INTERNATIONAL INDIAN SCHOOL - DAMMAM
SUMMATIVE ASSESSMENT- II (MARCH- 2014)

SUBJECT: MATHEMATICS
CLASS : VIII

TIME : 3 Hours
Max. Marks : 90

SET B

General Instructions :-
1. All questions are compulsory. However, internal choice has been given for one question in each section.
2. The question paper consists of 34 questions divided into 4 sections,
   Section A, Section B, Section C and Section D.
3. Section A contains 8 MCQ of 1 mark each, Section B contains 6 qns of 2 marks each,
   Section C contains 10 qns of 3 marks each and Section D contains 10 qns of 4 marks each.

SECTION- A (1 X 8 = 8)

Choose the correct answer

1. Which is the true statement
   a) \( CP - Loss = SP \)  b) \( SP - CP = Loss \)  c) \( SP - Loss = CP \)  d) \( CP + Loss = SP \).

2. Capacity of a cubical vessel of edge \( 40cm \) is _________.
   a) 64 litres  b) 640 litres  c) 1600 litres  d) 6400 litres

3. Factorisation of \( P^2 + p - 6 \) is
   a) \( (p - 3)(p - 2) \)  b) \( (p - 1)(p + 6) \)  c) \( (p + 2)(p - 3) \)  d) \( (p - 2)(p + 3) \).

4. Which point lies on Y-axis.
   a) (4, 0)  b) (0, 7)  c) (7,7)  d) (4,4).

5. What is the probability to get a Red Ace from a well shuffled pack of 52 playing cards?
   a) \( \frac{1}{52} \)  b) \( \frac{1}{26} \)  c) \( \frac{1}{13} \)  d) \( \frac{1}{4} \).

6. Product of \( (2 - x) \) and \( (-x + 2) \) is
   a) \( x^2 - 2^2 \)  b) \( (x + 2)^2 \)  c) \( 2^2 - x^2 \)  d) \( (2 - x)^2 \).

7. If two equal sides of an isosceles triangle are \( 6x - 7 \) and \( 5x + 1 \), then \( x = \_ \)
   a) 1  b) 8  c) 7  d) 10

8. If two quantities \( x \) and \( y \) are in direct proportion, then
   a) \( x = ky \)  b) \( xy = k \)  c) \( x - y = k \)  d) none of these.
SECTION- B (2 X 6 = 12)

9. The diagonals of a rhombus are 7.5 cm and 12 cm. Find its area.

10. Plot these points on a graph sheet.
    A (0, 3), B (1, 4), C (2, 5), D (6, 2)

11. If the thickness of 500 sheets of paper is 4 cm then what would be the thickness of
    200 sheets of the same paper.

12. The list price of a TV is Rs 12,000. If the rate of sales tax is 8%, calculate the total
    amount for purchasing the TV.

13. Find the product of \((z + 2)(z^2 - 2z + 4)\)

    OR

13. Use a suitable identity to get the product of \((2x + 5y)(2x + 3y)\).

14. Read the following grouped frequency table and answer the questions.

<table>
<thead>
<tr>
<th>Class Interval</th>
<th>0-25</th>
<th>25-50</th>
<th>50-75</th>
<th>75-100</th>
<th>100-125</th>
<th>125-150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>3</td>
<td>12</td>
<td>4</td>
</tr>
</tbody>
</table>

i) What is the size of each class interval?

ii) Which class has the highest frequency?

iii) What is the upper limit of the class 75-100?

iv) What is the frequency of the lowest class?

SECTION- C (3 X 10 = 30)

15. Show that \((3x + 2y)^2 - 24xy = (3x - 2y)^2\).

16. The sum of three consecutive multiples of 9 is 324. Find these multiples.

17. A mobile is sold at Rs 7225 after allowing a discount of 15%. Find its marked price.

    OR

17. Find the amount to be paid at the end of 1 year on Rs 16000 at 5% per annum
    compounded half yearly.
18. If 15 men can paint the walls of a building in 16 days, in how many days will 20 men complete the work.

19. Capacity of a cylindrical tank is 924 m³ and radius of its base is 7m. Find its height

20. Add $4y(3y^2 + 5y - 7)$ and $2(y^3 - 4y^2 + 5)$.

21. The area of a trapezium is 135 cm². If one of its parallel sides is 15 cm and the distance between the parallel sides is 10 cm, then find the length of the other parallel side.

22. Factorise the expression and divide as directed: $(2y^2 - 14y + 24) ÷ (2y - 8)$

23. The given Pie-chart represents the monthly expenditure of a student residing in a hostel. If he spends Rs 3000 on tuition fees, then
   a) What is the total monthly expenditure?
   b) How much does he spend on books and stationary?

24. A car travels 210 km in 2 hours. How far can it travel in 80 minutes?

SECTION - D (4 × 10 = 40)

25. Factorise $(x + y)^4 - z^4$

26. The ages of Ayesha and Reeba are in the ratio 3:4. Eight years from now the ratio of their ages will be 5:6. Find their present ages

27. Factorise:
   i) $5y^2 + 2yz - 20y - 8z$
   ii) $16p^2 + 40pq + 25q^2$ (Use a suitable identity)

28. Evaluate using suitable identities
   i) $54^2 - 46^2$
   ii) $102 × 103$

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29. Rahul bought two watches for Rs 2400 each. He sold one of them at a profit of 10% and the other at a loss of 4%. Find his total gain or loss percent.

30. The sum of the digits of a two digit number is 9. The number obtained by reversing the digits is 9 less than the original number. Find the original number.

OR

30. Solve: \[ \frac{3x+5}{5} + \frac{2-x}{3} = \frac{5x-7}{6} \]

31. The internal measures of a cuboidal room are 14 m X 10 m X 8 m. Find the total cost of whitewashing the four walls and ceiling of the room, if the cost of whitewashing is Rs 15 perm².

32. 150 students appeared for the CBSE examination of Xᵗʰ class. The given table shows their score in percentage wise. Draw a histogram to represent the data.

<table>
<thead>
<tr>
<th>Marks (in percentage)</th>
<th>0 - 20</th>
<th>20 - 40</th>
<th>40 - 60</th>
<th>60 - 80</th>
<th>80 - 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of students</td>
<td>5</td>
<td>40</td>
<td>50</td>
<td>30</td>
<td>25</td>
</tr>
</tbody>
</table>

i) How many students scored 60% and above?
ii) How many students scored less than 40%?

33. Aparna borrowed Rs 8000 from a bank at 12% per annum for 3 years at simple interest and Nida borrowed the same amount for the same time period at 10% per annum compounded annually. Who paid more interest?

34. The following table gives the quantity and cost of an item.

<table>
<thead>
<tr>
<th>Quantity (in kg)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>cost in Rs</td>
<td>30</td>
<td>60</td>
<td>90</td>
<td>120</td>
<td>150</td>
</tr>
</tbody>
</table>

Plot a linear graph to show the data and use it to find

i) The quantity of the item, which can be bought for Rs 75.
ii) Find the cost of 3 \( \frac{1}{2} \) kg of the item.