

General Instructions:

- i. This question paper comprises four sections—A,B,C&D. This question paper carries 40 questions. All questions are compulsory.
 - ii. Section—A – Q No.1 to 20 comprises 20 questions of one marks each
 - iii. Section—B – Q 21—26 comprises of 6 questions of two marks each
 - iv. Section—C – Q 27 to 34 comprises of 8 questions of three marks each
 - v. Section—D – Q 35 to 40 comprises of 6 questions of four marks each.
- There is no overall choice in the question paper. However an integral choice has been provided in 2 questions of one mark, 2 questions of two marks, 3 questions of three marks and 3 questions of four marks. You have to attempt only one of the choice in such questions.

Section-A

Question number 1 to 10 are MCQs of 1 marks each. Select the correct option:

Q1. The HCF of 2 and 11 is

- a) 2 b) 11 c) 22 d) 1

Q2. A polynomial of degree '2' is called

- a) Quadratic poly b) Zero Poly C) Quartic Poly D) None of these

Q3. A Quadratic Equation $aX^2 + bX + C=0$, $a \neq 0$ has two equal roots if:

- a) $D>0$ b) $D=0$ c) $D<0$ d) N.O.T

Q4. The Common difference of the AP 6,9,12,15 ----is:

- a) 6 b) -3 c) 9 d) 3

Q5. The distances of the point A(x,y) from the Origin O (0,0) is

- a) $\sqrt{x^2 + y^2}$ b) $\sqrt{x^2 - y^2}$ c) X^2 d) Y^2

Q6. A line which touches a circle at one point is called

- a) Secant b) Chord c) tangent d) N.O.T

Q7. Area of circle is given by:

- a) πr^3 b) $2\pi r$ c) πr^2 d) N.O.T

Section-B

QNos 21 to 26 Carry 2 marks each

Q21. 2 Cubes each of volume 64cm^3 are joined end to end. Find the surface area of the resulting Cuboid.

Q22. Given that $\text{HCF}(306,657)=9$, find $\text{LCM}(306,657)$.

Q23. Check for Consistency

$$5x-4y=8=0$$

$$10x-8y+16=0$$

Q24. Find the values of $\frac{2\tan 45^\circ}{1+\tan^2 45^\circ}$?

OR

Evaluate

$$\sin 25^\circ \cos 65^\circ + \cos 25^\circ \sin 65^\circ$$

Q25. One A die is thrown Once. Find the probability of getting 'an odd number'

Q26. The marks obtained by 30 students of class X of a certain school in a mathematics paper consisting of 100 marks are presented in table below. Find the mean of the marks obtained by the students

Marks Obtained (X_i)	10	20	36	40	50	56	60	70	72	80	88	92	95
No. of Students (f_i)	1	1	3	4	3	2	4	4	1	1	2	3	1

Section-C

Q27. To 34 carry 3 marks each:

Q27. Find the zero's of the quadratic polynomial, and verify the relationship between the zero's and the coefficients $4S^2 - 4S + 1$

OR

Divide $x^3 - 3x^2 + 5x - 3$ by $x^2 - 2$ and find the quotient and the remainder.

Q28. Solve the pair of linear equation by substitution method.

$$x+y=14, x-y=4$$

Q29. Find the value of K, so that the quadratic equation has two equal roots $2x^2+Kx+3=0$

Q30. Which term of an AP: 3, 8, 13, 18 _____ is 78?

OR

Find the sum of the first 15 multiples of 8

Q31 Evaluate $\frac{\sin^2 63^\circ + \sin^2 27^\circ}{\cos^2 17^\circ + \cos^2 73^\circ}$?

Q32. Prove that the tangents drawn at the ends of a diameter of a circle are parallel

OR

Prove that the ||gm circumscribing a circle is a rhombus.

Q33. Find the area of a sector of a circle with radius 6cm if angle of the sector is 60° .

Q34. A drinking glass is in the shape of a frustum of a cone of height 14cm. The diameter of its two circular ends are 4cm and 2cm. Find the capacity of the glass.

Section-D

QNo. 35 to 40 carry 4 marks each

Q35. Find the roots of the quadratic equation $4x^2+4\sqrt{3x+3}$ by the method of completing the square.

OR

Find two numbers whose sum is 27 and product is 182.

Q36. The angle of elevation of the top of a tower from a point on the ground which is 30m away from the foot of tower is 30° . Find the height of the tower.

Q37. Find the points on the x-axis which are equidistant from (2, -5) and (-2, 9)

OR

Find the ratio in which the line segment joining the points (-3, 10) and (6, -8) is divided by (-1, 6)

Q38. The ratio of the area of two similar Δ s is equal to the square of the ratio of their corresponding sides.

OR

ABC is an isosceles Δ right angled at C. prove that $AB^2=2AC^2$.

Q39. Construct a triangle with sides 5cm, 6cm, & 7cm and then another triangle whose sides are $\frac{7}{5}$ of the corresponding sides of the first Δ .

Q40. The distribution below gives the weight of 3 students of a class. Find the median weight of the students.

Weight (in kg)	40-45	45-50	50-55	55-60	60-65	65-70	70-75
No. of Students	2	3	8	6	6	3	2

- * The paper has been prepared as per the CBSE pattern after a minor change in marks distribution of different Topics of Mathematics.
- * The question paper has been prepared from the Text book of Mathematics provided by BOSE Sgr,
- * The question paper comprises 40 questions of 80 marks (summative assessment)
- * Internal assessment of 20 marks:
Like (i) Pen paper test (ii) Project work, like measurement of school campus, perimeter of boundary etc. (iii) Attendance and participation.

Signature of Committee:

1. _____ Ghulam Jeelani Khan 9419448315
2. _____ Parvaze Ahmad Mir 7006417143
3. _____ Ajaz Ahmad Yatoo 7006813373

Marks distribution

1. Real No's	4 marks	1+1+2
2. Polynomials	4 marks	1+3
3. Linear Eq.in two variables	6 marks	1+2+3
4. Quadratic Equation	8 marks	1+3+4
5. Arithmetic progression	5 marks	1+1+3
6. Trigonometry	7 marks	1+1+2+3
7. Application to Trigonometry	5 marks	1+4
8. Co-ordinate Geometry	6 marks	1+1+4
9. Triangles	6 marks	1+1+4
10. Circles	5 marks	1+1+3
11. Construction	4 marks	4
12. Area related to Os	4 marks	1+3
13. Surface Area & Volumes	6 marks	1+2+3
14. Probability	4 marks	1+1+2
15. Statistics	<u>6 marks</u>	2+4