelantan	T5B2 Pascal's principle	T5B3 Electric circuit	T5B7 Photoelectrons	T4B3 Centripetal force Satellites	T5B2 Bourdon Gauge	T5B5 Thermionic emission	T4B5 Sound waves Comparisons of waves	T5B6 Nuclear reactor How to build nuclear reactor safely	T4B2 & T5B1 Momentum Building of water rocket Recoil velocity	T5B4 Transformer	T4B6 Refractive index Invention of optical fibre
Melaka	T4B5 Electromagnetic wave	T4B6 Mirror	T5B3 Electrical energy	T5B2 Air pressure Kinetic Theory of Gas	T4B3 Gravitational force	T5B7 Photoelectric effect	T5B1 Resolution of forces Comparison of slides	T5B3 Power and Energy	T5B2 Hydraulic jack	T5B5 Transistor	T4B2 Impulsive force Suitable equipments and techniques for pole vaulting
Pulau Pinang	T5B6 Nuclear energy	T4B2 Velocity - time graph	T4B6 Mirror	T5B5 Photoelectron emission	T4B5 Diffraction of waves	T5B4 Force of magnetic field	T5B5 Semiconductor diode	T5B2 Bernoulli's principle	T5B3 Electromotive force Comparison between filament of bulbs	T4B4 Specific heat capacity Comparison of rice keepers	T4B3 Gravitational law Kepler's Law
Pahang	T4B2 Momentum	T5B7 Photoelectric effect	T5B1 Resultant force	T5B3 Energy and Power	T4B3 Gravitational force	T5B2 Gas pressure Gas Kinetic Theory	T5B2 Pascal's principle Modification of dentist chair	T5B4 CRO Transformer	T4B6 Mirror Comparisons between security mirrors	T5B5 Fire alarm circuit Transistor Comparison between electronic circuits	T4B5 Sound waves Designing of wireless router
Kedah	T5B7 Quantum Theory of Light	T4B5 Refraction of waves	T4B4 Latent heat of fusion	T4B3 Newton's Universal Law of Gravitation	T5B4 Magnetic field Direct current motor	T4B2 Momentum Ticker tape	T5B5 Production of cathode rays in a vacuum tube	T5B3 Comparison of wires in lamp wiring system	T5B2 Hydraulic system Comparison of hydraulic bridges	T4B5 Diffraction of waves Comparison of transmitting system	T5B1 Hooke's Law Modification of sofa
SBP	T4B3 Kepler's Law	T5B4 Direct current motor EMF	T5B3 Electrical circuit	T4B5 Interference of waves	T4B5 Refraction of sound waves	T5B6 Nuclear reaction Mass defect	T5B2 Buoyancy force Hot air balloon	T4B4 Specific heat capacity Modifications on grill to be safe and for faster cooking	T4B2 Velocity and momentum Comparison of American football protective equipments	T5B3 Circuit to automatically activate LED	T4B6 Image formation by Lens How lens could be used as magnifying glass Modifications on smartphone camera for clearer image

ANALISIS SOALAN PERCUBAAN FIZIK 2023

Perlis	T4B5 Electromagnetic spectrum	T4B2 Impulsive force	T4B3 Kepler's Third Law	T5B5 Semiconductor diode CRO	T5B2 Air pressure in vertical tube	T4B6 Image formed by concave mirror Parabolic dish	T5B1 Resolving force Comparison between lawn mower	T4B4 Electromagnetic induction Modifications on dynamo	T4B4 Calibration of thermometer Cooling system of motorcycle engine Thermal equilibrium	T5B6 Radioactive decay Leakage detection using radioactive	T5B2 Hydraulic lift Aerodynamics Submarine modifications
T'gannu	T5B5 Electrons	T4B6 Refraction of light	T5B6 Radioactive decay	T4B5 Sound waves	T5B5 Transistor	T4B4 Latent heat of vapourisation	T5B3 Induction cooker	T4B3 Centripetal force	T5B2 Water pressure Designing of water tank	T4B2 Impulsive force Comparison of hockey sticks	T5B1 Elasticity

SET 1

KERTAS 1

Jawab semua soalan.

Answer *all* question.

1. Manakah di antara kuantiti fizik berikut terdiri daripada kuantiti asas ?

Which of the following physical quantities consists of base quantities?

- A. Suhu, daya, jisim
Temperature, force, mass
- B. Tenaga, arus elektrik, panjang
Energy, electric current, length
- C. Halaju, daya, jarak
Velocity, force, length
- D. Masa, arus elektrik, Panjang
Time, electric current, length

2. Separuh hayat bagi Boron-16 ialah 190 ps. Pernyataan bagi separuh hayat dalam unit saat ialah
Half life for Boron-16 is 190 ps. The expression of the half life in second is

- A. $190 \times 10^{-12} \text{ s}$
- B. $190 \times 10^{-10} \text{ s}$
- C. $190 \times 10^{10} \text{ s}$
- D. $190 \times 10^{12} \text{ s}$

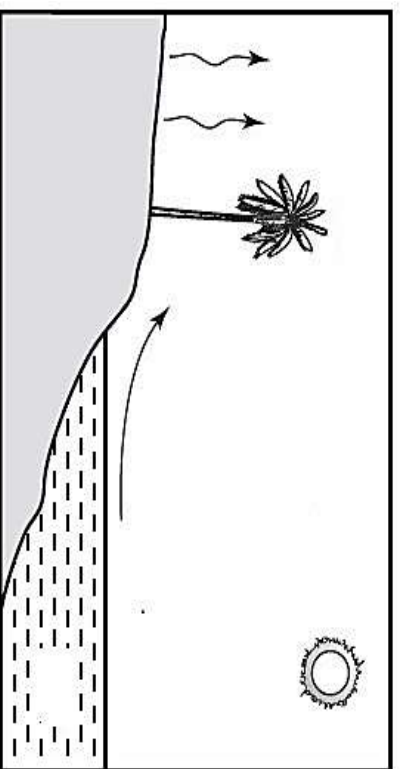
3. Sehelai bulu dan sebiji batu sedang jatuh bebas di dalam vakum dari ketinggian yang sama.
A feather and a stone are falling freely in a vacuum from the same height.

Pernyataan manakah yang betul mengenai pergerakan itu?
Which statement is correct about motion?

- A. Bulu dan batu itu jatuh dengan halaju seragam.
The feather and the stone fall with constant velocity.
- B. Bulu dan batu itu mempunyai tenaga kinetik yang sama.
The feather and the stone have the same kinetic energy.
- C. Bulu dan batu itu sampai ke tanah pada masa yang sama.
The feather and the stone reach the ground at the same time.
- D. Daya graviti yang bertindak ke atas bulu dan batu adalah sama.
The gravitational force acting on the feather and the stone are the same.

4. Rajah 2 menunjukkan fenomena bayu laut

Diagram 2 shows the sea breeze phenomenon.



Rajah 2 / Diagram 2

Mengapakah fenomena bayu laut berlaku?

Why does the sea breeze phenomenon occur?

- A. Laut membebaskan haba lebih cepat berbanding darat
Sea release heat faster than land.
- B. Laut mempunyai haba pendam tentu lebih tinggi berbanding darat.
Sea has a higher specific latent heat than land.
- C. Laut menyerap lebih banyak haba berbanding darat pada waktu siang.
Sea absorbs more heat than land during daytime
- D. Laut mempunyai muatan haba tertentu yang lebih tinggi berbanding darat.
Sea has a higher specific heat capacity than land.

5. Sebij bola yang berjirim 1.2kg bergerak dengan halaju 4 ms⁻¹ dilanggar oleh sebuah kereta yang bergerak pada arah yang sama dengan bolatersebut. Halaju bola tersebut meningkat kepada 10 ms⁻¹ dalam masa 0.5 s. Berapakah impuls pada bola tersebut?

A ball of 1.2kg with velocity of 4 ms⁻¹ hit by a car which moving in same direction with the ball. The velocity of the ball increases to 10 ms⁻¹ in 0.5 s. what is the impulse on the ball?

- A. 1.2 N s
- B. 3.6 N s
- C. 7.2 N s
- D. 14.4 N s

6. Antara berikut, yang manakah boleh digunakan menghasilkan gelombang pegun?

Which of the following, can be used to produce stationary waves?

- A. Meniup udara melalui trumpet
Blowing air through a trumpet
- B. Menghasilkan bunyi daripada pembesar suara
Producing sound from a speaker
- C. Menyinari cahaya melalui suatu dwi-celah
Shines light through double slits
- D. Menyebarkan gelombang air ke Kawasan cetek
Propagates water waves to shallower region

7. "Setiap objek tetap berada daam keadaan rehat atau Gerakan seragam dalam garis lurus kecuali jika terpaksa mengubah keadaan itu dengan daya luar yang dikenakan padanya".

"Every object remains in a state of rest or uniform motion in a straight line unless it is forced to change that state by an external force applied to it".

Pernyataan ini diterangkan oleh

This statement is explained by

- A. Hukum Gerakan Newton Pertama
Newton's First Law of Motion
- B. Hukum Gerakan Newton Kedua
Newton's Second Law of Motion
- C. Prinsip Keabadian Tenaga
The Principle of Conservation of Energy
- D. Prinsip Keabadian Momentum
The Principle of Conservation of Momentum

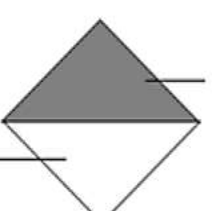
8. Rajah menunjukkan objek A dan objek B adalah suhu T_1 dan T_2 . Haba mengalir dari A ke B sehingga keseimbangan terma dicapai pada suhu T .

The diagram shows object A and object B are temperatures T_1 and T_2 . Heat flows from A to

B until thermal equilibrium is reached at temperature T .

Objek A pada suhu T_1

Object A at temperature T_1



Objek B pada suhu T_2

Object B at temperature T_2

Hubungan mana antara T_1 , T_2 dan T adalah benar?

Which relationship between T_1 , T_2 and T is true?

- A. $T_1 > T_2 > T$
- B. $T_2 > T_1 > T$
- C. $T_1 > T > T_2$
- D. $T_2 > T > T_1$

9. Antara pernyataan berikut yang manakah betul tentang satelit geopegun?

Which of the following statements are correct about geostationary satellite?

I	Tempoh Orbit 24 jam <i>Orbital period is 24 hours</i>
II	Berada di atas tempat yang sama di muka bumi <i>Above the same geographical location</i>
III	Digunakan sebagai pengimejan bumi, GPS dan kaji cuaca <i>Used in earth imaging, GPS and weather forecast</i>
IV	Arah Gerakan sama dengan arah putaran bumi <i>Direction of motion same as direction of earth rotation</i>

- A. I, II, III
B. I, II, IV
C. I, III, IV
D. II, III, IV

10. Apakah kuantiti-kuantiti asas dalam pecutan?

What are the base quantities in acceleration?

- A. Laju dan masa
Speed and time
C. Panjang dan laju
Length and speed
B. Panjang dan masa
Length and time
D. Laju dan Halaju
Speed and velocity

11. Satu objek diletakkan pada jarak 15.0cm daripada satu kanta cembung dengan jarak focus 10.0 cm.

An object is placed at a distance 15.0 cm from a convex lens with focal length 10.0 cm.

Berapakah jarak imej?

What is the image distance?

- A. 15.0 cm
B. 20.0 cm
C. 25.0 cm
D. 30.0 cm

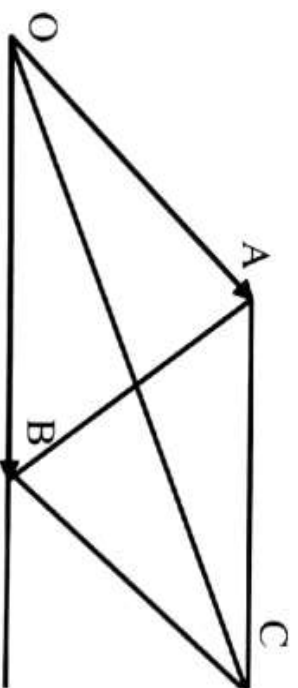
12. Antara gelombang berikut, yang manakah tidak boleh merambat melalui vakum?

Which of the following waves cannot propagate in a vacuum?

- A. Gelombang ultrasonic
Ultrasonic waves
B. Gelombang mikro
Microwaves
C. Sinar Ultraungu
Ultraviolet waves
D. Sinar – X
X-rays

13. Rajah 3 menunjukkan dua daya OA dan OB yang bertindak ke atas titik O. Daya paduan ditentukan dengan menggunakan kaedah segiempat selari.

Diagram 3 shows two forces, OA and OB acting on point O. The resultant force is determined by using parallelogram.



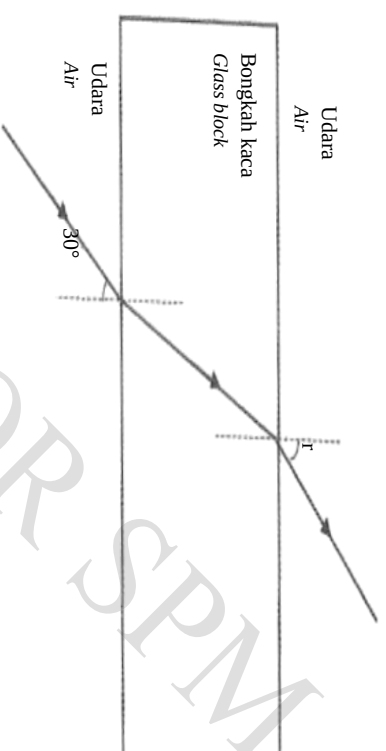
Rajah 3 / Diagram 3

Antara berikut yang manakah menunjukkan daya paduan tersebut?
 Which of the following represents the resultant force?

- A. AC
- B. AB
- C. OC
- D. BC

14. Rajah 4 menunjukkan satu alur cahaya yang ditunjukkan pada suatu bongkah kaca.

Diagram 4 shows a beam of light that is directed towards a glass block.



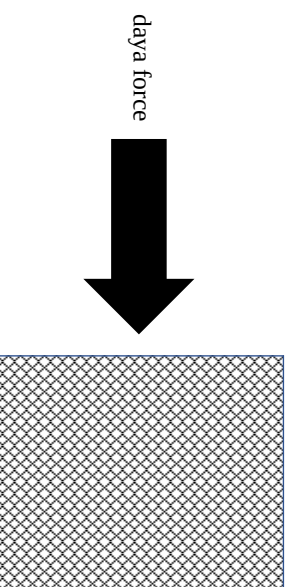
Rajah 4 / Diagram 4

Manakah nilai yang betul bagi sudut r ?
 Which is the correct value for angle r ?

- A. $r < 30^\circ$
- B. $r = 30^\circ$
- C. $r > 30^\circ$

15. Rajah 5 menunjukkan satu daya bertindak pada suatu objek.

The diagram 5 shows a force acting on an object.



Rajah 5 / Diagram 5

Impuls yang diberikan kepada objek itu dipengaruhi oleh

The impulse given to the object is influenced by

- A. Daya sahaja
Force only
- B. Jisim sahaja
Mass only
- C. Daya dan masa hentaman
Force and time impact
- D. Daya, jisim dan masa hentaman
Force, mass and time impact

16. Kuantiti tenaga haba yang sama diberikan kepada dua objek X dan Y. Kenaikan suhu objek X kurang daripada kenaikan suhu objek Y.

The same quantity of heat energy is given to two objects X and Y. The temperature rise of object X is less than the temperature rise of object Y.

Apa yang menjelaskan perbezaan ini?

What accounts for this difference?

- A. Objek Y adalah konduktor haba yang lebih baik daripada objek X
X Object Y is a better thermal conductor than object X
- B. Objek X adalah konduktor haba yang lebih baik daripada objek Y
Object X is a better thermal conductor than object Y
- C. Objek Y mempunyai muatan haba tentu yang lebih besar daripada objek X
X Object Y has a larger specific heat capacity than object X
- D. Objek X mempunyai muatan haba tentu yang lebih besar daripada objek Y
Object X has a larger specific heat capacity than object Y

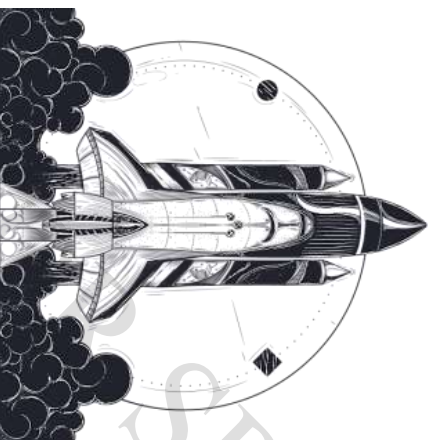
17. Antaranya yang berikut, yang manakah kuantiti asas?

Which of the following is a base quantity?

- A. Berat
Weight
- B. Isipadu
Volume
- C. Kuantiti haba
Amount of heat
- D. Keamatan berluminesiti
Luminous intensity

18. Rajah 6 menunjukkan sebuah roket dilancarkan bagi menghantar satu satelit buatan manusia ke angkasa lepas.

Diagram 6 shows a rocket being launched to send man-made satellites to outer space.



Rajah 6 / Diagram 6

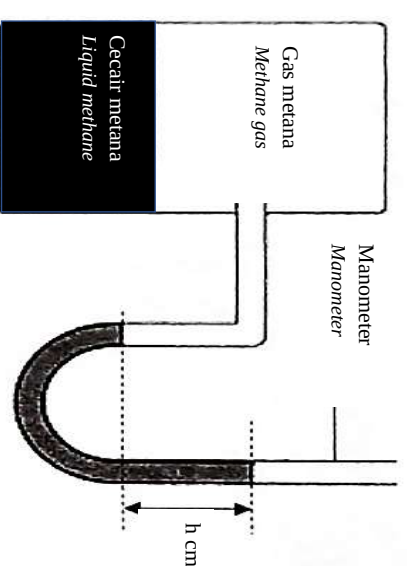
Mengapakah roket tersebut memerlukan bahan bakar yang banyak untuk dilancarkan?

Why does the rocket require a large amount of fuel for launching?

- A. Untuk menghasilkan daya memusat yang besar
To produce large centripetal force
- B. Untuk menghasilkan halaju tinggi supaya dapat bergerak lebih jauh
To produce high velocity to move further
- C. Untuk mengatasi jisim roket yang besar
To overcome the bigger mass of the rocket
- D. Untuk menghasilkan daya tujah yang besar bagi membolehkan roket mencapai halaju lepas
To produce high thrust that enables the rocket to achieve escape velocity

19. Rajah 7 menunjukkan satu manometer merkuri disambungkan ke satu tangkai yang mengandungi cecair metana.

Diagram 7 shows a mercury manometer connected to a tank containing liquid methane.



Rajah 7 / Diagram 7

Apakah tekanan gas metana, P_m di dalam tangkai itu?

What is the pressure of the methane gas, P_m in the tank?

[Diberi tekanan atmosfera, $P_{atm} = 75 \text{ cm Hg}$]

[Given the atmospheric pressure, $P_{atm} = 75 \text{ cm Hg}$]

- A. $P_m = 75 \text{ cm Hg}$
- B. $P_m = (75 + h) \text{ cm Hg}$
- C. $P_m = (75 - h) \text{ cm Hg}$
- D. $P_m = h \text{ pg}$