



NO. SELD/CA/CW/18/2018.  
GOVERNMENT OF SINDH  
SCHOOL EDUCATION & LITERACY DEPARTMENT  
Karachi, dated the 17<sup>th</sup>, February, 2026.

To,

**The Director,**  
Directorate of Curriculum, Assessment & Research (DCAR), Jamshoro.


**SUBJECT: SUBMISSION OF STANDARDIZED MODEL TEST PAPERS FOR GRADE-IV TO GRADE-VIII FOR THE ACADEMIC YEAR 2025-2026. (REQUEST FOR APPROVAL & DISSEMINATION).**

This letter is with reference to your letter No. DCAR/DIR/52/-2026, dated; 04<sup>th</sup> of February 2026 on the subject cited above.

Reference to the content of the letter as stated that the Directorate of Curriculum, Assessment & Research (DCAR), has developed the Standardized Model Test Papers for Grade IV to Grade-VIII, for the Academic Session 2025-2026 and for Local Annual Examinations 2026.

This is to inform that the competent authority has approved the request and permission is granted for dissemination of the developed Standardized Model Test Papers for Grade IV to Grade-VIII, to all Directorates of School Education of all regions of Sindh, for guidance and preparation of Standard Test Papers.

Your assistance with this matter is highly valued.

  
**Dr. Fouzia Khan**  
Chief Executive Advisor (Curriculum Wing)  
School Education and Literacy Department  
Government of Sindh.

A copy is forwarded for information to: -

1. The P.S to Minister for Education, Govt. of Sindh.
2. The P.S to Secretary, School Education & Literacy Department, Govt. of Sindh.
3. The Office File.

**Directorate of Curriculum, Assessment & Research Sindh, Jamshoro**  
**Model Paper 2025-26**

**TABLE OF CONTENTS**

1. **Table of Specifications (TOS)** Grade IV, V, VI, VII, VIII
2. **Model Question Papers** Grade IV, V, VI, VII, VIII
3. **Key and Marking scheme** Grade IV, V, VI, VII, VIII

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**1. TABLE OF SPECIFICATIONS (TOS)**

**Grade IV: Table of Specification**

Unit	Topic	Weight	Section A (MCQs - 2 Marks)	Section B (CRQs - 5 Marks)	Section C (ERQs - 10 Marks)
1	Numbers & Arithmetic	15%	3	2	1
2	Factors & Multiples	15%	3	1	-
3	Fractions	15%	3	2	-
4	Decimals	15%	3	2	-
5	Measurements	15%	3	2	1
6	Geometry	20%	3	2	1
7	Info Handling	5%	2	-	-
<b>Total</b>		<b>100%</b>	<b>20</b>	<b>11</b>	<b>3</b>

**Grade V: Table of Specification**

Unit	Topic	Weight	Section A (MCQs - 2 Marks)	Section B (CRQs - 5 Marks)	Section C (ERQs - 10 Marks)
1	Numbers & Arithmetic	10%	2	1	-
2	HCF & LCM	10%	2	1	-
3	Fractions	10%	2	1	-
4	Decimals & %	7%	2	1	-
5	Dist, Time, Temp	10%	2	1	-
6	Unitary Method	15%	3	2	1
7	Geometry	20%	3	2	1
8	Perimeter & Area	10%	2	1	1
9	Info Handling	8%	2	1	-
<b>Total</b>		<b>100%</b>	<b>20</b>	<b>11</b>	<b>3</b>

**Grade VI: Table of Specification**

Unit	Topic	Weight	Section A (MCQs - 2 Marks)	Section B (CRQs - 5 Marks)	Section C (ERQs - 10 Marks)
1	Sets	5%	1	1	-
2	Whole Numbers	5%	1	-	-
3	Factors & Multiples	20%	4	2	1
4	Integers	5%	1	1	-
5-7	Ratio/Fin/Simp	15%	3	2	-
8	Intro Algebra	7%	2	1	-
9	Linear Equations	8%	2	1	-
10	Geometry	15%	2	1	1
11- 12	Area/Solids	15%	3	2	1
13	Info Handling	5%	1	-	-
<b>Total</b>		<b>100%</b>	<b>20</b>	<b>11</b>	<b>3</b>

**Grade VII: Table of Specification**

Unit	Topic	Weight	Section A (MCQs- 2 Marks)	Section B (CRQs 5 Marks)	Section C (ERQs 10 Marks)
1	Sets	7%	2	1	-
2-3	Rat Nos & Decimals	14%	2	2	-
4	Exponents	7%	2	1	-
5-6	Sq Rt / Variation	12%	2	1	-
7	Financial Arith	5%	1	1	-
8	Alg. Expressions	10%	2	1	-
9	Linear Equations	5%	1	1	-
10	Fund. Geometry	12%	3	1	1
11	Prac. Geometry	15%	2	1	1
12	Area & Volume	8%	2	1	1
13	Info Handling	5%	1	-	-
<b>Total</b>		<b>100%</b>	<b>20</b>	<b>11</b>	<b>3</b>

**Grade VIII: Table of Specification**

Content Area	MCQs	CRQs	ERQs	Total Items	Weightage
Arithmetic	8	3	1	12	35%
Algebra	3	3	1	7	21%
Geometry	7	2	1	10	29%
Trigonometry	1	1	0	2	06%
I.H	1	1	1	3	09%
<b>Total</b>	<b>20</b>	<b>10</b>	<b>4</b>	<b>34</b>	<b>100%</b>

## 2. MODEL QUESTION PAPERS

### GRADE IV

**Directorate of Curriculum, Assessment & Research Sindh, Jamshoro**

**Model Paper 2025-26**

**Time: 3 hours**

**Subject: Mathematics**

**Total Marks: 100**

Name of Student: \_\_\_\_\_ S/D/O \_\_\_\_\_ Gender: (Boys/Girls) \_\_\_\_\_

Medium: \_\_\_\_\_ School Name: \_\_\_\_\_

Taluka: \_\_\_\_\_ City/Village: \_\_\_\_\_ Signature of Invigilator: \_\_\_\_\_

### **SECTION A: MULTIPLE CHOICE QUESTIONS (MCQs)**

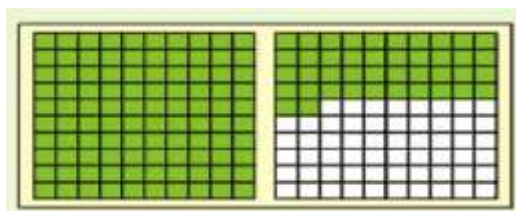
**Instructions:** Attempt all questions. Each question carries **2 Marks**. (Total: 40 Marks)

- The place value of the digit 5 in **54,203** is:  
A) Five hundred  
B) Five thousand  
C) Fifty thousand  
D) Five million
- Which number is **20,000** more than **345,600**?  
A) 347,600  
B) 365,600  
C) 545,600  
D) 325,600
- 125 × 100** is equal to:  
A) 1250  
B) 12500  
C) 1025  
D) 1205
- Which of these numbers is divisible by **3**?  
A) 13  
B) 23  
C) 24  
D) 29
- The **LCM** of 3 and 4 is:  
A) 7  
B) 12  
C) 1  
D) 34
- A number having exactly two factors (1 and itself) is called a:  
A) Even number  
B) Odd number  
C) Composite number  
D) Prime number
- Which fraction is a **Unit Fraction**?  
A)  $\frac{2}{3}$   
B)  $\frac{1}{7}$   
C)  $\frac{5}{7}$   
D)  $\frac{7}{1}$
- $\frac{3}{5} + \frac{1}{5} = ?$   
A)  $\frac{4}{10}$   
B)  $\frac{2}{5}$   
C)  $\frac{4}{5}$   
D)  $\frac{3}{25}$
- The equivalent fraction of  $\frac{2}{3}$  is:  
A)  $\frac{4}{6}$   
B)  $\frac{1}{3}$   
C)  $\frac{3}{2}$   
D)  $\frac{5}{6}$
- 0.3** can be written as the fraction:  
A)  $\frac{1}{3}$   
B)  $\frac{3}{10}$   
C)  $\frac{3}{100}$   
D)  $\frac{10}{3}$

11. In **2.56**, the digit 6 is in the place of:
  - A) Tens
  - B) Tenths
  - C) Hundredths
  - D) Hundreds
12. **1.5 + 2.5 = ?**
  - A) 3.0
  - B) 4.0
  - C) 3.5
  - D) 4.5
13. **1 Kilogram** is equal to:
  - A) 100g
  - B) 500g
  - C) 1000g
  - D) 10g
14. **150 minutes** converted to hours is:
  - A) 1 hour 30 mins
  - B) 2 hours
  - C) 2 hours 30 mins
  - D) 3 hours
15. Which unit is suitable to measure the length of a pencil?
  - A) m
  - B) km
  - C) cm
  - D) kg
16. An angle greater than  $90^\circ$  but less than  $180^\circ$  is called:
  - A) Acute
  - B) Right
  - C) Obtuse
  - D) Reflex
17. A quadrilateral with 4 equal sides and 4 right angles is a:
  - A) Rectangle
  - B) Square
  - C) Kite
  - D) Parallelogram
18. A circle has how many centers?
  - A) 1
  - B) 2
  - C) 3
  - D) Infinite
19. A graph that uses horizontal or vertical bars to represent data is a:
  - A) Line Graph
  - B) Bar Graph
  - C) Pie Chart
  - D) Pictograph
20. If one block represents 10 cars, how many cars do 3 blocks represent?
  - A) 13
  - B) 30
  - C) 3
  - D) 10

**SECTION B: CRQs (Attempt 8 questions, each question carries 5marks) (40 Marks)**

1. Subtract **456,789** from **900,000**. Verify your answer by addition.
2. A factory produces **2,450** packets of biscuits in a day. How many packets will it produce in **15 days**?
3. Find the **HCF** of **24 and 36** using the Prime Factorization method.
4. Arrange the fractions  $\frac{2}{3}, \frac{1}{6}, \frac{5}{12}$  in **ascending order** by making denominators same.
5. Sara bought  $\frac{3}{4}$ kg of sugar and  $\frac{1}{2}$ kg of flour. What is the **total weight** of items she bought?
6. Convert the following fractions to decimals:
  - a)  $\frac{4}{10}$
  - b)  $\frac{25}{100}$
7. If the whole is divided into 100 equal parts, and 31 of them are shaded. Write in decimal fraction.



8. Add the following measures of length: **12km 450m** and **5km 800m**.

9. A bus journey takes **4 hours 20 minutes**. Convert this time into **minutes**.
10. Identify the type of angles shown below:
 

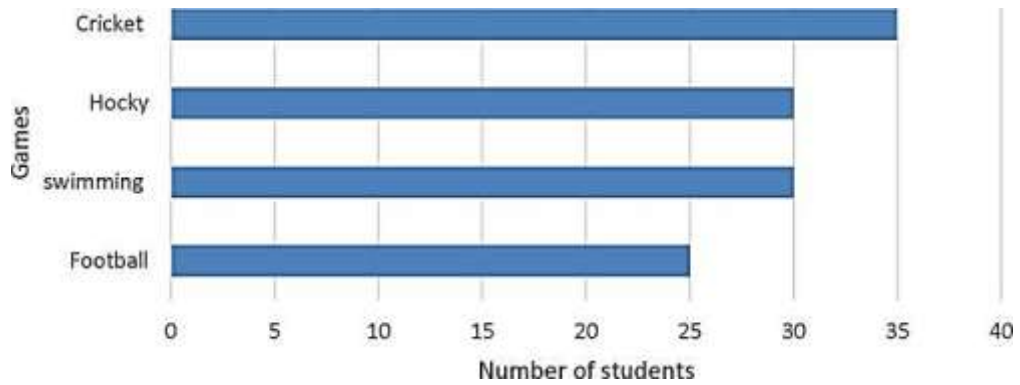
a) $45^\circ$	d) $180^\circ$
b) $90^\circ$	e) $360^\circ$
c) $120^\circ$	
11. Draw a square with each side measuring **5 cm** using a ruler and set square.

**SECTION C: EXTENDED RESPONSE QUESTIONS (ERQs)**

**Instructions:** Attempt any **2** questions out of **3**. Each question carries **10 Marks**. (Total: 20 Marks)

1. Look at the given below bar graph and answer the following questions:
  - i. How many students like Hockey?
  - ii. How many students like Football?
  - iii. Which game is liked least?
  - iv. How many students like cricket?
2. v. How many total students involved in games?

Favourite Games of Students Class -IV



2. A water tank contains **50 Liters** of water. If **15 Liters 500 ml** is used, how much water is left? Also convert **5 kg 250 g** into grams.
3. a) Draw a circle of radius **4 cm**. Label its center, radius, and diameter. (5)  
 b) Construct an angle of  $75^\circ$  using a protractor and bisect it. (5)

**GRADE V**

**Directorate of Curriculum, Assessment & Research Sindh, Jamshoro**

**Model Paper 2025-26**

**Time: 3 hours**

**Subject: Mathematics**

**Total Marks: 100**

Name of Student: \_\_\_\_\_ S/D/O \_\_\_\_\_ Gender: (Boys/Girls) \_\_\_\_\_

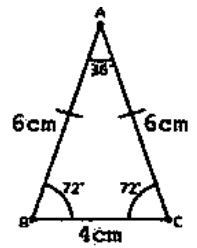
Medium: \_\_\_\_\_ School Name: \_\_\_\_\_

Taluka: \_\_\_\_\_ City/Village: \_\_\_\_\_ Signature of Invigilator: \_\_\_\_\_

**SECTION A: MCQs (40 Marks)**

1. The number **5,000,000,000** is read as:  
A) Five Million  
B) Five Billion  
C) Fifty Million  
D) Five Hundred Million
2.  $10 + 5 \times 2 = ?$  (Using BODMAS):  
A) 30  
B) 20  
C) 25  
D) 15
3. **HCF** of two prime numbers is always:  
A) 0  
B) 1  
C) Product of numbers  
D) Sum of numbers
4. The **LCM** of 4, 6, and 8 is:  
A) 12  
B) 16  
C) 24  
D) 32
5.  $\frac{3}{4} \div \frac{1}{2} = ?$   
A)  $\frac{3}{8}$   
B)  $\frac{3}{2}$   
C)  $\frac{1}{2}$   
D)  $\frac{4}{3}$
6. Which fraction is equivalent to  $\frac{2}{5}$ ?  
A)  $\frac{4}{10}$   
B)  $\frac{3}{5}$   
C)  $\frac{2}{10}$   
D)  $\frac{5}{2}$
7. **0.75** written as a percentage is:  
A) 7.5%  
B) 0.75%  
C) 75%  
D) 750%
8.  $5.5 + 4.5 = ?$   
A) 9.0  
B) 10.0  
C) 10.5  
D) 9.5
9. Water boils at which temperature?  
A)  $100^{\circ}C$   
B)  $0^{\circ}C$   
C)  $90^{\circ}C$   
D)  $120^{\circ}C$
10. **3 hours** is equal to how many minutes?  
A) 100  
B) 120  
C) 180  
D) 300
11. If  $a : b = 2 : 3$  and  $b : c = 3 : 4$ , then  $a : b : c$  is:  
A) 2:3:4  
B) 2:6:4  
C) 3:4:2  
D) 4:3:2
12. If the cost of 1 kg sugar is Rs. 100, what is the cost of 5 kg?  
A) Rs. 400  
B) Rs. 500  
C) Rs. 600  
D) Rs. 105
13. In Unitary method, to find the value of many objects, we:  
A) Divide  
B) Multiply

- C) Add  
D) Subtract
14. The sum of angles in a triangle is:  
A)  $90^\circ$   
B)  $180^\circ$   
C)  $360^\circ$   
D)  $270^\circ$
15. A triangle having two equal sides is called:  
A) Equilateral  
B) Scalene  
C) Isosceles  
D) Right Angled
16. To draw an angle of  $50^\circ$ , we use a:  
A) Ruler  
B) Compass  
C) Protractor  
D) Divider
17. Area of a square with side **10m** is:  
A) 40m  
B) 100m  
C)  $100\text{ m}^2$   
D)  $20\text{ m}^2$
18. The perimeter of a rectangle with Length=4cm and Breadth=2cm is:  
A) 8cm  
B) 12cm  
C) 6cm  
D) 16cm
19. The average of 10, 20, and 30 is:  
A) 10  
B) 20  
C) 30  
D) 60
20. In a block graph, the horizontal line usually represents:  
A) Quantity/Frequency  
B) Items/Names  
C) Title  
D) Key



**SECTION B: CRQs (Attempt 8 questions, each question carries 5marks) (40 Marks)**

- Simplify:  $45 - 2 \times (10 + 5) \div 3$ .
- Find the **LCM** of 15, 25, and 30 using the division method.
- Multiply the fractions:  $2\frac{1}{5} \times 3\frac{1}{3}$ .
- A shirt has 30% discount. If the original price is Rs. 1000, calculate the **discount amount**.
- Convert  $50^\circ\text{C}$  to Fahrenheit. Formula:  $F = \frac{9}{5}C + 32$ .
- If **8 books cost Rs. 640**, what is the cost of **12 books**? (Unitary Method).
- Find the ratio of **45 minutes** to **1 hour**.
- Draw a triangle having sides **4cm, 5cm, and 6cm** using a compass.
- Classify the following triangles based on angles:
  - All angles  $< 90^\circ$
  - One angle =  $90^\circ$
  - One angle  $> 90^\circ$
- Find the **Area** and **Perimeter** of a rectangle with  $L = 12\text{cm}$  and  $B = 6\text{cm}$ .
- The six hours journey of a person on a car is given below;

Hours	1	2	3	4	5	6
Distance in KM	20	18	20	22	16	18

What is average distance covered per hour?

**SECTION C: EXTENDED RESPONSE QUESTIONS (ERQs)**

**Instructions:** Attempt any **2** questions out of **3**. Each question carries **10 Marks**. (Total: 20 Marks)

- Draw block graph or column graph of the following:

Result of examination of class V.

Grade	A1	A	B	C	D
No. of Children	20	25	15	20	5

2. Construct a triangle  $\Delta XYZ$  where  $m\overline{XY} = 6\text{cm}$ ,  $m\angle X = 45^\circ$ , and  $m\angle Y = 60^\circ$ . Measure the third angle  $\angle Z$ .
3. A square garden has a side of **50m**.
  - a) Find the cost of fencing it at **Rs. 20 per meter**. (5 Marks)
  - b) Find the cost of planting grass (Area) at **Rs. 10 per sq. meter**. (5 Marks)



15. Value of  $x$  in  $2x = 10$ :  
 A) 2  
 B) 5  
 C) 8  
 D) 20
16. An angle of  $90^\circ$  can be constructed using:  
 A) Only Ruler  
 B) Ruler and Compasses  
 C) Only Divider  
 D) Scale
17. Perimeter of a square is **20 cm**. Its side length is:  
 A) 4 cm  
 B) 5 cm  
 C) 10 cm  
 D) 15 cm
18. Total surface area of a cube is given by:  
 A)  $6l^2$   
 B)  $l^3$   
 C)  $4l$   
 D)  $2(l + b)$
19. A 3D shape with a circular base and a vertex is a:  
 A) Cube  
 B) Sphere  
 C) Cone  
 D) Cylinder
20. In a bar graph, the **height** of the bar represents:  
 A) Class interval  
 B) Frequency  
 C) Tally marks  
 D) Title



**SECTION B: CRQs (Attempt 8 questions, each question carries 5marks) (40 Marks)**

- If  $A = \{2,4,6\}$  and  $B = \{4,6,8,10\}$ , find  $A \cup B$  and  $A \cap B$ .
- Find the **HCF** of 48, 72, and 96 using Prime Factorization.
- Find the greatest number that divides 20, 25, and 30 exactly.
- Simplify using number line:  $-4 + (+6)$ .
- Simplify:  $3.5 + 4.2 \div 0.6 \times 5$ .
- Divide **Rs. 500** between Ali and Sara in the ratio **2:3**.
- Simplify:  $(3a + 2b) - (a - b)$ .
- Solve the equation:  $5x - 6 = 2x + 9$ .
- Bisect an angle of  $120^\circ$  using compasses.
- Find the area of the shaded region if a square of side 2cm is removed from a rectangle of  $10\text{cm} \times 5\text{cm}$ .
- Calculate the **Surface Area** of a cube with edge length **4 cm**.

**SECTION C: EXTENDED RESPONSE QUESTIONS (ERQs)**

**Instructions:** Attempt any **2** questions out of **3**. Each question carries **10 Marks**. (Total: 20 Marks)

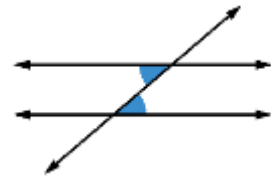
- Three bells toll at intervals of 10, 20, and 30 minutes. If they toll together at 9:00 AM:
  - After how many minutes will they toll together again? (5 Marks)
  - What will be the time then? (5 Marks)
- Construct a triangle with sides 4cm, 5cm, and 6cm. (5 Marks)
  - Draw a perpendicular from a point P on a line AB using compasses. (5 Marks)
- A water tank is in the shape of a cuboid with dimensions  $L = 4\text{m}$ ,  $W = 3\text{m}$ ,  $H = 2\text{m}$ .
  - Find the capacity (Volume) of the tank in  $\text{m}^3$ . (5 Marks)
  - If  $1 \text{ m}^3 = 1000$  Liters, how many liters of water can it hold? (5 Marks)



- A) 1  
B) 2
15. Solution of  $x - 5 = -2$ :  
A) 3  
B) -3
16. If two lines are parallel, the alternate interior angles cut by another line are:  
A) Equal  
B) Supplementary  
C) Complementary  
D) Unequal

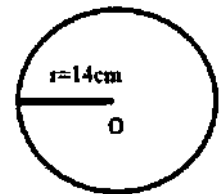
- C) 3  
D) 5

- C) 7  
D) -7



17. A parallelogram with all sides equal is called a:  
A) Rectangle  
B) Rhombus  
C) Kite  
D) Trapezium
18. The sum of angles in a quadrilateral is:  
A)  $180^\circ$   
B)  $360^\circ$   
C)  $270^\circ$   
D)  $90^\circ$

19. The Area of given circle is:  
(a) 176 cm (b)  $176\text{cm}^2$  (c) 616cm (d)  $616\text{cm}^2$



20. The most frequent value in a data set is called:  
A) Mean  
B) Median  
C) Mode  
D) Range

**SECTION B: CRQs (Attempt 8 questions, each question carries 5marks)**

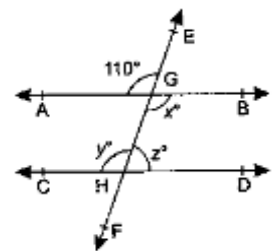
**(40 Marks)**

- If  $U = \{1..10\}$  and  $A = \{2,4,6,8\}$ , find  $A'$ . Verify that  $A \cup A' = U$ .
- Simplify:  $\left(\frac{2}{3} + \frac{1}{4}\right) \times \frac{3}{11}$ .
- Convert  $\frac{5}{13}$  to decimal and round off to 3 decimal places.
- Evaluate using laws of exponents:  $\frac{2^5 \times 3^4}{2^3 \times 3^2}$ .
- If  $y$  varies inversely as  $x$ , and  $y = 10$  when  $x = 4$ . Find  $y$  when  $x = 5$ .
- Calculate **Zakat** on savings of Rs. 500,000.
- Divide polynomial  $x^2 + 5x + 6$  by  $x + 2$ .
- Solve:  $\frac{x}{3} - 2 = 4$ .
- If two intersecting lines form vertically opposite angles  $(2x + 5)^\circ$  and  $75^\circ$ , find the value of  $x$ .
- Construct an equilateral triangle with side **5.5 cm**.
- Find the **area of a circle** whose radius is **7 cm**. (Take  $\pi = \frac{22}{7}$ ).

**SECTION C: EXTENDED RESPONSE QUESTIONS (ERQs)**

**Instructions:** Attempt any **2** questions out of **3**. Each question carries **10 Marks**. (Total: 20 Marks)

- In the figure below,  $AB \parallel CD$  and a transversal line intersects them. If one interior angle is  $110^\circ$ , calculate:
  - The corresponding angle. (3)
  - The alternate interior angle. (3)
  - The consecutive interior angle. (4)
- Construct a parallelogram  $ABCD$  where:  $m\overline{AB} = 6\text{cm}$   $m\overline{BC} = 4\text{cm}$   $m\angle B = 60^\circ$  Write the steps of construction.
- A cylindrical water drum has a radius of **14 cm** and height of **20 cm**.
  - Calculate the **Curved Surface Area**. (5)
  - Calculate the **Volume** of the drum. (5)





Q.No.12: The measure of each angle of a regular Hexagon is:  
A)  $104^{\circ}$                       B)  $108^{\circ}$                       C)  $120^{\circ}$                       D)  $540^{\circ}$

Q.No.13: The measure of perpendicular of right-angled triangle is 4cm and its base is 3cm what will be the measurement of the hypotenuse:  
A) 3                                  B) 4                                  C) 5                                  D) 6

Q.No.14: The Area of Triangle ABC whose lengths of its sides are 10cm, 12cm and 18cm the semi perimeter "S" will be:  
A) 31cm                              B) 32cm                              C) 33cm                              D) 34cm

Q.No.15: The formula of volume of the sphere is:  
A)  $V = \frac{2}{3} \pi R^3$     B)  $V = \frac{1}{3} \pi R^2$   
C)  $V = \frac{4}{3} \pi R^3$     D)  $V = \frac{4}{3} \pi R^2$

Q.No.16: Line segment, Ray, Angle, Triangle, Perpendicular, Bisector etc, are called:  
A) Defined term                      B) Undefined term                      C) Assumptions                      D) Preposition

Q.No.17: Fundamental Agreements which are related to geometrical figures are called:  
A) Axioms                                  B) Postulate                                  C) Assumption                                  D) Preposition

Q.No.18: Two angles whose sum is equal to  $90^{\circ}$  are called:  
A) Vertically opposite angles    B) Complementary angles  
C) Adjacent angles    D) Supplementary angles

Q.No.19: What will be value of  $\cos 30^{\circ}$ ?  
A)  $\frac{1}{2}$                                   B)  $\frac{1}{\sqrt{2}}$                                   C)  $\frac{\sqrt{3}}{2}$                                   D)  $\frac{1}{\sqrt{3}}$

Q.No.20: What will be the mean (Average) of the numbers 6, 8,10,12,14?  
A) 6    B) 8    C) 10    D) 12

**SECTION B: CRQs (Attempt 8 questions, each question carries 5marks) (40 Marks)**

Q.No.01. If  $A = \{a, b, c\}$  and  $B = \{1, 3, 5\}$  verify commutative property with respect to union;

(i)  $A \cup B = B \cup A$

Q.No.02. Convert base-two number into the decimal number:  $1100111_2$

Q.No.03. The annual income of Junaid is 480,000, if he pays 2% tax find its value?

Q. No.04. Simplify the given polynomial:  $x^2(x^2+xy+y^2)-y^2(x^2-xy-y^2)$

Q.No.05. Ayesha bought potatoes in 300 rupees, if the price of tomatoes double than that of potatoes, find the price of tomatoes?

Q.No.06. Factorize the given expression:  $16a^2+40ab+25b^2$

Q.No.07: The perimeter of PQRS is 18cm, if the length of one side double than its second side, find the length of each side?

Q.No.08. Find the volume of sphere its radius is 35 cm.

Q.No.09. What is the value of hypotenuse, if its perpendicular 9 cm and base is 4cm.

Q.No.10. Find mode of the given data: 14, 21, 27, 14, 28, 29

**SECTION C: EXTENDED RESPONSE QUESTIONS (ERQs)**

*Note: Attempt any 2 questions, Each question carries 10 Marks. (Total: 20 Marks)*

Q.No.11. Prove the De Morgans's laws through venn diagram?

Q.No.12. Divide  $5x^2 - 16xy + 3y^2$  by  $x-3y$ .

Q.No.13. Construct and define a kite DEFG where  $m\overline{DE}=4\text{cm}$ ,  $m\overline{EF}=8\text{cm}$  and the length of the longer diagonal is  $m\overline{DE} = 10\text{cm}$ .

Q.No.14. The probability that the team will win the match is 0.86. What is the probability that the team will not win the match.

***The End***

### 3. KEY AND MARKING SCHEME

#### GRADE IV - KEY AND MARKING SCHEME

**Section A (MCQs):** 1: C, 2: B, 3: B, 4: C, 5: B, 6: D, 7: B, 8: C, 9: A, 10: B,  
11: C, 12: B, 13: C, 14: C, 15: C, 16: C, 17: B, 18: A, 19: B, 20: B.

#### **Section B (CRQs Rubric):**

**Q.1 (Subtraction):** Setup (1 mark), Subtraction process (2 marks), Verification (2 marks).

**Q.2 (Multiplication):** Statement (1 mark), Calculation (3 marks), Answer (1 mark).

**Q.3 (HCF):** Factors (2 marks), Common Factors (2 marks), Answer (1 mark).

**Q.4 (Ordering):** LCM (1 mark), Conversion (2 marks), Order (2 marks).

**Q.5 (Addition):** LCM (1 mark), Conversion (2 marks), Answer (2 marks).

**Q.6 (Decimals):** 0.4 (2.5 marks), 0.25 (2.5 marks).

**Q.7 (Decimal Fraction):** Setup (1 mark), Process (2 marks), Answer (2 mark).

**Q.8 (Addition):** Columns (1 mark), Addition (2 marks), Answer (2 marks).

**Q.9 (Time):** Conversion (4 marks), Answer (1 mark).

**Q.10 (Angles):** 1 mark for each correct identification.

**Q.11 (Construction):** Base (1 mark), Angles (2 marks), Completion (2 marks).

#### **Section C (ERQs Rubric):**

**Q.1 (Word Problem):** a) Correctly Reads all values 2 marks for each correct answer.

**Q.2 (Measurement):** a) Subtraction (5 marks), b) Conversion (5 marks).

**Q.3 (Geometry):** a) Circle/Labels (5 marks), b) Angle/Bisection (5 marks).

## **GRADE V - KEY AND MARKING SCHEME**

**Section A (MCQs):** 1: B, 2: B, 3: B, 4: C, 5: B, 6: A, 7: C, 8: B, 9: A, 10: C,  
11: A, 12: B, 13: B, 14: B, 15: C, 16: C, 17: C, 18: B, 19: B, 20: B.

### **Section B (CRQs Rubric):**

**Q.1 (BODMAS):** Bracket (1 mark), Div/Mult (2 marks), Sub (1 mark), Ans (1 mark).

**Q.2 (LCM):** Division Grid (2 marks), Factors (2 marks), Ans (1 mark).

**Q.3 (Fractions):** Improper (2 marks), Mult (2 marks), Ans (1 mark).

**Q.4 (Percent):** Calculation (3 marks), Answer (2 marks).

**Q.5 (Temp):** Formula (1 mark), Calculation (3 marks), Ans (1 mark).

**Q.6 (Unitary):** 1 Unit cost (2 marks), 12 Units cost (2 marks), Ans (1 mark).

**Q.7 (Ratio):** Conversion (1 mark), Ratio (2 marks), Simplification (2 marks).

**Q.8 (Triangle):** Base (1 mark), Arcs (2 marks), Completion (2 marks).

**Q.9 (Classify):** 1.5 marks for each correct type + 0.5 formatting.

**Q.10 (Area/Perim):** Area (2.5 marks), Perimeter (2.5 marks).

**Q.11 (Average):** Sum of Distance (2 marks), Count Hours (1 mark), Division (1 mark), Ans (1 mark).

### **Section C (ERQs Rubric):**

**Q.1 (Graph):** Correctly interprets the given grades and number of children (1 mark), Draws a correct block graph or column graph (1 mark), Chooses an appropriate scale and labels both axes correctly (1 mark), Draws bars/blocks with correct heights according to data (1 mark), Neatness and Title (1 mark)

**Q.2 (Construction):** Base (2 marks), Angles (3+3 marks), Measurement (2 marks).

**Q.3 (Garden):** a) Perimeter cost (5 marks), b) Area cost (5 marks).

## **GRADE VI - KEY AND MARKING SCHEME**

**Section A (MCQs):** 1: B, 2: B, 3: A, 4: A, 5: B, 6: C, 7: C, 8: B, 9: B, 10: B, 11: C, 12: B, 13: D, 14: B, 15: B, 16: B, 17: B, 18: A, 19: C, 20: B.

### **Section B (CRQs Rubric):**

**Q.1 (Sets):** Union (2.5 marks), Intersection (2.5 marks).

**Q.2 (HCF):** Factors (2 marks), Logic (2 marks), Ans (1 mark).

**Q.3 (Word Prob):** ID as HCF (1 mark), Calc (3 marks), Ans (1 mark).

**Q.4 (Integers):** Number line (2 marks), Jumps (2 marks), Ans (1 mark).

**Q.5 (Simplify):** Division (2 marks), Mult (1 mark), Add (1 mark), Ans (1 mark).

**Q.6 (Ratio):** Sum of ratios (1 mark), Shares calc (2+2 marks).

**Q.7 (Algebra):** Sign change (1 mark), Like terms (2+2 marks).

**Q.8 (Eq):** Rearrange (2 marks), Simplify (1 mark), Ans (2 marks).

**Q.9 (Bisect):** Angle (1 mark), Arcs (1 mark), Intersect (2 marks), Line (1 mark).

**Q.10 (Shaded):** Rect Area (2 marks), Sq Area (1 mark), Subtraction (2 marks).

**Q.11 (SA):** Formula (1 mark), Calc (2 marks), Ans (2 marks).

### **Section C (ERQs Rubric):**

**Q.1 (LCM):** a) LCM calc (4 marks), b) Time add (1 mark); Total 5+5.

**Q.2 (Geometry):** a) Triangle const (5 marks), b) Perpendicular const (5 marks).

**Q.3 (Volume):** a) Vol calc (5 marks), b) Liters calc (5 marks).

## **GRADE VII - KEY AND MARKING SCHEME**

**Section A (MCQs):** 1: A, 2: C, 3: B, 4: A, 5: B, 6: B, 7: C, 8: B, 9: B, 10: C, 11: B, 12: B, 13: C, 14: C, 15: A, 16: A, 17: B, 18: B, 19: D, 20: C.

### **Section B (CRQs Rubric):**

**Q.1 (Sets):** Complement (2 marks), Union (2 marks), Verify (1 mark).

**Q.2 (Fractions):** Bracket (2 marks), Mult (2 marks), Ans (1 mark).

**Q.3 (Decimal):** Division (3 marks), Rounding (2 marks).

**Q.4 (Exponents):** Subtract powers (2 marks), Simplify (2 marks), Ans (1 mark).

**Q.5 (Variation):** Find k (2 marks), Eq (1 mark), Calc (2 marks).

**Q.6 (Zakat):** Rate (1 mark), Calc (2 marks), Ans (2 marks).

**Q.7 (Poly Div):** Setup (1 mark), Steps (3 marks), Ans (1 mark).

**Q.8 (Eq):** Rearrange (2 marks), Solve (3 marks).

**Q.9 (Vert Angles):** Setup eq (1 mark), Solve (2 marks), Ans (2 marks).

**Q.10 (Triangle):** Base (1 mark), Arcs (3 marks), Complete (1 mark).

**Q.11 (Circle Area):** Formula (1 mark), Subst (2 marks), Ans (2 marks).

### **Section C (ERQs Rubric):**

**Q.1 (Angles):** a) Corr (3 marks), b) Alt Int (3 marks), c) Consec Int (4 marks).

**Q.2 (Parallelogram):** Base (1 mark), Angle (3 marks), Sides/Arcs (4 marks), Steps (2 marks).

**Q.3 (Cylinder):** a) CSA (5 marks), b) Volume (5 marks).

**GRADE VIII - KEY AND MARKING SCHEME**

**Key for MCQs :** 1:B , 2:B , 3:B , 4:A , 5:A , 6:D , 7:C , 8:B , 9:A , 10:B ,  
11:A , 12:C , 13:C , 14:A , 15:C , 16:A , 17:A , 18:B , 19:C , 20:C .

**Marking Scheme for CROs**

<b>Item.</b>	<b>Marks Criteria</b>	<b>Marks distribution</b>	<b>Total</b>
Q.No.01. If $A = \{a, b, c\}$ and $B = \{1, 3, 5\}$ verify commutative property with respect to union; (i) $A \cup B = B \cup A$	• Finding $A \cup B$	02	05
	• Finding $B \cup A$	02	
	• Concluding $LHS = RHS$	01	
Q.No.02. Convert base-two numbers into the decimal numbers. (i) 11001112	• Correct expansion	02	05
	• Correct power calculation	02	
	• Final decimal result	01	
Q.No.03. The annual income of Junaid is 480,000, if he pays 2% tax find the value of it?	• Identifying Formula	02	05
	• Substitution and calculation	02	
	• Final tax amount	01	
Q. No.04. Simplify the given polynomial: (i) $x^2(x^2+xy+y^2)-y^2(x^2-xy-y^2)$	• First expansion	02	05
	• Second expansion	02	
	• Grouping and final simplified form	01	
Q.No.05. Ayesha bought potatoes in 300 rupees, if the price of tomatoes double than that of potatoes, find the price of tomatoes?	• Identifying price of potatoes (300)	02	05
	• Formulating logic	02	
	• Final answer (600)	01	
Q.No.06. Factorize the given expressions. (i) $16a^2+40ab+25b^2$	• Identifying perfect square format	02	05
		02	

	<ul style="list-style-type: none"> <li>• Confirming middle term</li> <li>• Final factorized form</li> </ul>	01	
Q.No.07: The perimeter of PQRS is 18cm, if the length of one side double than its second side, find the length of each side?	<ul style="list-style-type: none"> <li>• Setting equation</li> <li>• Solving</li> <li>• Calculating each side</li> </ul>	02 02 01	05
Q.No.08. Find the volume of sphere its radius is 35 cm.	<ul style="list-style-type: none"> <li>• Writing Formula</li> <li>• Correct substitution and calculation</li> <li>• Final volume with units</li> </ul>	01 03 01	05
Q.No.09. What is the value of hypotenuse if its perpendicular 9 cm and base is 4cm.	<ul style="list-style-type: none"> <li>• Writing <math>c^2 = a^2 + b^2</math> and substitution.</li> <li>• Squaring the numbers and finding their sum</li> <li>• Finding Square root of 97 and including the unit in (<b>cm</b>)</li> </ul>	02 02 01	05
Q.No.10. Find mode of the given data: (i) 14, 21, 27, 14, 28, 29	<ul style="list-style-type: none"> <li>• Observation/frequency count</li> <li>• Identification of most frequent value</li> <li>• Correct statement for mode</li> </ul>	02 02 01	05

### **Marking Scheme for EROs**

<b>Item.</b>	<b>Marks Criteria</b>	<b>Marks distribution</b>	<b>Total</b>
Q.No.11. Prove the De Morgans's laws through venn diagram?	<ul style="list-style-type: none"> <li>• statement of the Law with Venn Diagram for LH</li> </ul>	03	10
	<ul style="list-style-type: none"> <li>• statement of the Law with Venn Diagram for RHS</li> </ul>	03	

	<ul style="list-style-type: none"> <li>• Comparison and formal concluding statement.</li> </ul>	04	
Q.No.12. Divide $5x^2 - 16xy + 3y^2$ by $x-3y$ .	<ul style="list-style-type: none"> <li>• Setting up the division expression correctly</li> <li>• Solution of first term of quotient and first subtraction</li> <li>• Solution of second term of quotient and subtraction</li> <li>• Solution of final quotient and zero remainder</li> </ul>	02 03 03 02	10
Q.No.13. Construct and define a kite DEFG where $\overline{DE}=4\text{cm}$ , $\overline{EF}=8\text{cm}$ and the Length of the longer diagonal is $\overline{DE}=10\text{cm}$ .	<ul style="list-style-type: none"> <li>• Written definition and properties of a Kite</li> <li>• Accurate arc construction for sides (4cm and 8cm)</li> <li>• Proper placement/measurement of diagonal (10cm)</li> <li>• Neatness, labeling of vertices, and final shape accuracy</li> </ul>	02 03 03 02	10
Q.No.14. The probability that the team will win the match is 0.86. What is the probability that the team will not win the match.	<ul style="list-style-type: none"> <li>• Writing the formula for complementary events</li> <li>• Logical substitution</li> <li>• Final subtraction</li> <li>• Written interpretation of the result</li> </ul>	03 03 02 02	10

