

PENILAIAN AKHIR TAHUN

Masa: 2 jam

Tunjukkan langkah-langkah penting dalam kerja mengira anda. Ini boleh membantu anda untuk mendapatkan markah. Anda dibenarkan menggunakan kalkulator saintifik.

Show your working. It may help you to get marks. You may use a scientific calculator.

Jawab **semua** soalan.
*Answer **all** the questions.*

1. (a) (i) Bulatkan integer yang lebih besar daripada -15 . [1 markah]
Circle the integer that is greater than -15 . [1 mark]

Jawapan/Answer:

-12	-18
-----	-----

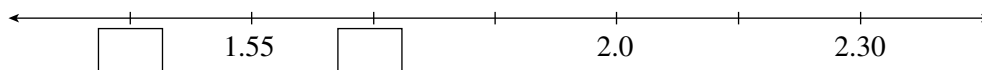
- (ii) Susun $-6, -11, -10, 0, -8$ dan 5 mengikut tertib menaik. [2 markah]
Arrange $-6, -11, -10, 0, -8$ and 5 in ascending order. [2 marks]

Jawapan/Answer:

- (b) (i) Hitung: $0.28 \times (-5) - \left(-3\frac{2}{5}\right)$ [2 markah]
Calculate: [2 marks]

Jawapan/Answer:

- (ii) Rajah 1 menunjukkan satu garis nombor yang tidak lengkap.
Diagram 1 shows an incomplete number line.



Rajah 1
Diagram 1

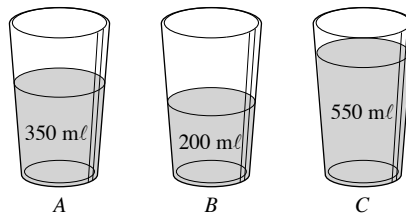
- Isi tempat kosong dengan nilai yang betul. [2 markah]
Fill in the blanks with the correct values. [2 marks]

Jawapan/Answer:

- (c) Bainun mempunyai RM3 080. Dia menggunakan $\frac{2}{5}$ daripada wang itu untuk membeli sebuah televisyen. Kemudian, dia membeli 4 buah mesin jahit yang berharga RM620 setiap satu. Adakah wangnya mencukupi? Jika tidak, berapa banyakkah wang yang diperlukannya lagi? [3 markah]
Bainun has RM3 080. She uses $\frac{2}{5}$ of the money to buy a television set. Then, she buys 4 sewing machines costing RM620 each. Does she have enough money? If not, how much more money does she still need? [3 marks]

Jawapan/Answer:

2. (a) (i) Rajah 2.1 menunjukkan tiga gelas susu.
Diagram 2.1 shows three glasses of milk.



Rajah 2.1
 Diagram 2.1

Tulis nisbah isi padu susu dalam gelas A kepada gelas B kepada gelas C dalam bentuk termudah. [1 markah]
Write the ratio of the volume of milk in glass A to glass B to glass C in the simplest form. [1 mark]

Jawapan/Answer:

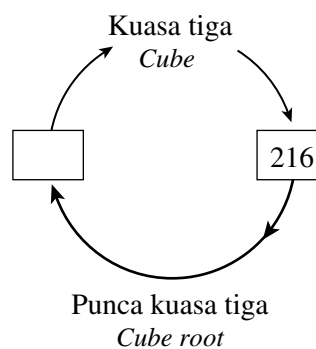
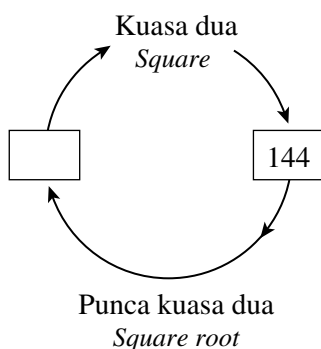
- (ii) Ungkapkan nisbah 1.2 : 3 : 1.8 dalam bentuk termudah. [2 markah]
Express the ratio 1.2 : 3 : 1.8 in the simplest form. [2 marks]

Jawapan/Answer:

3. (a) Isi petak kosong dengan jawapan yang betul.
Fill in the blanks with the correct answer.

[2 markah]
[2 marks]

Jawapan/Answer:



- (b) (i) Jadual 3 menunjukkan bilangan guru lelaki dan bilangan guru perempuan di empat buah sekolah.

Table 3 shows the number of male and female teachers in four schools.

Sekolah School	Bilangan guru lelaki Number of male teachers	Bilangan guru perempuan Number of female teachers
P	20	35
Q	35	50
R	40	75
S	32	56

Jadual 3
Table 3

Tentukan yang mana dua sekolah mempunyai nisbah bilangan guru lelaki kepada bilangan guru perempuan yang setara.

[2 markah]

Determine which two schools have equivalent ratios of the number of male teachers to the number of female teachers.

[2 marks]

Jawapan/Answer:

- (ii) Kamal membeli 5 biji nanas di gerai *K* dengan harga RM8.50 dan 8 biji nanas yang sama jenis di gerai *M* dengan harga RM12. Gerai manakah yang menawarkan harga yang lebih murah?

[2 markah]

Kamal bought 5 pineapples at stall K for RM8.50 and 8 similar pineapples at stall Q for RM12. Which stall offered a cheaper price?

[2 marks]

Jawapan/Answer:

- (c) Dalam pemilihan seorang ketua kampung, terdapat tiga orang calon iaitu *A*, *B* dan *C*. 1 500 orang penduduk telah mengundi dan bilangan undi bagi tiga orang calon itu adalah dalam nisbah 2 : 8 : 5. *In an election for a village head, there were three candidates A, B and C. 1 500 villagers voted and the number of votes for the three candidates were in the ratio of 2 : 8 : 5.*

- (i) Berapakah bilangan undi yang diterima oleh calon yang menang?

[2 markah]

How many votes did the winning candidate receive?

[2 marks]

Jawapan/Answer:

- (ii) Hitung beza antara bilangan undi yang tertinggi dengan bilangan undi yang terendah.

[2 markah]

Calculate the difference between the highest number of votes and the lowest number of votes.

[2 marks]

Jawapan/Answer:

4. (a) (i) Tandakan (✓) bagi sebutan serupa dengan $5k$. [1 markah]
Mark (✓) for like term of $5k$. [1 mark]

Jawapan/Answer:

$7k^2$	$\frac{k}{2}$	$\frac{1}{3k}$
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- (ii) Nyatakan bilangan sebutan bagi $4k + 2 - h$. [1 markah]
State the number of terms of $4k + 2 - h$. [1 mark]

Jawapan/Answer:

- (iii) Bulatkan pekali bagi xyz dalam sebutan $-3x^2yz^2$. [1 markah]
Circle the coefficient of xyz in the term of $-3x^2yz^2$. [1 mark]

Jawapan/Answer:

$3yz$	$-3xz$	$-3xyz$
-------	--------	---------

- (b) Jisim Hassan ialah $(3x + y)$ kg. Daud adalah $(2x - 3y)$ kg lebih berat daripada Hassan. Manakala jisim Maria adalah $(y + 5)$ kg kurang daripada jisim Hassan.

Hassan's mass is $(3x + y)$ kg. Daud is $(2x - 3y)$ kg heavier than Hassan whereas Maria's mass is $(y + 5)$ kg less than Hassan.

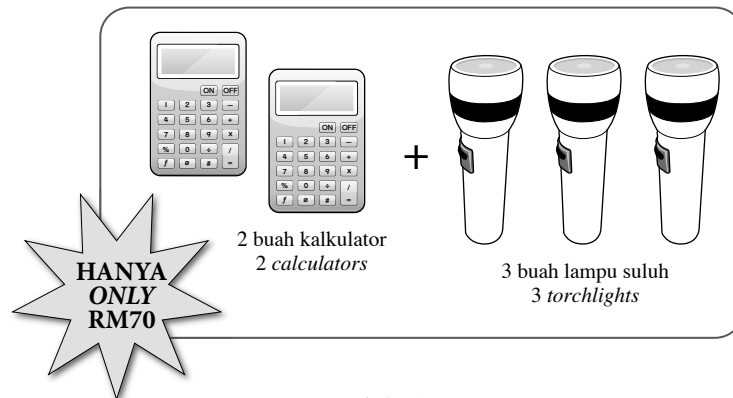
- (i) Tulis jisim Daud dalam sebutan x dan y . [1 markah]
Write the mass of Daud in terms of x and y . [1 mark]

Jawapan/Answer:

- (ii) Cari jumlah jisim mereka. [2 markah]
Find their total mass. [2 marks]

Jawapan/Answer:

- (c) Rajah 4 menunjukkan satu iklan bagi jualan murah di sebuah pasaraya.
Diagram 4 shows an advertisement for a sale in a supermarket.



Rajah 4
Diagram 4

- (i) Berdasarkan iklan itu, tulis satu persamaan linear dalam dua pemboleh ubah. [1 markah]
Based on the advertisement, write an equation in two variables. [1 mark]

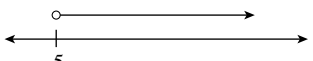
Jawapan/Answer:

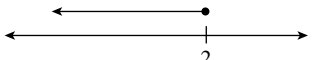
- (ii) Jika harga sebuah kalkulator adalah dua kali ganda harga sebuah lampu suluh, bentuk satu persamaan lain. Seterusnya, cari harga sebuah lampu suluh itu. [3 markah]
If the price of a calculator is twice the price of a torchlight, write another linear equation. Hence, find the price of a torchlight. [3 marks]

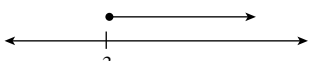
Jawapan/Answer:

5. (a) Tandakan (✓) jika betul dan (✗) jika salah.
 Mark (✓) if correct and (✗) if wrong.

[3 markah]
 [3 marks]

(i) $x > -5$ 

(ii) $x < 2$ 

(iii) $x \geq -3$ 

- (b) (i) Cari integer terbesar yang memuaskan ketaksamaan linear $-\frac{x}{3} > 2$.

[2 markah]

Find the largest integer that satisfies the linear inequality $-\frac{x}{3} > 2$.

[2 marks]

Jawapan/Answer:

- (ii) Selesaikan: $12 + 3y \leq -3$
 Solve:

[2 markah]
 [2 marks]

Jawapan/Answer:

- (c) Senaraikan semua nilai integer x yang memuaskan ketaksamaan $2x + 5 > -3$ dan $3 - x \geq 2$.

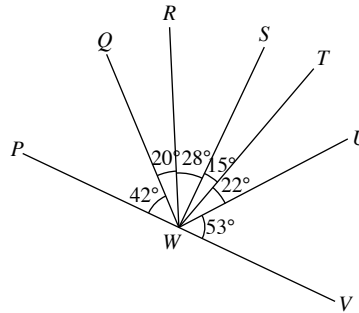
[3 markah]

List all the integer values of x that satisfy the inequalities $2x + 5 > -3$ and $3 - x \geq 2$.

[3 marks]

Jawapan/Answer:

6. (a) Dalam Rajah 6.1, PWV ialah garis lurus.
In Diagram 6.1, PWV is a straight line.



Rajah 6.1
 Diagram 6.1

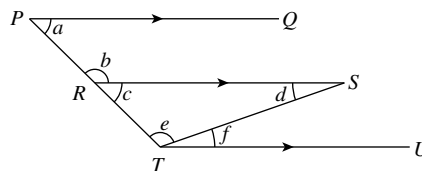
- (i) Garis manakah yang berseranjang dengan garis PWV ? [1 markah]
Which line is perpendicular to line PWV ? [1 mark]

Jawapan/Answer:

- (ii) Cari sudut penggenap bagi $\angle PWR$. [1 markah]
Find the supplementary angle of $\angle PWR$. [1 mark]

Jawapan/Answer:

- (iii) Dalam Rajah 6.2, garis PQ , RS dan TU adalah selari. PRT ialah satu garis lurus.
In Diagram 6.2, PQ , RS and TU are parallel lines. PRT is a straight line.

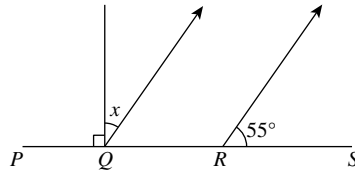


Rajah 6.2
 Diagram 6.2

- Nyatakan sudut-sudut yang sama dengan $\angle a$. [1 markah]
State the angle that is equal to $\angle a$. [1 mark]

Jawapan/Answer:

- (b) (i) Dalam Rajah 6.3, $PQRS$ ialah garis lurus.
In Diagram 6.3, $PQRS$ is a straight line.



Rajah 6.3
 Diagram 6.3

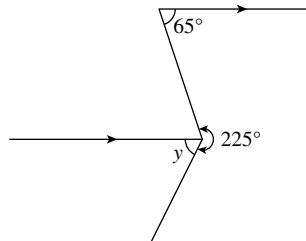
Hitung nilai x .
Calculate the value of x .

[2 markah]
 [2 marks]

Jawapan/Answer:

- (ii) Berdasarkan Rajah 6.4, cari nilai y .
Based on Diagram 6.4, find the value of y .

[2 markah]
 [2 marks]

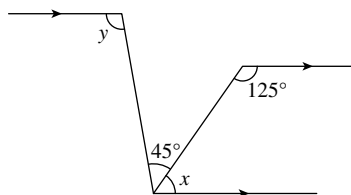


Rajah 6.4
 Diagram 6.4

Jawapan/Answer:

- (c) Berdasarkan Rajah 6.5, cari nilai x dan nilai y .
Based on Diagram 6.5, find the values of x and y .

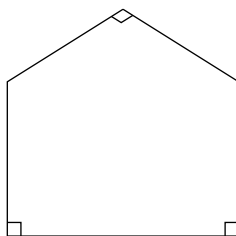
[3 markah]
 [3 marks]



Rajah 6.5
 Diagram 6.5

Jawapan/Answer:

7. (a) Rajah 7.1 menunjukkan sebuah pentagon.
Diagram 7.1 shows a pentagon.



Rajah 7.1
 Diagram 7.1

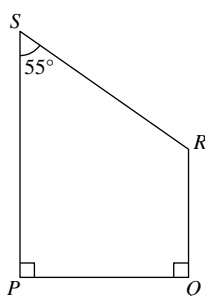
Berdasarkan rajah itu, lengkapkan jadual dengan jawapan yang betul.
Based on the diagram, complete the table with the correct answer.

[3 markah]
 [3 marks]

Jawapan/Answer:

(i) Bilangan paksi simetri <i>Number of axes of symmetry</i>	
(ii) Bilangan bucu <i>Number of vertices</i>	
(iii) Bilangan pepenjuru <i>Number of diagonals</i>	

- (b) (i)



Rajah 7.2
 Diagram 7.2

Rajah 7.2 menunjukkan sebuah sisi empat $PQRS$. Hitung sudut refleks QRS .
Diagram 7.2 shows a quadrilateral $PQRS$. Calculate the reflex angle QRS .

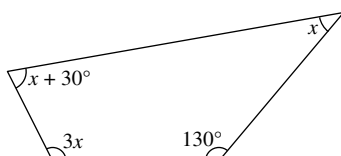
[2 markah]

Diagram 7.2 shows a quadrilateral $PQRS$. Calculate the reflex angle QRS .

[2 marks]

Jawapan/Answer:

- (ii)



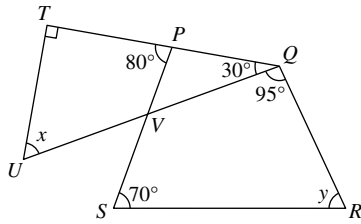
Rajah 7.3
 Diagram 7.3

Berdasarkan Rajah 7.3, hitung nilai x .
Based on Diagram 7.3, calculate the value of x .

[2 markah]
 [2 marks]

Jawapan/Answer:

(c)



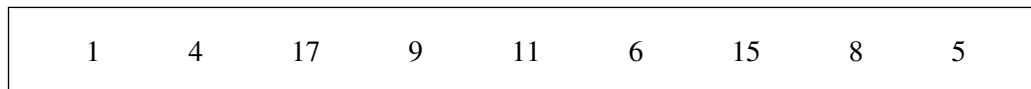
Rajah 7.4
Diagram 7.4

Dalam Rajah 7.4, TPQ , UVQ dan PVS ialah garis lurus. Cari nilai x dan nilai y . [3 markah]
In Diagram 7.4, TPQ , UVQ and PVS are straight lines. Find the values of x and y . [3 marks]

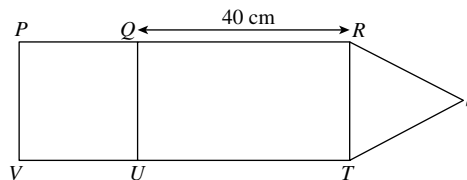
Jawapan/Answer:

8. (a) Diberi $P = \{\text{nombor perdana}\}$. Bulatkan unsur-unsur bagi set P . [3 markah]
Given $P = \{\text{prime numbers}\}$. Circle the elements of set P . [3 marks]

Jawapan/Answer:



- (b) Dalam Rajah 8.1, $PQUV$ ialah segi empat sama, $QRTU$ ialah segi empat tepat dan RST ialah segi tiga sama sisi. Perimeter seluruh rajah itu ialah 220 cm.
In Diagram 8.1, $PQUV$ is a square, $QRTU$ is a rectangle and RST is an equilateral triangle. The perimeter of the whole diagram is 220 cm.

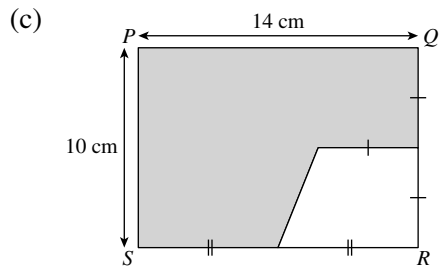


Rajah 8.1
Diagram 8.1

Hitung panjang, dalam cm, bagi PV .
Calculate the length, in cm, of PV .

[3 markah]
[3 marks]

Jawapan/Answer:

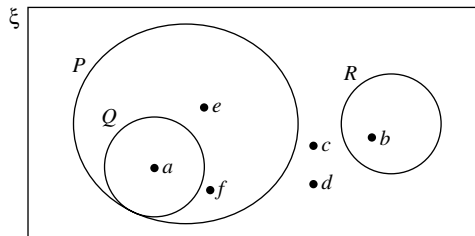


Rajah 8.2
Diagram 8.2

Rajah 8.2 menunjukkan segi empat tepat $PQRS$. Hitung luas, dalam cm^2 , kawasan berlorek. [4 markah]
Diagram 8.2 shows a rectangle $PQRS$. Calculate the area, in cm^2 , of the shaded region. [4 marks]

Jawapan/Answer:

9. (a) Rajah 9.1 menunjukkan sebuah gambar rajah Venn.
Diagram 9.1 shows a Venn diagram.



Rajah 9.1
Diagram 9.1

- (i) Nyatakan hubungan antara P dan Q .
State the relationship between P and Q .

[1 markah]
[1 mark]

Jawapan/Answer:

- (ii) Tentukan $n(\xi)$.
Determine $n(\xi)$.

[1 markah]
[1 mark]

Jawapan/Answer:

- (iii) Senaraikan semua unsur bagi
List all the elements of
(a) P
(b) R'

[2 markah]
[2 marks]

Jawapan/Answer:

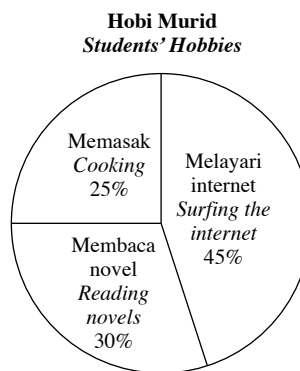
- (b) (i) Diberi $A = \{\text{faktor bagi } 4\}$. Nyatakan bilangan subset bagi set A . [2 markah]
Given $A = \{\text{factors of } 4\}$. State the number of subsets of set A . [2 marks]

Jawapan/Answer:

- (ii) Senaraikan semua subset yang mungkin bagi set A . [1 markah]
List all the possible subsets of set A . [1 mark]

Jawapan/Answer:

- (c) Rajah 9.2 ialah sebuah carta pai yang menunjukkan hobi bagi 200 orang murid.
Diagram 9.2 is a pie chart showing the hobbies of 200 students.

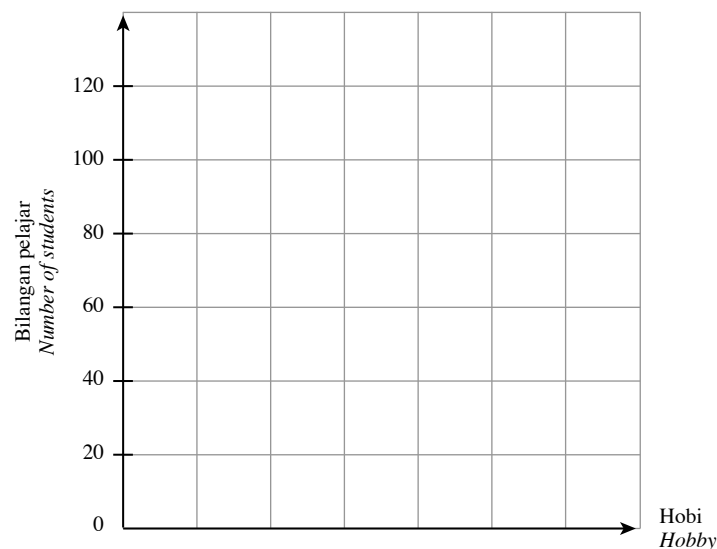


Rajah 9.2
Diagram 9.2

Dalam ruang jawapan di bawah, lukis carta palang bagi mewakili bilangan murid dalam setiap kategori berdasarkan carta pai dalam Rajah 9.2. [3 markah]

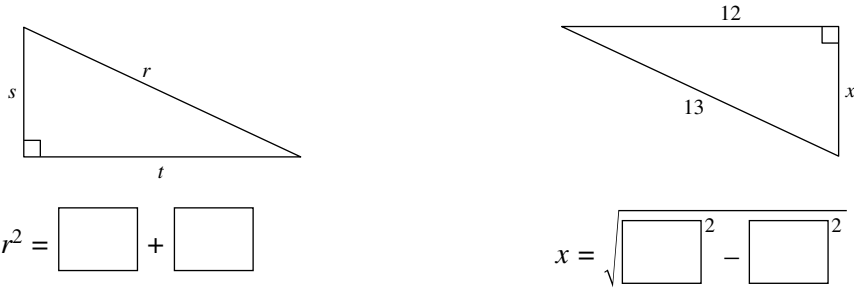
In the answer space, draw a bar chart to represent the number of students in each category based on the pie chart in Diagram 9.2. [3 marks]

Jawapan/Answer:



10. (a) (i) Isikan tempat kosong dengan jawapan yang betul.
Fill in the blanks with the correct answer.

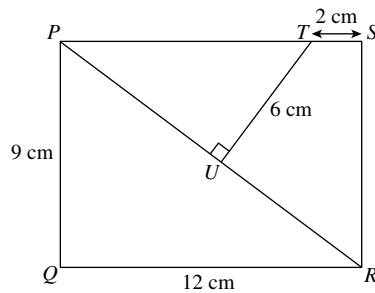
[2 markah]
[2 marks]



- (ii) Bandar C terletak 15 km ke barat dari Bandar A. Bandar B terletak 11 km ke selatan dari Bandar C. Hitung jarak terdekat, dalam km, di antara Bandar A dan Bandar B. [2 markah]
Town C is located 15 km west of Town A. Town B is located 11 km south of Town C. Calculate the shortest distance, in km, between Town A and Town B. [2 marks]

Jawapan/Answer:

- (b) Dalam Rajah 10.1, PQRS ialah sebuah segi empat tepat dan PTU ialah sebuah segi tiga bersudut tegak.
In Diagram 10.1, PQRS is a rectangle and PTU is a right-angled triangle.



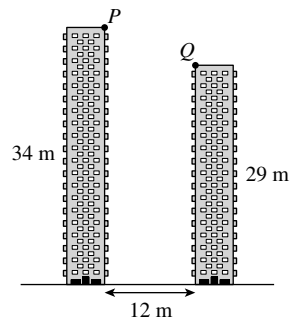
Rajah 10.1
Diagram 10.1

Cari panjang, dalam cm, bagi UR.
Find the length, in cm, of UR.

[3 markah]
[3 marks]

Jawapan/Answer:

- (c) Rajah 10.2 menunjukkan tinggi dua buah bangunan.
Diagram 10.2 shows the heights of two buildings.



Rajah 10.2
Diagram 10.2

Jika jarak di antara dua bangunan itu ialah 12 m, cari jarak, dalam m, di antara P dan Q .

[3 markah]

If the distance between the two buildings is 12 m, find the distance, in m, between P and Q .

[3 marks]

Jawapan/Answer:

KERTAS PEPERIKSAAN TAMAT
END OF QUESTION PAPER