Set - II

Annual Examination, April 2011

Class : 7 **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 Mathematical concepts (4x6=24)

Section – A

1. The length of a rectangular field is 6 times its breadth. Its area is 1350 Sq.m. Find its perimeter
2. Simplify $\left(\frac{a^p}{a^q}\right)^r \times \left(\frac{a^q}{a^r}\right)^p \times \left(\frac{a^r}{a^p}\right)^q$
3. Write all the possible related auxiliary formulae from $S = \left(\frac{100 - \ell}{100}\right) c$

Section – B

4. Construct a triangle in which AB=6cm, $\angle A = 80^0$, $\angle C = 55^0$
5. Mention any two quadrilaterals that you know and write their properties
6. Bar graphs are better than pictographs. Explain

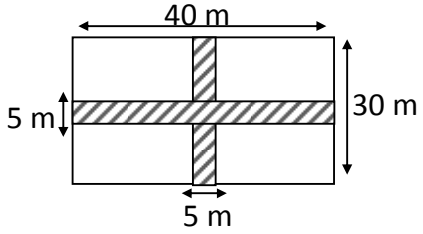
II. Problem solving : Different Methods (4x6=24)

Section – A

7. If $A=8x^5-5x^3-x+3$, $B=x^3+x^2+x$, $C=3x^5+8x^2-2x-4$ then find A+C - B
8. Divide $x^4-x^3-8x^2+11x-3$ by x^2+2x-3
9. $A = \frac{x}{360} \times \frac{22}{7} \times r^2$, If A=231 Sq.cm, r=14 cm then find x?

Section – B

10. Solve $\frac{5x+3}{4} - \frac{3x+2}{7} = -2$
11. Find the area of the shaded region in the adjacent figure



12. If angle of a sector = 90^0, radius=8.4 cm, find the area of the sector

III. Logical thinking **(4x4=16)**

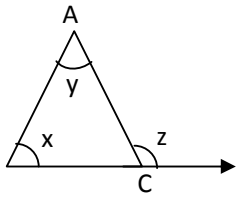
13. If $\sqrt{196} = 14, \sqrt{1.96}=1.4$ then find $\sqrt{0.0196}, \sqrt{0.000196}, \sqrt{19600}$
14. Which of the following is not a polynomial? Give reason $3x^3+2/x^3+x^2$ $3x^3+2/x+x^2$
15. Find the product of 101x99 without actual multiplication

Section – B

16. All the rectangles are parallelograms but the inverse is not true. Give the reasons.
17. The present ages of Madhu and Sreenu are 20 years, and 5 years. After how many years will the age of Madu be twice that of the age of Sreenu.
18. Diagonals of Rhombus are given below. One of the Rhombus area is different. Find it
    (a) 8cm, 5cm (b) 10cm, 4cm (c) 6cm, 4cm (d) 2cm, 20cm

IV. Expressing in Mathematical Language **(4x4=16)**

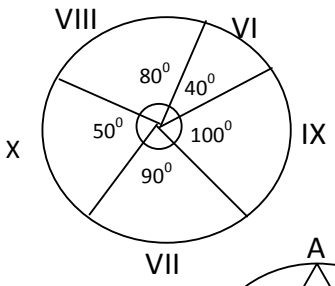
Section – A



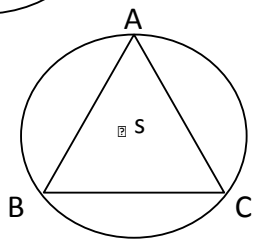
19. In the adjacent figure $\angle x + \angle y = \angle z$
    Write it in the word form
20. Keshav has Rs.x Venu has Rs.40 more than double that of Keshav has. If Venu has Rs.y with him, express it in equation form.
21. Write any 2 Leanear equation with the solution x=3.

Section – B

22. In a pie diagram, number of students present in each class in a high school is given. Observe it and comment.



23. Observe the following figure and
    write steps of construction needed for it



24. Express 2x2x2x…… (20 times) x 3x3x3x……. (20 times) in simplified form