

Date: 2082/06/08

Symbol No.:-.....

# NEW MILLENNIUM ACADEMY

Second Terminal Exam - 2082

Subject: **MATHS**

Class: 8 (EIGHT)

Time : 2 hours

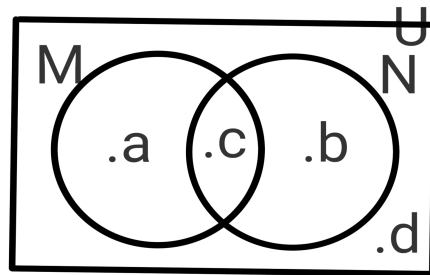
F.M: 50

Attempt all questions:

## AREA: SETS AND STATISTICS

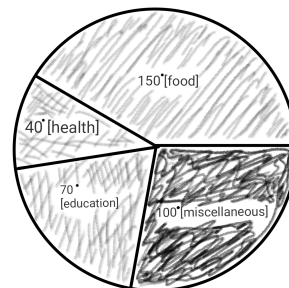
1. Study the given Venn - diagram and answer the following questions:

- (a) Which set 'M' or 'N' is an improper subset of  $P = \{a, c\}$ ? [1K]
- (b) Write all possible subsets of N. [1U]
- (c) If element 'c' belongs to set M only then re - draw the given Venn - diagram. [1HA]



2. Mr. Sunil's expenditure on different items like food, education, health and miscellaneous is shown in the given PIE - CHART.

- (a) Calculate how much Mr. Sunil has spent on different titles? [2A]



Mr. Sunil's Monthly Expenditure

- (b) Find the title wise average of Mr.Sunil. [1A]

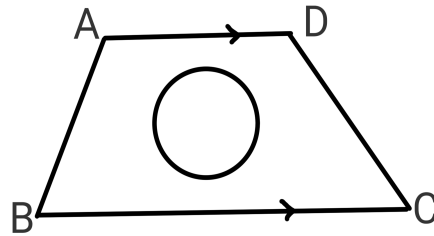
## AREA: ARITHMETIC

- 3. In a car racing competition, the speed of a car is 238 km/hours.
  - (a) Write the speed of the car in scientific notation. [1K]
  - (b) Convert the speed of the car in quinary number system. [1U]
  - (c) How many kilometer does the car travel in 2 hours? Find it. [1A]
  - (d) Convert  $0.\overline{24}$  into fraction. [2U]
- 4. The ratio of income and expenditure of a family is 10: 6. The family saves Rs. 20, 000 in a month.
  - (a) Write the ratio into lowest form. [1K]
  - (b) Calculate the monthly income of the family. [2A]
  - (c) How much more money does the family must spent so that the ratio of income and expenditure will be 10: 9? [2HA]
- 5. 20 men started the work to complete it in 24 days. Some men left the work and the work was completed in 30 days from the beginning.
  - (a) If a, 6, 8, 16 are in proportion then what will be the value of 'a'. [1U]
  - (b) How many men completed the work? Calculate. [2A]
  - (c) Compare the number of men who started the work and actually who completed it. [1HA]

## AREA: MENSURATION

- 6. A trapezium-shaped park has parallel sides  $AD = 10\text{m}$  and  $BC = 20\text{m}$ , and the distance between them is 12 m. Inside the park, there is a circular garden of radius 3m at the center.

- (a) Write the formula for the area of a trapezium. [1K]  
 (b) Find the circumference of the circular garden. [1U]  
 (c) Find the area of the trapezium-shaped park and the area of the circular garden inside it. [2A]



- (d) How much area of the park remains if the circular garden is fenced off and cannot be used for walking? [1HA]

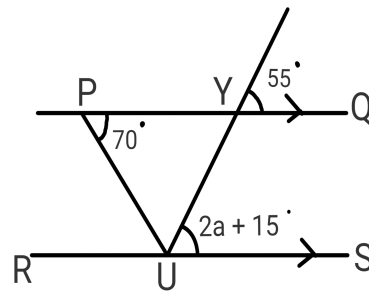
### AREA: ALGEBRA

7. (a) Give one example of distribution law of indices. [1K]  
 (b) Simplify:  $\frac{6^{m+2}-6^{m+1}}{6^{m+1}-6^m}$  [2U]
8. (a) The L.C.M and H.C.F of two algebraic expression are  $(x - 3)(x - 1)(x + 3)$  and  $(x + 3)$  respectively. Find the second expression if first expression is  $x^2 - 9$ . [2A]  
 (b) For what value of 'x', the value of second expression will be zero? Justify. [2HA]
9. (a) Write the factors of  $x(a + b) + y(a + b)$ . [1K]  
 (b) The area of a garden is  $16x^2 - 40xy + 25y^2 m^2$ . Find the measure of its sides. [2A]

### AREA: GEOMETRY

10. Study the given figure and answer the following questions:

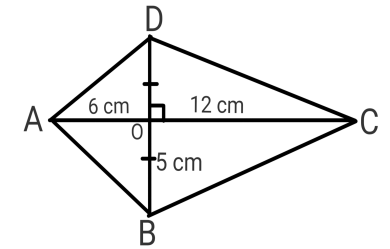
- (a) Write a pair of alternate angle from the given figure. [1K]  
 (b) Find the value of 'a' with geometric reason. [2U]  
 (c) Is  $\triangle PYU$  an isosceles triangle? How? [2HA]



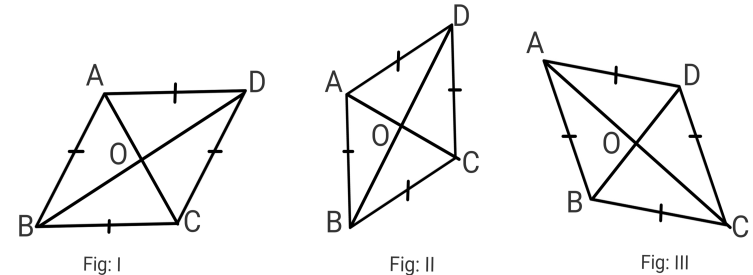
11. (a) Draw the nets of given solid shapes. [2U]



- (b) ABCD is a kite, BD and AC are its diagonals which intersect at O perpendicularly. Prove the fact using the information given in the figure that shorter diagonal BD of kite divides it into two isosceles triangles. [3A]



12. Answer the following question based on given figures:



- (a) Name the plane figure shown above. [1K]  
 (b) Copy and complete the given table. [3A]

Fig:	AO	OC	BO	OD	Result	$\angle AOB$	$\angle BOC$	Result
I								
II								
III								

- (c) What conclusion can you derive from the observation of above table? [1HA]

**BEST OF LUCK!**