

බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව
மேல் மாகாணக் கல்வித் திணைக்களம்
Department of Education - Western Province

වර්ෂ අවසාන ඇගයීම
ஆண்டிறுதி மதிப்பீடு
Year End Evaluation

2022 (2023 March)

ශ්‍රේණිය
தரம்
Grade } 11

විෂයය
பாடம்
Subject } Mathematics I

පත්‍රය
வினாத்தாள்
Paper } I

කාලය
காலம்
Time } 2 hours

Name / Index No :

Signature of invigilator

Important :

- ❖ This paper consist of 8 pages.
- ❖ Write your **index number** correctly in the appropriate place on **page one** and **page three**.
- ❖ Answer all questions **on this paper itself**.
- ❖ Use the space provided under each question for working and writing the answer.
- ❖ It is necessary to write relevant steps and correct units.
- ❖ Marks will be awarded as follows:
02 marks each for questions 1 - 25 in **part A**
10 marks each for questions in **part B**

For marking examiner's use only

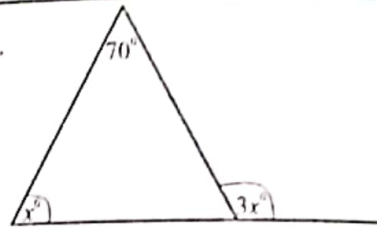
| Question number | | Marks |
|-----------------|--------|-------|
| A | 1 - 25 | |
| | | |
| B | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| Total | | |
| Marked by | | |

Part - A**Answers all the questions on this paper itself.**

- (01) The assessed annual value of a house is Rs. 20 000. The quarterly rates charged by a municipal council is Rs. 500. Find the rates percentage charged by the council.

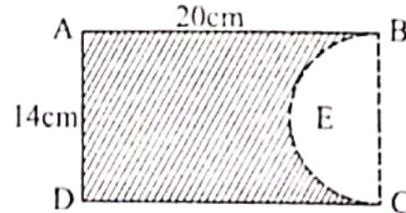
- (02) Find the factors, $x^2 + x - 6$

- (03) Find the value x , based on the information in the figure.

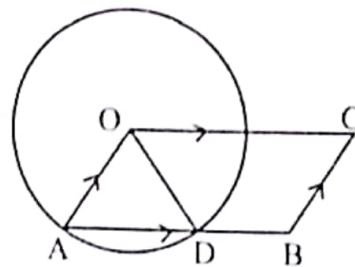


- (04) If $5 = 10^{\log 5}$, find the value of $\lg 5$.

- (05) The figure shows a lamina which is obtained by cutting BEC semi circle from a rectangle ABCD. How much greater is the perimeter of it than the perimeter of the rectangle.



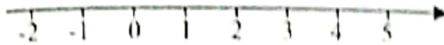
- (06) If $\angle AOD = 40^\circ$, find the magnitude of $\angle OCB$ based on the information in the figure.



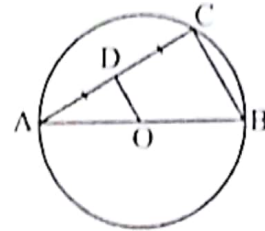
- (07) The area of a triangular cross section of a prism of length 20cm is 40cm^2 . Find its volume.

- (08) Find the gradient and the equation of the straight line passing through the origin and the point. (2,3)

- (09) Represent all the positive integral values that x can take on the given number line which satisfy the inequality $1 + 2x \leq 3$



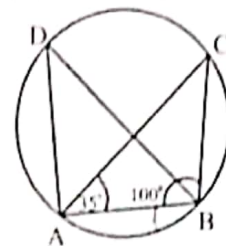
- (10) The centre of the given circle is O. Find the length BC if $OD = 6\text{cm}$.



- (11) Find the least common multiple of the given algebraic terms. $6xy, y^2, 2x$

- (12) It takes 6 men 4 days to construct a wall. If 5 men 2 days worked, find the remaining magnitude of work in man days.

- (13) The points A, B, C and D are lie on the circle.
If $\angle ABC = 100^\circ$ and $\angle CAB = 35^\circ$, find the magnitude $\angle ADB$.

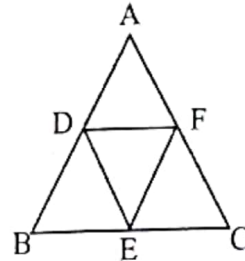


- (14) If the first quartile is located in 8th place of data which is written in ascending order, find the total number of data of this group of data.

Name / Index No :

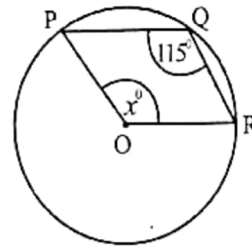
- (15) Lahiru deposited Rs. 25 000 in a bank at an annual simple interest rate of 8%. After how long he could received Rs. 35 000.

- (16) The mid points D, E and F are lie on the sides. AB, BC and AC respectively in the triangle ABC. If $AB = 6\text{cm}$, $AC = 7\text{cm}$ and the perimeter of the triangle DEF is 11cm, find the length of BC.



- (17) Solve. $\frac{7}{2x} - \frac{3}{x} = 1$

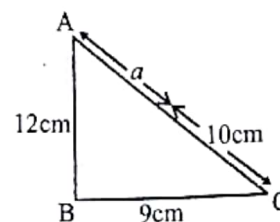
- (18) The points P, Q and R are lie on the given circle of centre O. Find the value of x , based on the information in the figure.



- (19) The uniform rate at which water flows out from a pipe is 50 liters per minute. It is fixed to a tank of 1 000 liters capacity. On an occasion when the tank was half filled with water, pipe was opened to flow the water to the tank. Find the time taken to fill the tank completely.

- (20) In a mixed school, there are 20 girls in a class. The probability of a student selecting at random from the class being a girl is $\frac{4}{9}$. Find the total number of students in the class.

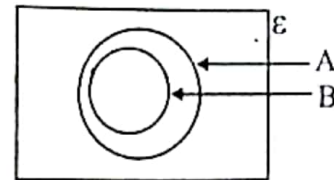
- (21) Find the value of a , based on the information in the right - angle triangle ABC.



Name / Index No :

(22) $A = \begin{pmatrix} -1 & 2 \end{pmatrix}$ and $B = \begin{pmatrix} 0 & 3 \\ 1 & 2 \end{pmatrix}$ Find the matrix AB .

(23) In the given Venn diagram, shade the region that represents the subset $A \cap B'$

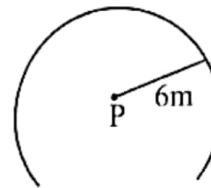


(24) From the values given below, select and underline the approximate value for $\sqrt{27}$

- (i) 3×1.6 (ii) 3×1.7 (iii) 3×1.5 (iv) 3×1.8

(25) The straight line AB is at a distance of 8m from point P . A portion of the locus of a point that moves at a constant distance of 6m from the point P is indicated by the arc in this sketch. Indicate by a sketch on this figure, how the points which are 4m away from AB and lie on arc, are found.

A ————— B



Part B**Answer all questions on this question paper itself.**

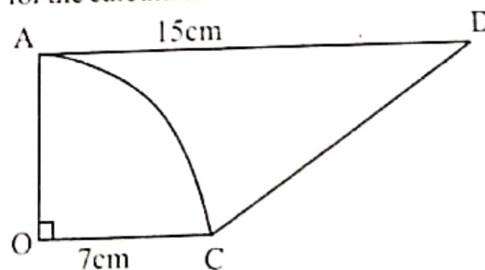
(01) (a) Out of stock of clothes produced by a certain company, $\frac{2}{5}$ is allocated for shops and $\frac{3}{8}$ for export.

(i) What fraction of the total stock is the quantity allocated for shops and for exports?

(ii) $\frac{1}{9}$ of the remaining quantity of clothes is kept for sale within the company itself. If the value of this quantity of clothes that is kept for sale is Rs. 7000 rupees, what is the value of the total stock of clothes.

(b) It has been estimated that 15 employees will take 8 days to produce the above stock of clothes. If 3 of them were transferred to another section, how many more days will it take the remaining employees to produce this stock.

(02) The figure shows a lamina with its measurements. A sector of radius 7cm has been cut from the trapezium shaped lamina. Use $\pi = \frac{22}{7}$ for the calculations.



(i) Find the arc length AC.

(ii) Find the area of the sector AOC

(iii) Find the area of the remaining part after removing the sector.

(iv) A right angled triangle of base 8cm is cut from the remaining part. After that remaining part is discarded. Shade the region of the discarded part in the above figure and find the perimeter of it.

(03) (a) The government charges 40% of duty tax when importing vehicles.

(i) If the value of the motor car is Rs.5 000 000 what is the value of the motor car after the customs duty is paid?

(ii) The value of the three wheeler with the customs duty included is Rs. 420 000. What is the value of the three wheeler without the customs duty?

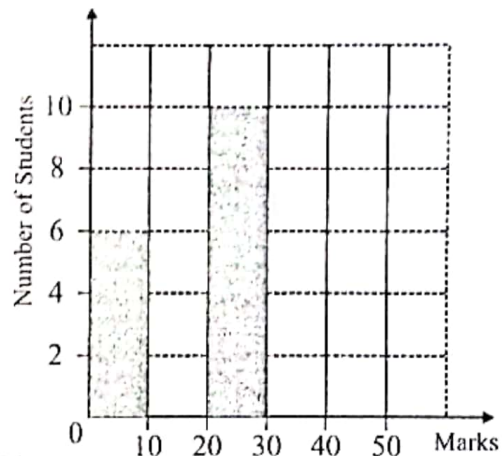
(b) The market price of a share is Rs.60 in the Sisila company. Casim invested Rs. 30 000 to buy the shares in that company.

(i) Find the number of shares he bought.

(ii) In the end of the year if he received Rs.10 000 as annual dividends income, find the annual dividends the company paid for a share.

(04) The following incomplete frequency distribution and corresponding incomplete histogram have been prepared using the marks obtained in a test by 40 students in a class. Here 20-30 denotes the marks interval "greater than 20 and less than or equal to 30", and other intervals denote similarly.

| Marks | No. of Students |
|-------|-----------------|
| 0-10 | |
| 10-20 | 8 |
| 20-30 | |
| 30-50 | 16 |
| | $\Sigma f = 40$ |



(i) Complete the above frequency table and histogram.

(ii) Find the number of students who obtained more than 20 marks.

(iii) Draw the frequency polygon on the histogram.

(iv) If a pie chart needs to draw to represent this information, find the magnitude of the central angle of the sector representing the interval 30-50.

- (05) (a) Heshani and Nethmini are working in the same office. When they requested a leave, their boss decided to grant a leave on only one day that is randomly selected from the weekdays on the basis that at least one of the two of them reported to work.

- (i) Using the symbol 'x' mark the sample space of the day that the Heshani or Nethmini are entitled to leave.
- (ii) If both of them get Saturday and Sunday off, encircle the event of Nethmini will have three consecutive days as holiday and find its probability.

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| F | | | | | |
| T | | | | | |
| W | | | | | |
| T | | | | | |
| M | | | | | |
| | M | T | W | T | F |

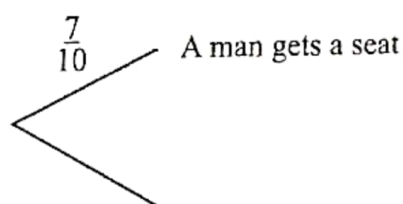
Nethmini gets leave

- (b) (i) There were 7 men and 3 women traveled standing in a bus due to all seats of the bus are full of passengers. One of the passengers who was sitting get down from the bus in a bus halt and one passenger got the chance to sit. Complete the tree diagram given below relevant to this.

If another passenger who was sitting got down in the next bus halt, another woman or man who traveled standing got a chance to get a seat. Extend the above tree diagram and write the relevant probabilities relevant to this event.

First bus halt

Second bus halt



- (ii) Find the probability of getting at least one seat by a woman.

වර්ෂ අවසාන අග්‍රයීම්
ஆண்டுறுதி மதிப்பீடு - 2022 (2023 March)
Year End Evaluation

ශ්‍රේණිය } 11
தரம் }
Grade }

විෂය }
பாடம் } Mathematics
Subject }

පත්‍රය
வினாத்தாள் } II
Paper }

කාලය } 03 hours
காலம் }
Time }

- ❖ Answer 10 questions selecting 5 questions from part A and 5 questions from part B.
- ❖ Each questions carries 10 marks.
- ❖ Volume of a right circular cylinder with the radius r and the height h is $\pi r^2 h$
- ❖ Volume of a Sphere with the radius r is $\frac{4}{3} \pi r^3$

Part A

Answer 5 questions only.

(01) A Computer at Rs. 90 000 for out right purchase can be bought by making a down payment of Rs.30 000 and the rest paid in 12 equal monthly installments. If a 24% annual interest rate is charged on the loan and the interest is calculated on the reducing balance, find the value of a monthly installments.

(02) An incomplete table of the quadratic function $y = x(4 - x)$ is given below.

| | | | | | | | |
|-----|----|---|---|---|---|---|----|
| x | -1 | 0 | 1 | 2 | 3 | 4 | 5 |
| y | -5 | 0 | 3 | | 3 | 0 | -5 |

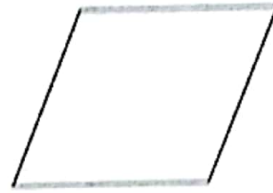
- (i) Find the value of y when $x = 2$
- (ii) Using the standard system of axes and a suitable scale, draw the graph of the given quadratic function on the graph paper.

Using the graph that you drew,

- (iii) Write the interval of values of x on which the function is positive and decreasing.
- (iv) Write the coordinates of the turning point of the graph and there by write the quadratic function in the form $y = a - (x-b)^2$. Here a and b are constants.
- (v) By drawing the graph $y=2$ in the same coordinate plain, find a value for $\sqrt{2}$ to the nearest first decimal place.

(03) The length of the base of a parallelogram is 4cm more than the perpendicular distance between the base and the opposite side of the base. The area of the parallelogram is 20cm^2

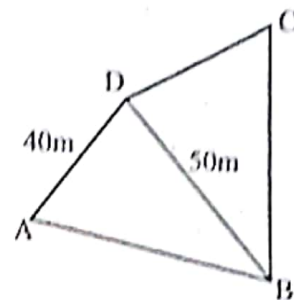
- (i) If the length of the base is x , show that x satisfies the quadratic equation $x^2 - 4x - 20 = 0$



- (ii) Taking $\sqrt{6} = 2.45$ find the value of x to the nearest first decimal place. There by show that the area of the parallelogram has an error of 0.05% according to x value.

(04) The diagram shows a sketch of a land ABCD with measurements. The boundary BC is in the North - South direction. The bearing of D from B and C are 325° and 235° respectively. The perpendicular distance DE drawn from D to the boundary AB is equal to the length DC.

Copy the figure on to your answer script and include the given information in it. Find the magnitude of the angle \hat{DAE}



(05) (a) Anura travels a distance of 360km by motor cycle. First 2 hours he travels at a uniform speed of $x \text{ kmh}^{-1}$. Next 3 hours he travels at a uniform speed of $y \text{ kmh}^{-1}$ and complete the journey. Saman travels a distance of 340 km by his car. First 3 hours he travels at a uniform speed of $x \text{ kmh}^{-1}$ and next 2 hours he travels at a uniform speed of $y \text{ kmh}^{-1}$ and complete the journey.

- (i) Construct a pair of simultaneous equations by using the given information.
(ii) By solving them, find the value of x and y .

(b) Simplify. $\frac{2x+3}{4x^2-9} - \frac{1}{x+3}$

(06) Information collected on volume of milk obtained per day by a self employed dairy farmer during a period of 60 days is given in the following frequency table.

| Volume of milk (l) | 10-14 | 14-18 | 18-22 | 22-26 | 26-30 | 30-34 | 34-38 |
|------------------------|-------|-------|-------|-------|-------|-------|-------|
| Number of Days | 4 | 8 | 11 | 12 | 10 | 8 | 7 |

- (i) What is the modal class of this frequency distribution
(ii) By taking the mid value of the modal class as the assumed mean, find the mean volume of milk in liters produced in a day to the nearest whole number.
(iii) If the price of one litre of milk is Rs.300, show the difference between the maximum income he can obtain for the 25 days which are given maximum milk and the total expected income does not exceed Rs.64 000.

Part B

Answer 5 questions only.

(07) (a) In an arithmetic progression, the first term is 2 and the 12th term is 35.

- (i) Find the common difference.
- (ii) Find the sum of the first 25 terms of the progression that is obtained by removing the terms in the odd positions of the given progression, such as the first term, third term, fifth term.

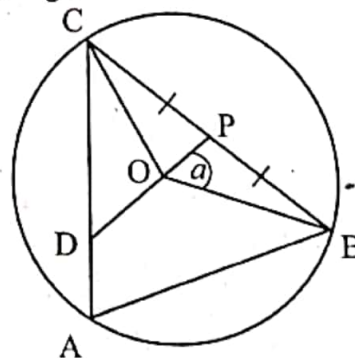
(b) A type of moss grows on the water in such a way that it spreads twice as the area spread on the water surface in previous week. In the second week, twice the amount of moss as in the first week, in the third week, twice the amount of moss as in the second week etc. In the 10th week, the area of the moss grows on the water is 1024 m².

Find the area of moss spread on water surface in the first week.

(08) Use only a straight edge with cm/mm scale and a pair of compasses for the following constructions. Show the constructions lines clearly.

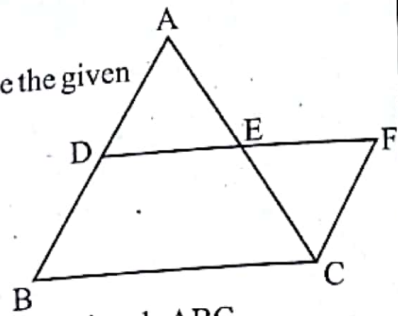
- (i) Construct the triangle ABC such that $AB = 7\text{cm}$, $\angle ABC = 90^\circ$ and $BC = 6\text{cm}$.
- (ii) Find the centre O of the circle of diameter BC and construct that circle.
- (iii) Show that AB is a tangent drawn at B to the circle with reasons.
- (iv) Measure the side length AC. Using it find the approximate value for $\sqrt{85}$

(09) (a) Write the theorem which shows the relationship between an exterior angle and the interior opposite angle of a cyclic quadrilateral with a diagram.

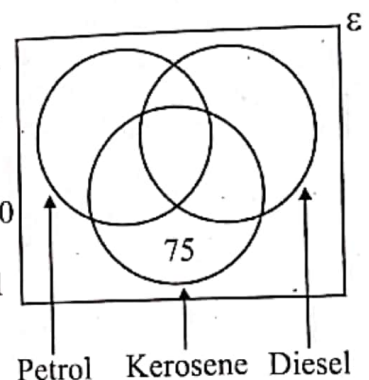


- (b) The center of the circle in the figure shown is O.
AB, BC and AC are chords of the circle. P is the mid point of BC. The line PO produced meets AC at D.
Show that ABOD is a cyclic quadrilateral. (Take $\angle BOP = a^\circ$)

- (10) In the triangle ABC, D and E are mid points of AB and AC sides respectively. The line DE produced such that $DE = EF$. Join CF.

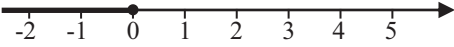
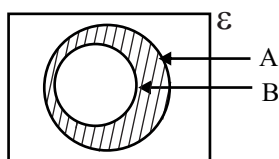


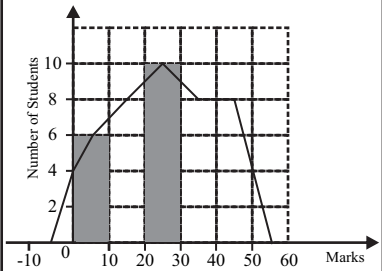
- Copy the figure on to your answer script and include the given data.
 - Show that BCFD is a parallelogram.
 - Show that $\triangle ADE \cong \triangle CEF$
 - By joining AF and DC, show that ADCF is a parallelogram and the area of it is equal to the area of the triangle ABC.
- (11) The following incomplete Venn diagram shows the information obtained from a group of 300 people who gathered to fulfil the fuel requirements of Petrol, Diesel and Kerosene.



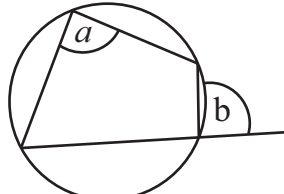
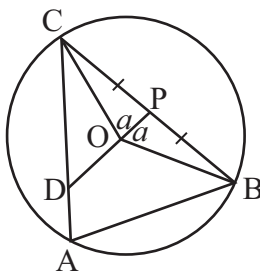
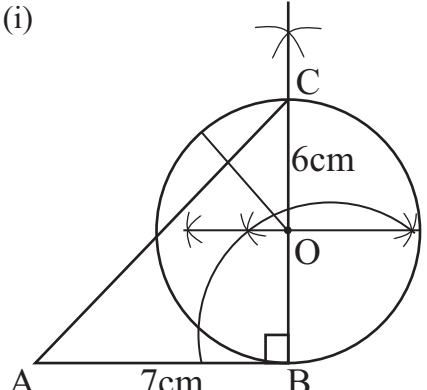
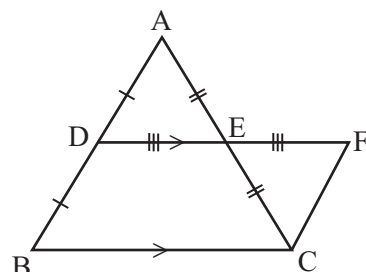
- Copy the incomplete Venn diagram given in the figure on to your answer script and shade the region which represents the people who need all three types of fuel.
 - 15 of them are required all three types of fuel and 150 required kerosene. If 40 people need diesel and kerosene only, find the number of people need petrol and kerosene only.
 - Find the probability of a person selected at random from the above group being a person that needs only kerosene.
(Consider that all the people need to take at least one of these three types of fuel)
 - If 170 people need diesel and 135 people need petrol, find the number of people need both petrol and diesel and complete the Venn diagram.
- (12) Indusith needs to find the radius of a metal sphere from the several identical metal spheres. He takes a right circular cylinder $\frac{2}{3}$ filled with water of base area 25cm^2 and height 15cm and puts the spheres one by one in to the above cylinder. When exactly 10 of them are put, the water reaches the level of the cylinder being completely filled.
- Find the capacity of the cylindrical vessel.
 - If the radius of a sphere is r , show that $r = \frac{1}{2} \times \sqrt[3]{\frac{75}{\pi}}$
 - Takes the diameter of the sphere is $d=2r$ and $\pi = 3.14$, find the value of d correct to the second decimal place using logarithms table.

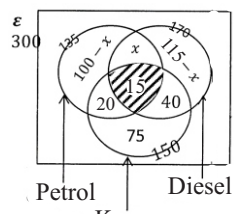
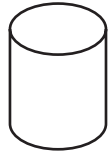
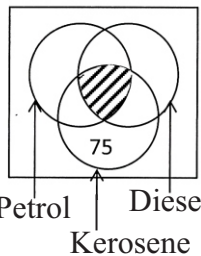
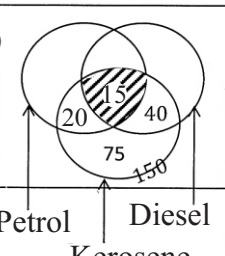
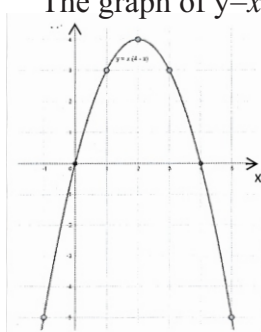
Department of Education - Western Province
Year End Evaluation - 2022 (2023 March)
MATHEMATICS - Grade 11
Marking Scheme - Part I

| Q.No. | Part - A | | | |
|-------|---|---|---|---|
| (01) | $\frac{2\ 000}{20\ 000} \times 100\%$ —————→ | 1 | | |
| | 10% —————→ | 1 | ② | |
| (02) | $(x+3)(x-2)$ —————→ | | ② | |
| (03) | $x+70^\circ = 3x$ —————→ | 1 | | |
| | $x = 35^\circ$ —————→ | 1 | ② | |
| (04) | 0.699 —————→ | | ② | |
| (05) | $\frac{1}{2} \times 2 \times \frac{22}{7} \times 7 - 14$ —————→ | 1 | | |
| | 8cm —————→ | 1 | ② | |
| (06) | $\hat{O}CB = 70^\circ$ —————→ | | ② | |
| | $\hat{O}AD = 70^\circ$ —————→ | 1 | | |
| (07) | $V = 40 \times 20$ —————→ | | ② | |
| | $= 800\text{cm}^2$ —————→ | 1 | | |
| (08) | gradient = $\frac{3}{2}$ —————→ | 1 | | |
| | $y = \frac{3}{2}x$ —————→ | 1 | ② | |
| (09) | $x \leq 1$ —————→ | 1 | | |
| |  | 1 | ② | |
| (10) | $BC = 12\text{cm}$ —————→ | | ② | |
| | $OD = \frac{1}{2} BC$ —————→ | 1 | | |
| (11) | $6xy^2$ —————→ | | ② | |
| (12) | Man days = $6 \times 4 - 5 \times 2$ —————→ | 1 | | |
| | 14 remaining man days —————→ | 1 | ② | |
| (13) | $\hat{ADB} = 45^\circ$ —————→ | | ② | |
| | $\hat{ACB} = 45^\circ$ —————→ | 1 | | |
| (14) | 31 —————→ | | ② | |
| (15) | 5 years —————→ | | ② | |
| | $\frac{8}{100} \times 25\ 000 / \text{Rs. } 2\ 000$ —————→ | 1 | | |
| (16) | $BC = 9\text{cm}$ —————→ | | | ② |
| | $FD = 4.5$ —————→ | 1 | | |
| (17) | $\frac{1}{2x} = 1$ —————→ | 1 | | |
| | $x = \frac{1}{2}$ —————→ | 1 | ② | |
| (18) | $x = 130^\circ$ —————→ | | ② | |
| | $360^\circ - x = 230^\circ$ —————→ | 1 | | |
| (19) | Time taken = $\frac{500}{50}$ —————→ | 1 | | |
| | 10 Minutes —————→ | 1 | ② | |
| (20) | $\frac{4}{9} = 20$ —————→ | 1 | | |
| | Total students = 45 —————→ | 1 | ② | |
| (21) | $a = 5\text{cm}$ —————→ | | ② | |
| | $AC = 15\text{cm}$ —————→ | 1 | | |
| (22) | $(2\ 1)$ —————→ | 1 | ② | |
| (23) |  | | | ② |
| (24) | (ii) 3×1.7 —————→ | | ② | |
| (25) | <ul style="list-style-type: none"> Drawing the parallel line to AB which is 4cm away from it —————→ Marking intersection point —————→ | 1 | | |
| | | 1 | ② | |

| Part - B | | | | | | | | | | | | | | | |
|---|-------|-----------------|------|---|-------|----|---|--|--|--|--|--|--|--|--|
| (01) (a) (i) $\frac{2}{5} + \frac{3}{8}$ _____ = $\frac{16+15}{40}$ _____ = $\frac{31}{40}$ _____ (ii) $(1 - \frac{31}{40}) \times \frac{1}{9}$ _____ $\frac{1}{40}$ _____ $\frac{1}{40}$ of the clothes = 7 000 _____ Value of the } = Rs. 280 000 total stock } (b) $\frac{15 \times 8}{12} = 10$ _____ 2 more days _____ | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| (02) (i) $AC = \frac{90^\circ}{360^\circ} \times 2 \times \frac{22}{7} \times 7$ AC = 11cm _____ (ii) Area of the sector = $\frac{90^\circ}{360^\circ} \times \frac{22}{7} \times 7 \times 7$ _____ = 38.5cm^2 _____ (iii) Area of the remaining part = $\frac{1}{2} \times (15+7) \times 7 - 38.5$ _____ = 38.5cm^2 _____ (iv) For shade _____ perimeter = $11+7 \times 2$ _____ = 25cm _____ | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| (03)(a)(i) Value of the motor car = 5 000 000 $\times \frac{140}{100}$ _____ = Rs. 7 000 000 _____ (ii) Value of the three wheeler Rs. $\frac{100}{140} \times 420\,000$ _____ Rs. 300 000 _____ | 2 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| (b)(i) Number of shares = $\frac{30\,000}{60}$ = 500 (ii) Dividends paid = $\frac{10\,000}{500}$ = Rs.20 | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| (04) (i) <table><tr><th>Marks</th><th>No. of Students</th></tr><tr><td>0-10</td><td>6</td></tr><tr><td>20-30</td><td>10</td></tr></table> 10-20 bar _____ 30-50 bar _____ (ii) Number of students who got more than 20 marks 26 (iii) Marking 2 end points correctly _____ Completing frequency polygon _____  (iv) Angle of the sector = $\frac{16}{40} \times 360^\circ$ _____ = 144° _____ | Marks | No. of Students | 0-10 | 6 | 20-30 | 10 | 1 | | | | | | | | |
| | Marks | No. of Students | | | | | | | | | | | | | |
| | 0-10 | 6 | | | | | | | | | | | | | |
| | 20-30 | 10 | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | |
| (05) (a)(i) Marking sample space (ii) Encircling Probability = $\frac{8}{20} = \frac{2}{5}$ (b)(i) Completing tree diagram corresponding to first bus halt Writing probability of first branch Writing probability in other two branches (ii) $1 - (\frac{7}{10} \times \frac{6}{9})$ = $\frac{8}{15}$ | 2 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | |

Grade 11- Mathematics Answer Sheet I,II - Western Province

| | | | | |
|--|---|---|--|---|
| <p>x column \longrightarrow 1</p> <p>fd column \longrightarrow 1</p> <p>Σfd \longrightarrow 1</p> <p>Mean = $24 + \frac{32}{60}$ \longrightarrow 1</p> <p>= 24.53 litres \longrightarrow 1</p> <p>To the nearest whole number = 25l \longrightarrow 1</p> <p>(iii) Expected income = $25 \times 25 \times 300$ \longrightarrow 1</p> <p>= Rs. 187 500 \longrightarrow 1</p> <p>Maximum income = $300(30 \times 10 + 34 \times 8 + 38 \times 7)$ \longrightarrow 1</p> <p>Rs. = 251 400 \longrightarrow 1</p> <p>Difference = 251 400 - 187 500 \longrightarrow 1</p> <p>Rs. = 63 900 < Rs. 64 000 \longrightarrow 1</p> | <p>(09) (a)  \longrightarrow 1</p> <p>⑥ If the side of cycle quadrilateral is produced, the exterior angle so formed is equal to the interior opposite angle of the quadrilateral \longrightarrow 1</p> <p>(b)  \longrightarrow 1</p> <p>③ $\hat{OPB} = 90^\circ$ (The line joining the mid point of the chord to the centre is perpendicular to the chord) \longrightarrow 1</p> <p>In the right angled triangles \longrightarrow 1</p> <p>④ OPB and OPC \longrightarrow 1</p> <p>OB = OC (radii) \longrightarrow 1</p> <p>BP = PC (data) \longrightarrow 1</p> <p>$\triangle OPB \equiv \triangle OPC$ (RHS) \longrightarrow 1</p> <p>③ $\hat{BOP} = \hat{POC} = a$ \longrightarrow 1</p> <p>⑩ (Corresponding elements of congruent triangles) \longrightarrow 1</p> <p>$\hat{BOC} = 2a$ / $\hat{BAC} = \frac{1}{2} \hat{BOC} = a$ \longrightarrow 1</p> <p>(Angle subtended on the centre is twice the angle subtended on the circumference) \longrightarrow 1</p> <p>$\hat{BAO} = \hat{BOP} = a$ \longrightarrow 1</p> <p>\therefore ABOD is a cyclic quadrilateral (Exterior angle is equal to interior opposite angle in the cyclic quadrilateral) \longrightarrow 1</p> | <p>(08) (i)  \longrightarrow 1</p> <p>AB = 7cm construction (± 0.1) \longrightarrow 1</p> <p>BC = 6cm construction (± 0.1) \longrightarrow 1</p> <p>ABC = 90° construction ($\pm 0.1^\circ$) \longrightarrow 1</p> <p>Correctly completing the triangle \longrightarrow 1</p> <p>(ii) Constructing perpendicular bisector \longrightarrow 1</p> <p>Constructing circle \longrightarrow 1</p> <p>(iii) OB and AB are perpendicular \longrightarrow 1</p> <p>Perpendicular drawn to the radius is a tangent \longrightarrow 1</p> <p>(iv) AC = $8.2 \pm (0.1\text{cm})$ \longrightarrow 1</p> <p>$AC^2 = 7^2 + 6^2$ \longrightarrow 1</p> <p>$AC = \sqrt{85}$ \longrightarrow 1</p> <p>$\sqrt{85} = 8.2 (\pm 0.1)$ \longrightarrow 1</p> | <p>(10) (i)  \longrightarrow 1</p> <p>④ \longrightarrow 1</p> <p>② \longrightarrow 1</p> <p>① \longrightarrow 1</p> <p>③ \longrightarrow 1</p> <p>⑩ Copying the diagram and marking the data \longrightarrow 1</p> | <p>② \longrightarrow 1</p> <p>⑧ \longrightarrow 1</p> <p>⑩ \longrightarrow 1</p> <p>① \longrightarrow 1</p> |
|--|---|---|--|---|

| | | |
|---|---|--|
| <p>(ii) DE // BC → 1 DE = $\frac{1}{2}$ BC (since mid point theorem) DE=EF (data) DF=BC → 1 BCFD is a parallelogram → 1 (opposite sides equal and paralld)</p> <p>(iii) AE=EC (E is mid point of AC) → 1 DE= FF (data) → 1 $\hat{AED} = \hat{CEF}$ (vertically opposite angles) 1 ADEΔ ≡ CEFΔ (S.A.S) 1</p> <p>(iv) AE=EC (E is mid point of AC) DE= EF (data) ADCF is a parallelogram → 1 (Diagonals bisect each other) ———— Area of ADC Δ = Area of DCFΔ → 1 (The area of the triangle lie on the same base and same pair of parallel lines are equal) Area of BCD Δ = Area of DCFΔ → 1 (Diagonals bisect the area of the parallelograms) or Area of ADC Δ + Area of BCDA 2× Area of Δ DCF (Area of parallelogram ADCF) (Give marks for any other correct methods)</p> | <p>(iii) Probability = $\frac{75}{300} = \frac{1}{4} \rightarrow 2$</p> <p>(iv)  100-x+x+115-x=300-150 → 2 x = 65 → 1 Completing the Venn diagram 2</p> <p>(12)(i)  15cm Capacity of the cylindrical vessel = 25 × 15 = 375cm³ → 1</p> <p>(ii) $\frac{4}{3} \pi r^3 \times 10 = \frac{1}{3} \times 25 \times 15$ $r^3 = \frac{1}{3} \times 25 \times 15 \times 3 \times \frac{1}{4\pi \times 10}$ $r^3 = \frac{75}{8\pi}$ $r^3 = \frac{1}{2} \times \frac{75}{\pi}$ $r^3 = \frac{1}{2} \times \sqrt[3]{\frac{75}{\pi}}$ (iii) $r = \frac{1}{2} \times \sqrt[3]{\frac{75}{\pi}}$ $2r = \sqrt[3]{\frac{75}{\pi}}$ $d = \sqrt[3]{\frac{75}{3.14}} \rightarrow 1$ $\lg d = \frac{1}{3} \times \{\lg 75 - \lg 3.14\}$ $= \frac{1}{3} \{1.8751 - 0.4969\}$ $= \frac{1}{3} \times 1.3782$ $= 0.4594 \rightarrow 1$ $d = \text{antilog } 0.4594$ $= 2.88 \rightarrow 1$</p> | <p>(iii) ②</p> <p>(iv) ③</p> <p>(12)(i) ①</p> <p>(ii) ③</p> <p>(iii) ⑥</p> |
| <p>(11) (i)  Petrol Diesel Kerosene</p> <p>(ii)  Petrol Diesel Kerosene</p> <p>35 → 1 20 → 1</p> | <p>(11) (i) ①</p> <p>(ii) ②</p> | <p>(02) The graph of y=x(4-x)</p>  |



LOL.Lk
Learn Ordinary Level

විභාග ඉලක්ක පහසුවෙන් ජයගන්න පසුගිය විභාග ප්‍රශ්න පත්‍ර



- Past Papers
 - Model Papers
 - Resource Books
- for G.C.E O/L and A/L Exams



විභාග ඉලක්ක ජයගන්න
Knowledge Bank



Master Guide

WWW.LOL.LK

HOME
DELIVERY



**CASH
ON**

DELIVERY



Whatsapp contact
+94 71 777 4440

Website
www.lol.lk



**Order via
WhatsApp**

071 777 4440

6 ශ්‍රේණිය සිට 11 ශ්‍රේණිය දක්වා
ඛස්නාහිර පළාත් පසුගිය විභාග ප්‍රශ්නෝත්තර පොත්වල
නව මිල

ඛස්නාහිර පළාත්

6 ශ්‍රේණිය

| | |
|----------------|-------|
| ගණිතය | 780/- |
| විද්‍යාව | 780/- |
| සිංහල | 780/- |
| ඉතිහාසය | 780/- |
| මුද්ධි ධර්මය | 780/- |
| දෙවන ඛස - දෙමළ | 780/- |
| English | 780/- |
| Mathematics | 780/- |
| Science | 780/- |

9 ශ්‍රේණිය

| | |
|----------------|-------|
| ගණිතය | 780/- |
| විද්‍යාව | 780/- |
| සිංහල | 780/- |
| ඉතිහාසය | 780/- |
| මුද්ධි ධර්මය | 780/- |
| දෙවන ඛස - දෙමළ | 780/- |
| සෞඛ්‍යය | 480/- |
| English | 780/- |
| Mathematics | 780/- |
| Science | 780/- |

7 ශ්‍රේණිය

| | |
|--------------------|-------|
| ගණිතය | 780/- |
| විද්‍යාව | 780/- |
| සිංහල | 780/- |
| ඉතිහාසය | 780/- |
| මුද්ධි ධර්මය | 780/- |
| දෙවන ඛස - දෙමළ | 780/- |
| නාට්‍ය හා රංග කලාව | 480/- |
| English | 780/- |
| Mathematics | 780/- |
| Science | 780/- |

10 ශ්‍රේණිය

| | |
|-----------------------|--------|
| ගණිතය | 1080/- |
| විද්‍යාව | 1080/- |
| සිංහල | 1080/- |
| ඉතිහාසය | 1080/- |
| මුද්ධි ධර්මය | 1080/- |
| ව්‍යාපාර හා ගිණු.අධි. | 1080/- |
| තොරතුරු හා සන්නි. තා. | 1080/- |
| English | 1080/- |
| Mathematics | 1080/- |
| Science | 1080/- |

8 ශ්‍රේණිය

| | |
|----------------|-------|
| ගණිතය | 780/- |
| විද්‍යාව | 780/- |
| සිංහල | 780/- |
| ඉතිහාසය | 780/- |
| මුද්ධි ධර්මය | 780/- |
| දෙවන ඛස - දෙමළ | 780/- |
| English | 780/- |
| Mathematics | 780/- |
| Science | 780/- |

11 ශ්‍රේණිය

| | |
|-----------------------|--------|
| ගණිතය | 1080/- |
| විද්‍යාව | 1080/- |
| සිංහල | 1080/- |
| ඉතිහාසය | 1080/- |
| මුද්ධි ධර්මය | 1080/- |
| ව්‍යාපාර හා ගිණු.අධි. | 1080/- |
| English | 1080/- |
| Mathematics | 1080/- |
| Science | 1080/- |