MSE(SA)-24

Total No. of Questions: 26 **AS-4** **Total No. of Pages: 4**

Subject: Mathematics **Roll No. .....**

Time: 2.30 Hrs. **MA-AS** **Max. Marks: 50**

General Instructions:

(i) The question paper consists of questions divided into 4 sections A, B, C, D

(ii) All questions are compulsory.

(iii) Section A comprises of 13 questions of 1 mark each.

(iv) Section B comprises of 6 questions of 2 marks each.

(v) Section C comprises of 5 questions of 3 marks each.

(vi) Section D comprises of 2 questions of 5 marks each.

Section A
(Multiple Choice Type Questions)

Q1: The unit digit in the square of 23021 will be

a) 2 b) 4 c) 5 d) 6

Q2: Identify the like pair from the following:

a) $\frac{-1}{3}x^2y, \frac{-1}{3}y^2x$

b) $-5z^2y, \frac{-1}{3}z^2y$

c) $\frac{-1}{3}xyz, \frac{-1}{3}xy$

d) x^2yz^2, y^2xz^2

Q3: $(2+a)^2$ is equal to.....

a) $4-4a-4a^2$ b) $4+a^2$ c) a^2+4a+4 d) $9-x^2$

Q4: Area of a rectangle with length 'L' and breadth 'B' is calculated by

a) L+B b) L–B c) L×B d) L÷B

Q5: 3^{-2} is equal to:

a) –6 b) 1 c) 1/9 d) –9

Q6: Pick up the out one out:

a) Pie - Chart b) Line - Graph

c) Bar - Chart d) Fruit–Chart

Q7: The generalized form of a 3 –digit number 'xyz' where x, y, z are digits, is;

a) x+y+z
b) 100x+10y+z
c) 110z+10y+x
d) 110 (x + y + z)

Q8: Identify the number which is divisible by 9

a) 23459
b) 2303
c) 3060
d) 123456789

Q9: When a number is divided by 10, it leaves remainder 8. What will be the remainder when the same number is divided by 5?

a) 8 b) 3 c) 0 d) 10

Q10: In which of the given situations a quadrilateral can be constructed uniquely?

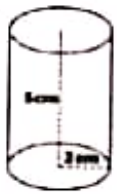
a) When all four angles and one diagonal is given
b) When three angles and two diagonals are given
c) When four sides and any one diagonal is given
d) When two angles and two sides are given

Q11: If area of a square is 144cm^2. What could be the side of the square?

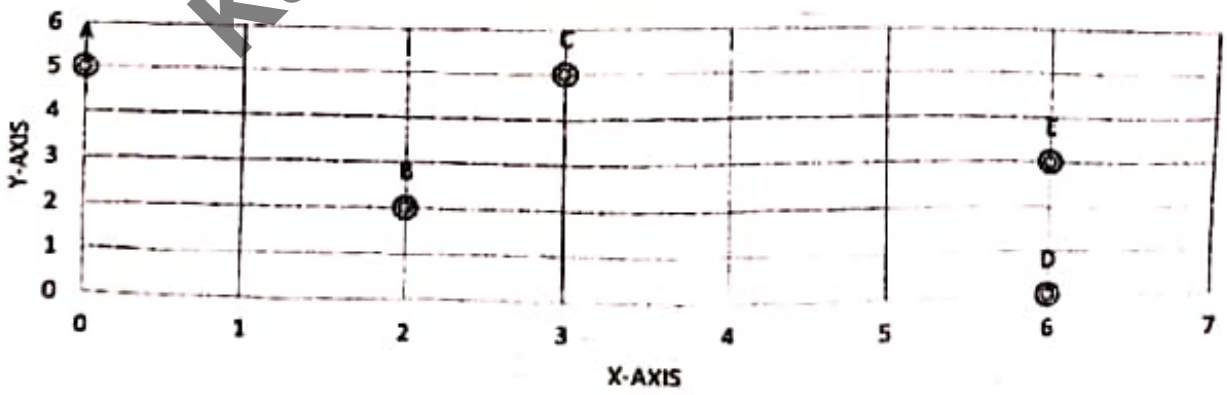
a) 11cm b) 12cm c) 13cm d) 14cm

Q12: Volume of given solid can be calculated by

a) $2\pi \times 2 \times 5$
b) $\pi \times 2^2 \times 5$
c) $1/3 \times \pi \times 2^2 \times 5$
d) $2 \times \pi \times 2 \times 5$



Q13: Identify the letter which represents the point (6,3)



Section — B
(Very Short Answer Type Questions)

Q14 Express 49 as the sum of 7 odd numbers. Ans 1 3 5 7 11

Q15: Given below is the process for finding square root of some number by division method. Observe it carefully and answer the following questions:

$$
\begin{array}{r}
86 \\
8\ \overline{)7400} \\
64 \\
166\ \overline{)1000} \\
996 \\
\hline
4
\end{array}
$$

Questions:-

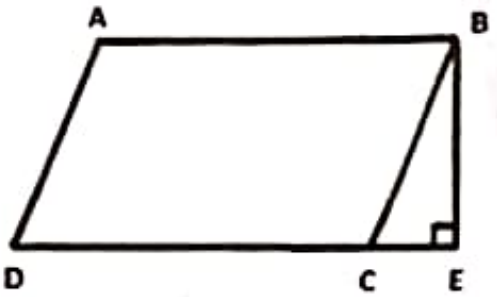
(i) Which least number should be subtracted from 7400 to be a perfect square.

(ii) What will be the square root the perfect square so obtained.

Q16: Find the smallest number by which 72 be multiplied to be it a perfect cube.

Q17: Estimate the cube root of 140608.

Q18: Find the area of parallelogram ABCD where AB = 10 cm and BE = 6 cm



Q19: Express 108 in exponential form.

Section- C
(Short answer Type Questions)

Q20: Subtract $4a-7ab+3b+12$ from $12a-9ab+5b-3$

Q21: Find the value of $6x-5+4y$ when $3x+2y=1$

Q22: A metallic rectangular sheet of length 1.4m and breadth 0.7m is folded about its length to form a hollow cylinder. Find the volume of the hollow cylinder.

Q23: Express 9^{-4} with base 1/3 and positive exponent.

Q24: Find the value of letters 'A' and 'B' in the given possible problem.

$$\begin{array}{r} 3\,A \\ +\,B\,6 \\ \hline 1\,0\,1 \end{array}$$

Section- D

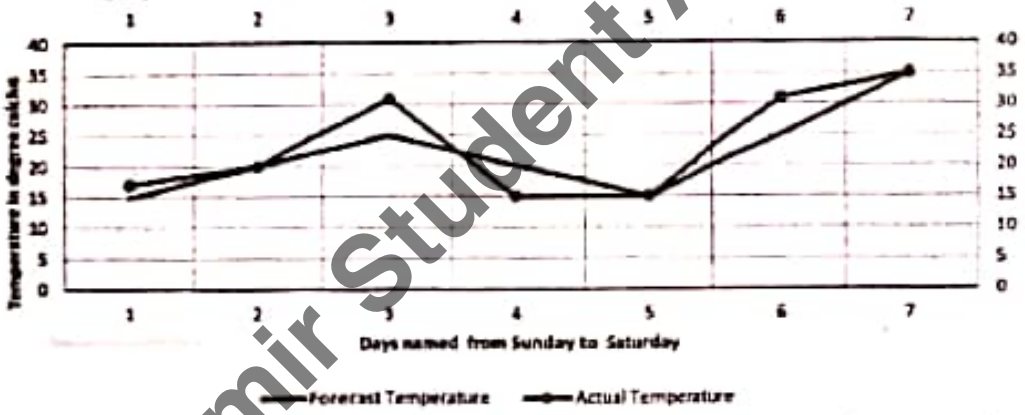
(Long Answer Type Questions).

Q25: Construct a rhombus whose diagonals are of length 6cm and 8cm.

OR

Construct ΔPQR in which $PQ=QR=4cm$, $\angle P+\angle R=135^\circ$

Q26: The given linear -graph shows forecast and actual temperature of a place for seven days. Observe it carefully and answer the following questions



(I) Name the days when the actual temperature was observed same as forecasted temperature.

(ii) Name the day when there was observed major difference between forecasted and actual temperature.

(iii) Name the day when least difference between actual and forecasted temperature was observed.

(iv) Name the day when highest actual temperature was observed.

OR

Draw a Bar-chart to represent the following data

Class	Boys	Girls
8th	15	25
7th	10	20
6th	25	15