Question Paper SA-II, 2011-2012

CBSE Class VIII Mathematics

General Instruction:

- All question are compulsory.
- The question paper consists of 28 questions divided into four sections A,B,C and D.
- Section A consists of 8 questions of 1 mark each.
- Section B consists of 6 questions of 2 marks each.
- Section C consists Of 10 questions of 3 marks each.
- Section D consists of4 questions of 5 marks each.
- There is no overall choice. However an internal choice has been provided in some questions. Attempt only one option in such questions.

SECTION A

1 Write the numerical coefficient of $-\frac{xy}{2}$.

2. Find the product:

$$\left(-2pq^2\right)\times\left(-\frac{1}{2}p^2q\right)$$

Fill in the blanks:

3. A prism is a polyhedron whose base and top are congruent polygons and whose lateral faces are ..... in shape.

4. Amount of region occupied by a Solid is called its .....

5. 7° = ...

6. $a^m + a^n$ = ...

7. The common factor of the terms I 0ab,5bC, 20ac is.....

8. Factorise:

$5x^2 + 15xy$.

SECTION B

9. Find the value of m:

$(-2)^{m+2} \times (-2)^5 = (-2)^{10}$.

10. Express the following numbers in ususal form:

(a) 5.15×10^{-4}

(b) 3614295×10^7.

11. The area of a rhombus is $240cm^2$ and one of its diagonal is 30 cm. Find the other diagonal.

12. A pyramid is a polyhedron whose base is a..... and whose lateral faces are..... with a common vertex.

13. Write Euler's formula and then find V, if F=5, E=9.

14. Add:

$5a(3 - a)$, $6a^2 - 13a$.

OR

Subtract $13ab (a - b)$ from $5ab(a + b)$.

SECTION C

15. Construct a frequency distribution table for the data on weights (in kg) of 20 students of a class using class intervals 30-35,35-40 and so on.

40, 38,33, 48,56,53,31, 46,34, 36,49, 41,55, 49, 57,42, 44, 47,38,39.

16. The number of students in a hostel, speaking different languages is given below. Display the data in apie chart.

Language	Hindi	English	Marathi	Tamil	Bengali	Total
No. of students	40	12	9	7	4	72

17, Classify the following polynomials as monomials, binomials and trinomials:

(a) $5xyz^2-3zy$

(b) $\frac{a}{2}+\frac{b}{2}-ab$

(c) pqr.

OR

Simplify:

(a + b) (c – d) + (a – b) (c + d) + 2(ac + bd).

18. Draw the line passing through (2,3) and (3,2). Find the coordinates of the points at which this line meets the x-axis and y-axis.

19. Factorise :

$3a^2 + 9a + 6$.

20. Simplify:

$$\left\{\left(\frac{1}{3}\right)^{-2}-\left(\frac{1}{2}\right)^{-3}\right\}+\left(\frac{1}{4}\right)^{-2}$$

OR

$$\frac{3^{-5}\times10^{-5}\times125}{5^{-7}\times6^{-5}}$$

21. Subtract 3a(a + b - c)-2b(a – b + c) from 4c(-a + b + c).

22. An electric pole, 14 m high, casts a shadow of 10 m. Find the height of a tree that casts a shadow of 15 m under similar conditions.

23. A godown is in the form of a cube of side 40 m. How many cubical boxes can be stored in it, if the volume of one box is 8 m?

OR

A cuboid is of dimensions 60cm × 54 cm × 30 cm. How many small cubes with side 6 cm can be placed in the given cuboid?

24. If 15 workers can build a wall in 48 hours, how many workers will be required to do the same work in 30 hours?

SECTION D

25. Construct a square with side 5 cm (use compass).

OR

Construct a rectangle with adjacent sides of lengths 5cm and 4 cm.

26. Draw a graph for the following:

Side of square	2	2.5	3.5	5	5.5	6
Perimeter	8	10	14	20	22	24

27. A rectangular piece of paper 11cm × 4 cm is folded without overlapping to make a cylinder of height 4 cm. Find the volume of the cylinder.

28. Find

$4yz(z^2 + 6z - 16) + 2y(z+8)$.