1. The diagonals of a rhombus are 18 cm and 12 cm. The area of the rhombus is
   (a) 54 sq.cm
   (b) 108 sq.cm
   (c) 72 sq.cm
   (d) 216 sq.cm

2. The point Q(0,y) lies on
   (a) x-axis
   (b) y-axis
   (c) 1st quadrant
   (d) 2nd quadrant

3. The probability of selecting a vowel from the alphabet is
   (a) 1/5
   (b) 3/5
   (c) 2/5
   (d) 5/26

4. Difference between upper limit and lower limit of a class is known as
   (a) range
   (b) frequency
   (c) tally marks
   (d) class - size

5. The place where two faces of a solid meet is
   (a) vertex
   (b) face
   (c) edge
   (d) surface
6. 3500 in standard form can be written as
   (a) $3.5 \times 10^3$  (b) $3.5 \times 10^4$
   (c) $35 \times 10^2$  (d) $35 \times 10^3$

7. If 933 is divided by 4, the remainder is
   (a) 3  (b) 4
   (c) 1  (d) 2

8. Factors of $a^2-4$ are
   (a) $(a+2)(a-2)$  (b) $(a-2)(a+2)$
   (c) $(a+2)(a-2)$  (d) $(a+4)(a-4)$

9. Value of $(4/3)^2$ is
   (a) $4/9$  (b) $9/4$
   (c) $16/9$  (d) $9/16$

10. Which of these quantities does not vary inversely?
    (a) Population and land area per person
    (b) Number of men and time taken
    (c) Speed and distance
    (d) Speed and time
APEEJAY COMMON EXAMINATION, 2013
CLASS VIII
MATHEMATICS
SUMMATIVE ASSESSMENT II

TIME ALLOWED: 2 HR. 45 MIN.    MAXIMUM MARKS: 80

General Instructions:
The question paper consists of 27 questions divided into three sections A, B and C.
Section A comprises of 11 questions of 2 marks each, Section B comprises of 11
questions of 3 marks each, Section C comprises of 5 questions of 5 marks each.

SECTION A

1. Express 0.000049 in standard form.
2. Factorize: \(7ab+9cb+7ad+9cd\)
3. Find the side of a cube whose surface area is 486 sq. cm.
4. If 20 men can assemble 8 machines in a day, how many men are needed to assemble 12
   machines in a day?
5. Write the abscissa and ordinate of the point (3,2).
6. Divide: 
   \((10x-25)\) by \((2x-5)\)
7. A bag contains 4 red marbles, 7 blue marbles and 8 green marbles. What is the probability of selecting
   (a) A red marble
   (b) non green marble
8. If \(23y6\) is a multiple of 3, where \(y\) is a digit, what might be the value of \(y\)?

P.T.O.
9. If a polyhedron has 5 faces and 9 edges, how many vertices does it have?

10. The curved surface area of a cylindrical rod is 308 sq.cm. Find its length if diameter is 14 cm.

11. Find the value of \((-4)^3 + (-4)^9\)

SECTION B

12. 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?

13. Factorize:

\[(a^2 - 2ab + b^2) - c^2\]

14. There are 100 students in a hostel. Food provision for them is for 20 days. How long will these provisions last, if 25 more students join the group?

15. Draw a rough sketch of front, side and top view of the solid given below:

\[\text{Diagram of a solid}\]

16. Plot the points (5,4), (0,4),(3,5,4) and (4,4) on a graph sheet. The line obtained on joining these points is parallel to which axis?

17. The following pie-chart shows the monthly expenditure of a family on food, rent, education, savings, donation to a charitable trust. If the total monthly income of the family is Rs. 32400, answer the following questions:

(a) How much amount is the family donating to the charitable trust?

(b) What is the total saving of the family?
18. A train is moving at a uniform speed of 75 km/hour
   (a) How far will it travel in 20 minutes?
   (b) Find the time required to cover a distance of 500 km.

19. Find the unknown quantities p, q and r:
    \[
    \begin{array}{c}
    6 \ p \ 5 \ 7 \\
    + \ p \ q \ q \ r \\
    \hline
    1 \ 3 \ 8 \ 6 \ 9
    \end{array}
    \]

20. Find the value of b so that
    \[(-7)^{b+1} \times (-7)^4 = (-7)^7\]

21. The diagonals of a quadrilateral shaped field is 28 m and the perpendiculars dropped on it from the opposite vertices are 8 m and 13 m. Find the area of the field.

22. Evaluate:
    \[
    [(7/8)^7 \div (7/8)^9] \times (7/8)^2
    \]

23. Divide \(12\xy(9x^2 - 16y^2)\) by \(4\xy(3x+4y)\)

24. Represent the following distribution of ages (in years) of 30 teachers in a school by means of a histogram.

<table>
<thead>
<tr>
<th>Age in years</th>
<th>25-30</th>
<th>30-35</th>
<th>35-40</th>
<th>40-45</th>
<th>45-50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of teachers</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

P.T.O.
25. The graph shows Tarun's training run for a mini marathon.
   a) How far did he travel from 7 a.m. to 10 a.m.?
   b) What was his average speed from 7 a.m. to 9 a.m.?
   c) How far did he run altogether?
   d) At what time did he start his return run?

26. Simplify:
\[
\frac{3^4 \times 10^3 \times 125}{5^3 \times 6^4}
\]

27. A godown is in the form of a cuboid of measures 60 m × 40m × 30m. How many cuboidal boxes can be stored in it if the volume of one box is 0.8 m³?