





Index No:



17.

18.

19.

20.



 \mathcal{I}

0

Х

12 cm

15 cm

Y

- 21. Based on the figure, find the length of XZ.
- 22. Find which term is 107 in the arithmatic progression 7, 12, 17,
- C 23. ABDE and BCDE are two parallelgrams. В $(\sqrt{})$ for correct answers. A Mark AB = BCArea of the parallelgram ABDE = Area of the Δ CDE $B\hat{A}E = C\hat{B}D$ D Е

24. Finf the median of the set of numbers. 5, 16, 5, 18, 12, 20

(

25.	CD is a tapline 8 m away from boundray C D								
	AB at a constant distance. A tap should be								
	fixed equidistant from boundaries AB and 8 m								
	AC. Using the knowledge of loci mark the								
	point E where the tap should be fixed. $\frac{b}{A}$ B								
Part B									
	Answer all the quections on this quection paper itself.								
(01)	A person spends $\frac{2}{5}$ of his money on food , $\frac{1}{4}$ on setting water and electricity bills and $\frac{3}{7}$								
	of the remaining amount is spent on buying books.								
i.	What fraction of whole amount of money spent on food and setting bills?								
ii.	If he spends Rs. 12000 to buy books, What is the total amount of moneyhe had?								
iii.	Express the ratio between the amount left at the end and the amount spent on food in the								
	simplest form.								
	-								
		$\left \left(\right)\right\rangle$							
		$ \bigcup$							
(02)	The logo shown here consists of a triangular part ABC]							
	And semicircular part of diameter BC.								
i.	Find the length of BC .								
	35cm C								
	č								
ii.	Find the arc length of the semicircle .								

- iii. Find the perimeter of the logo.
- iv. Find the area of the logo.
- v. Draw a rough sketh of a rectangle BCDE on the same figure, ensuring that the area of triangle ABC and rectangle BCDE are equal, with one side of the rectangle bein BC.
- (03) Saman buys Rs. 100 000 warth of shares at Rs. 50 per each, from company "A". Which pays annual dividends of Rs. 5 per share.
 - i. Find the number of shares bought by Saman.
 - ii. Find the annual dividends income that Saman recives from company "A".
- iii. If Saman sold all his shares at the end of the year at Rs.60 each. Find the capital gain recived by Saman.
- iv. Accordinaly find the percentage of total profit received by Saman.
- (04) In a survey conducted it is found that out of 100 people, there were;
 - 25 people who ate 'Kaum'.
 - 15 people ate 'Kokis'.
 - 45 people ate 'Athirasa'.
 - The remaining ate Bananas.
 - If they ate only one type of food,

- i. To represent the above information in a pie chart, find the angle at the centre of the sector representing the people who ate "Kaum".
- ii. Find the angle at the centre of the sector representing the people who ate "Kokis".
- iii. Represent the above information on the pie chart.

iv. Find the number of people who ate the bananas .

- (05)(q) A selection test was held to select a class monitor and subject leader for grade 11, out of 3 boys and 2 grils.
 - i. Indicate the ways in which two of them can be selected In the grid using the " \times ".
 - ii. Find the probability the monitor being a boy and subject leader being a girl..

 G_2

 G_1

B 3 B 2

 \mathbf{B}_{1}

В

1

B B

2 3 1 2

 $G \quad G$

- (ep). To be selected to a course the probability that a group of candidates passing a competitive exam is $\frac{1}{8}$ and the probability of passing examination and the interview is 0.1
- i. Complete the given incomplete tree diagram with the above information.



- ii. Find the probability thata person who sat for this exam passes both the exam and the interview.
- iii. Find the probability thata person who sat for this examination is not selected for this cource..



- (03)(A) Those under 12 years of age who participated in an educational trip were charged Rs.700 each and those above 12 years of age Rs.900 each as traveling expenses. There were 40 people who paticipated in the trip and total amount collected was Rs.30 400.
 - i. Taking the number of persons under 12 years of age who took part in the trip as x and the number of persons over 12 years of age as y, construct two simultanious equations containing x and y.
 - ii. By solving them, find the number of persons below 12 years of age and the number of persons above 12 years of age separately.

(e) Make h the subject of the equation. $v = \sqrt{2gh}$

- (04) Devinda observes the top of highvoltage
 Electrical post AB on a level ground from a point P with an angle of elevation of 42°.
 Then he moves another 30 m away from the post along AP and reaches Q. By taking 1 cm to represent 10 m, draw a scale diagram expressing the information given above.
 Find the height of the post AB and angle of depression of a when observed from B.
- (05) The information about the weight of a group of applicants selected from a recruitment interview for the defence forces is as follows.

Weight (kg)	54-56	57-59	60-62	63-65	66-68	69-71	72-74
Number of applicant	2	5	14	20	12	4	3

- i. Write the class interval that includes the median.
- ii. Find the mean weight of an applicant.
- A special recipe of Rs. 1400 per person was provided for those weighing less than 60 kg and Rs.1100 per person for the rest. Show that the total expenditure on food for this group for one month training period exceed 2 million rupees
- (06). A square piece of length $x \ cm$ is cut out from one coner of a thin rectangular plate of length 8 cm. The width of the plate is $x + 4 \ cm$. If the area of the part that remains after being cut off is 38 cm², show that x satistics the equation.



Q

 $x^{2} - 8x + 6 = 0$ Find the length of a side of the removed square to one decimal place. $(x > 1 \ cm \text{ and } \sqrt{10} = 3.16)$ Part B
Answer only 5 quections. (07). The image shows a small bulb pattern that was mounted in a square shape in the centre of a vesak pandol. The first smallest square has 8 bulbs the 2nd square has 12 bulbs. The bulbs in

i. Write the number of bulbs in the first three squares.

the next square are 4 more than the previous square.

- ii. If the total number of squares in which bulbs are arranged in this way is 15, find the number of bulbs in the 15th square.
- iii. Here the 1st square is in red bulbs and 2nd
 Square is in blue bulbs. The pattern is repeated
 accordingly. Show that the diffrence between
 the red bulbs and the blue bulbs in all the squares is 36.



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

- i. Construct on angle $Q\hat{P}R = 60^{\circ}$ such that, $PQ = 4.2 \ cm$ and $PR = 6 \ cm$.
- ii. Construct a perpendicular at a to PQ and name S the point where it meets extended PR.
- iii. Bisect the side QS and name its midpoint as C.
- iv. Construct the circle whose diameter is QS and measure its radius.
- v. If D is the point where PS meets the circle, give reasons why $P\widehat{D}Q$ is a right angle.
- (09) The volume of a water tank of the shape of cuboid with a square bottom of each side x metres and height h metres is equal to the volume of a cylindrical tank of radius r metres and height h metres.

Show that
$$r = \frac{x}{\sqrt{\pi}}$$

IF x = 10.25 m and $\pi = 3.142$ find the value of r to the nearest second decimal place using logarithmic tables.



- (b) .Prove that,
 - i. $A\widehat{O}B = 180^{\circ} 2C\widehat{B}D$
 - ii. AC is a angle bisector of $B\widehat{A}D$.

(c).

i. If the diameter of the cirle is 34 cm and CE = 9 cm, calculate the length of the chord BD.

С

В

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