

Annual Examination, April 2011

Class : 8

Subject: Mathematics

Medium : English

Marks: 100

Time : 2½ hours

PART - A

Time: 2 hours

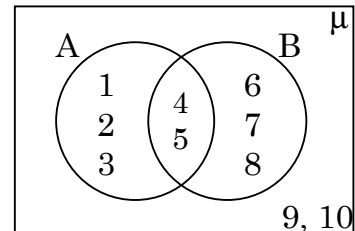
Marks: 80

Two sections (A,B) from each domain are given. Answer two from each section.

I. Understanding of Mathematical Concepts. (4x6=24)

Section - A

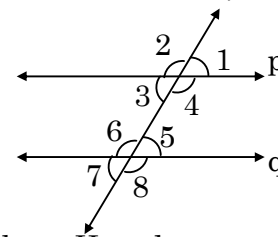
1. A sum of Rs.1728/- is distributed equally among some persons, and each got $1\frac{1}{3}$ times as many rupees as there are persons. Find the number of persons.
2. Vijay and Venu started a business with investments Rs.20,000, Rs.30,000. But after 9 months, Venu withdraw from the business. If the profit at the end of the year is Rs.17,000, find the share of each?
3. Observe the venn diagram and find



- (1) $A \cup B$ (2) $A \cap B$
 (2) (3) $A - B$ (4) $B - A$ (5) A^c (6) $(A \cup B)^c$

Section - B

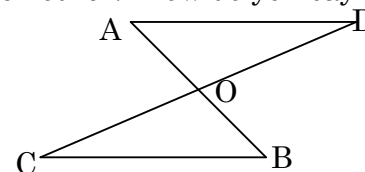
4. In the adjoining figure p,q are parallel lines and l is the transversal, Find the following angles.



- (a) Alternate interior angles
 - (b) Alternate exterior angles
 - (c) Corresponding angles
5. In the adjoining figure, \overline{AB} , \overline{CD} intersecting each other. How do you say that

$\triangle AOD$ is congruent to

$\triangle OBC$



6. Give two examples for point symmetry and line symmetry

II. Problem solving

(4x6=24)

Section – A

- 7. Find the area of the ring whose radii are 35 cm, 28 cm
- 8. Draw the graph of $x+y < -3$
- 9. If $x+y+z=0$ then show that $x^3+y^3+z^3=3xyz$

Section – B

- 10. Factorize $9x^4-40x^2+16$
- 11. Simplify

$$\frac{(x^{a+b})^3 (x^{b+c})^3 (x^{c+a})^3}{(x^a \cdot x^b \cdot x^c)^6}$$

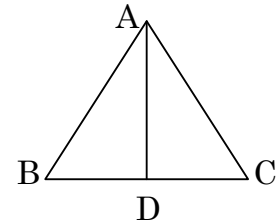
- 12. Construct a $\triangle ABC$ in which $AB=5\text{cm}$, $BC=6\text{cm}$, $\angle C=60^\circ$ and draw its circum circle.

III. Reasoning

(4x4=16)

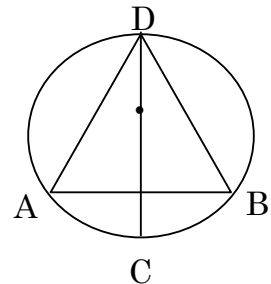
Section – A

- 13. What number shall be added to each of the numbers 4,7,14,22 to form the terms in a proportion?
- 14. In the equilateral triangle ABCD is mid point of \overline{BC} . If the ratio of angles of $\triangle ABC$ is 1:1:1 then find the ratio of angles of $\triangle ABC$?
- 15. In a class of 26 students 8 take tea but not coffee and 16 take tea. How many students take coffee but not tea.



Section – B

- 16. Can we solve the equations $2x+3y=6$, $6x+9y=16$ or not? Give the reasons
- 17. In the adjoining figure, AB is the chord of a circle with centre 'O'. \overline{CD} is the diameter perpendicular to AB. Show that $AD=BD$



- 18. Find the ratio of areas of circum circle and in circle drawn to an equilateral triangle

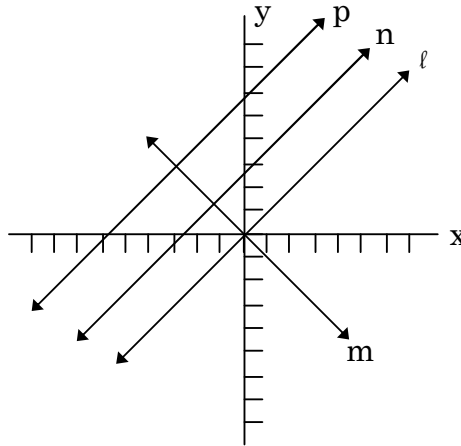
IV. Expressing in Mathematical Language

(4x4=16)

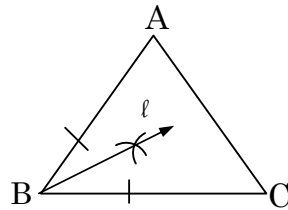
Section – A

19. μ is an universal set. Show $A \subset B \subset C$ in venn diagram.

20. What can you say about the pair of lines l, m and pair of lines n, p shown in the adjoining figure.




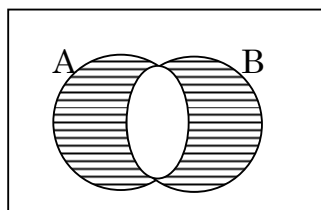
21. In the adjoining figure in $\triangle ABC$, ℓ is the angle bisector. Say how do you do draw this.



Section – B

22. What do you say about the symmetry of English letters H, O

23. What does part  represents in the venn diagram in the adjoining figure? Justify your answer.



24. “In the set of polynomials, polynomials have additive inverse but no multiplicative inverse” Justify.