KENDRIYA VIDYALAYA SANGATHAN, HYDERABAD REGION
SAMPLE PAPER 02 FOR SESSION ENDING EXAM (2017-18)

SUBJECT: MATHEMATICS

BLUE PRINT FOR SESSION ENDING EXAM: CLASS VIII

Unit/Topic	VSA (1 mark)	Short answer (2 marks)	Short answer (3 marks)	Long answer (4 marks)	Total
Linear equations in one variable	1(1)	--	1(3)	1(4)	**3(8)**
Squares and Square Roots	1(1)	2(4)	1(3)	--	**4(8)**
Comparing Quantities	1(1)	--	1(3)	1(4)	**3(8)**
Algebraic Expression	1(1)	--	2(6)	1(4)	**4(11)**
Visualizing Solid Shapes	1(1)	1(2)	1(3)	--	**3(6)**
Mensuration	--	--	2(6)	1(4)	**3(10)**
Exponents and Powers	1(1)	1(2)	1(3)	1(4)	**4(10)**
Direct and Inverse Proportion	--	1(2)	--	1(4)	**2(6)**
Factorisation	--	1(2)	--	1(4)	**2(6)**
Introduction to Graphs	--	--	--	1(4)	**1(4)**
Playing with Numbers	--	--	1(3)	--	**1(3)**
Total	**6(6)**	**6(12)**	**10(30)**	**8(32)**	**30(80)**

Note: Linear Equations in one variable, Squares & Square Roots and Comparing Quantities (30% i.e. 24 marks) of 1st term syllabus covering significant topics/chapters have taken as per CBSE guidelines.

MARKING SCHEME FOR SESSION ENDING EXAM

SECTION	MARKS	NO. OF QUESTIONS	TOTAL
VSA	1	6	08
SA – I	2	6	12
SA – II	3	10	30
LA	4	8	32
GRAND TOTAL			**80**

SUBJECT: MATHEMATICS	MAX. MARKS : 80
CLASS : VIII	DURATION : 3 HRS

General Instructions:
(i). **All** questions are compulsory.
(ii). This question paper contains **30** questions divided into four Sections A, B, C and D.
(iii). **Section A** comprises of 6 questions of **1 mark** each. **Section B** comprises of 6 questions of **2 marks** each. **Section C** comprises of 10 questions of **3 marks** each and **Section D** comprises of 8 questions of **4 marks** each.
(iv). Use of Calculators is not permitted

SECTION – A

1. Solve : $2y + 9 = 4$

2. Find the square of the number 39.

3. The list price of a frock is Rs 220. A discount of 20% is announced on sales. What is the amount of discount on it.

4. Simplify and write the answer in the exponential form: $(2^5 \div 2^8)^5 \times 2^{-5}$

5. Can a polyhedron have 10 faces, 20 edges and 15 vertices? Give reason.

6. Find the value of the expression $3x(4x - 5) + 3$ for $x = 3$

SECTION – B

7. Find the smallest square number that is divisible by each of the numbers 4, 9 and 10.

8. The students of Class VIII of a school donated Rs 2401 in all, for Prime Minister's National Relief Fund. Each student donated as many rupees as the number of students in the class. Find the number of students in the class.

9. If the weight of 12 sheets of thick paper is 40 grams, how many sheets of the same paper would weigh $2\frac{1}{2}$ kilograms?

10. Factorise : $a^2 - 2ab + b^2 - c^2$

11. Using Euler's formula find the unknown.

Faces	6	5
Vertices	8	5
Edges	?	?

12. Find the value of m for which $5^m \div 5^{-3} = 125$.

SECTION – C

13. Find the square root of the following by long division method. (a) 27.04 (b) 1.44

14. Find CI on Rs 8,000 for 1 year at 9% per annum compounded half yearly.

15. Solve: $5x + \dfrac{7}{2} = \dfrac{3}{2}x - 14$

16. (a) Add: $7xy + 5yz - 3zx$, $4yz + 9zx - 4y$, $-3xz + 5x - 2xy$.
(b) Subtract $5x^2 - 4y^2 + 6y - 3$ from $7x^2 - 4xy + 8y^2 + 5x - 3y$.

**17.** Simplify: $\dfrac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

18. Find the values of the letters in the given below:

$$
\begin{array}{r}
3\,A \\
+\,2\,5 \\
\hline
B\,2
\end{array}
$$

19. A suitcase with measures 80 cm × 48 cm × 24 cm is to be covered with a tarpaulin cloth. How many metres of tarpaulin of width 96 cm is required to cover 100 such suitcases?

20. The floor of a building consists of 3000 tiles which are rhombus shaped and each of its diagonals are 45 cm and 30 cm in length. Find the total cost of polishing the floor, if the cost per m^2 is Rs 4.

21. Verify Euler's formula for these solids:
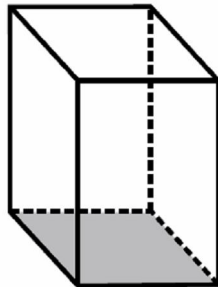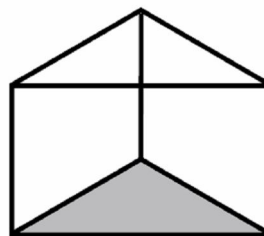
(i)   (ii)

22. Simplify: (i) $(t + s^2)\,(t^2 - s)$
(ii) $(a + b)\,(c - d) + (a - b)\,(c + d) + 2\,(ac + bd)$

SECTION – D

23. Sum of the digits of a two-digit number is 9. When we interchange the digits, it is found that the resulting new number is greater than the original number by 27. What is the two-digit number?

24. The population of a city was 20,000 in the year 1997. It increased at the rate of 5% p.a. Find the population at the end of the year 2000. Write any two effects of high populations?

25. A milk tank is in the form of cylinder whose radius is 1.5 m and length is 7 m. Find the quantity of milk in litres that can be stored in the tank? What are advantages of drinking milk?

26. (a) Factorise the expressions and divide them as directed: $(m^2 - 14m - 32) \div (m + 2)$

(b) Factorise: $a^4 - 2a^2b^2 + b^4$

27. A bank gives 10% Simple Interest (S.I.) on deposits by senior citizens. Draw a graph to illustrate the relation between the sum deposited and simple interest earned.

Find from your graph

(a) the annual interest obtainable for an investment of Rs 250.

(b) the investment one has to make to get an annual simple interest of Rs 70.

28. (a) If a box of sweets is divided among 24 children, they will get 5 sweets each. How many would each get, if the number of the children is reduced by 4?

(b) A farmer has enough food to feed 20 animals in his cattle for 6 days. How long would the food last if there were 10 more animals in his cattle?

29. Express the number appearing in the following statements in standard form.

(i) Charge of an electron is 0.000,000,000,000,000,000,16 coulomb.

(ii) Size of a bacteria is 0.0000005 m

(iii) Size of a plant cell is 0.00001275 m

(iv) Thickness of a thick paper is 0.07 mm

30. Using identities, evaluate (i) 5.2^2 (ii) 297×303