

KENDRIYA VIDYALAYA SANGATHAN BHOPAL REGION
CLASS XII (MATHS) CBT QUESTION PAPER JULY 2026

SYLLABUS CBT TEST (JULY 2026)

Chapter 1: Relation and Function

Chapter 2: Inverse Trigonometric Function

Chapter 3: MATRICES

A general election of Lok Sabha is a gigantic exercise. About 911 million people were eligible to vote and voter turnout was about 67%, the highest ever

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Let I be the set of all citizens of India who were eligible to exercise their voting right in general election held in 2019. A relation ' R ' is defined on I as follows:

$$R = \{(V_1, V_2) : V_1, V_2 \in I \text{ and both use their voting right in general election – 2019}\}$$

1. Two neighbors X and $Y \in I$. X exercised his voting right while Y did not cast her vote in general election – 2019. Which of the following is true?

- a. $(X, Y) \in R$
- b. $(Y, X) \in R$
- c. $(X, X) \notin R$
- d. $(X, Y) \notin R$

2. Mr. ' X ' and his wife ' W ' both exercised their voting right in general election -2019, Which of the following is true?

- a. both (X, W) and $(W, X) \in R$
- b. $(X, W) \in R$ but $(W, X) \notin R$
- c. both (X, W) and $(W, X) \notin R$
- d. $(W, X) \in R$ but $(X, W) \notin R$

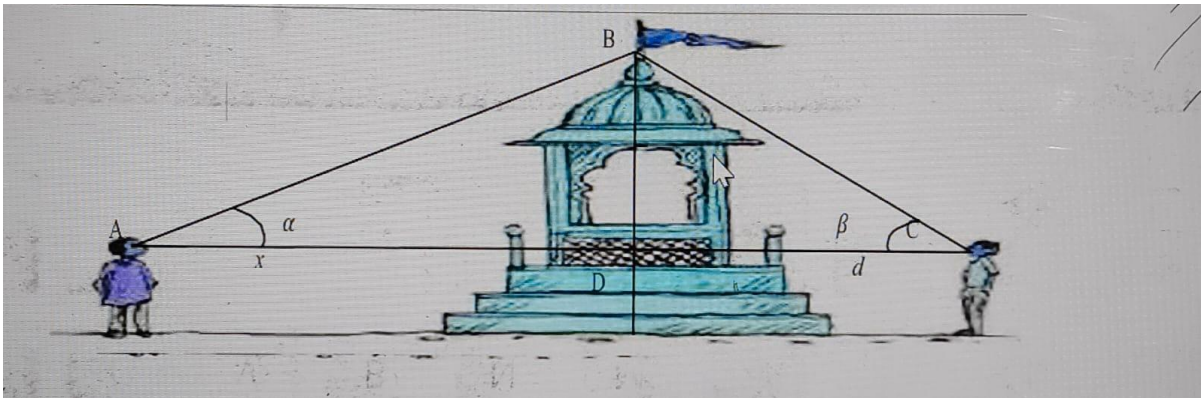
3. Three friends F_1 , F_2 and F_3 exercised their voting right in general election-2019, then which of the following is true?

- a. $(F_1, F_2) \in R$, $(F_2, F_3) \in R$ and $(F_1, F_3) \in R$
- b. $(F_1, F_2) \in R$, $(F_2, F_3) \in R$ and $(F_1, F_3) \notin R$
- c. $(F_1, F_2) \in R$, $(F_2, F_3) \in R$ but $(F_3, F_3) \notin R$
- d. $(F_1, F_2) \notin R$, $(F_2, F_3) \notin R$ and $(F_1, F_3) \notin R$

4. The above defined relation R is _____

- a. Symmetric and transitive but not reflexive
- b. Universal relation
- c. Equivalence relation
- d. Reflexive but not symmetric and transitive

Two men on either side of a temple of 30 meters high observe its top at the angles of elevation α and β respectively. (as shown in the figure above). The distance between the two men is $40\sqrt{3}$ meters and the distance between the first person A and the temple is $30\sqrt{3}$ meter.



Based on the above information answer the following:

5. $\angle CAB = \alpha =$

- a. $\sin^{-1}(2/\sqrt{3})$
- b. $\sin^{-1}(1/2)$
- c. $\sin^{-1}(2)$
- d. $\sin^{-1}(\sqrt{3}/2)$

6. $\angle CAB = \alpha =$

- a. $\cos^{-1}(1/5)$
- b. $\cos^{-1}(2/5)$
- c. $\cos^{-1}(\sqrt{3}/2)$
- d. $\cos^{-1}(4/5)$

7. Domain and Range of $\cos^{-1}x =$

- a. $(-1, 1), (0, \pi)$
- b. $[-1, 1], (0, \pi)$
- c. $[-1, 1], [0, \pi]$
- d. $(-1, 1), [-\pi/2]$

A manufacture produces three stationery products Pencil, Eraser and Sharpener which he sells in two markets. Annual sales are indicated below:

Market	Products (in numbers)		
	Pencil	Eraser	Sharpener
A	10,000	2000	18,000
B	6000	20,000	8,000

If the unit Sale price of Pencil, Eraser and Sharpener are Rs. 2.50, Rs. 1.50 and Rs. 1.00 respectively, and unit cost of the above three commodities are Rs. 2.00, Rs. 1.00 and Rs. 0.50 respectively, then,

Based on the above information answer the following:

8. Total revenue of market A

- a. Rs. 64,000
- b. Rs. 60,400
- c. Rs. 46,000
- d. Rs. 40600

9.Total revenue of market B

- a. Rs. 35,000
- b. Rs. 53,000
- c. Rs. 50,300
- d. Rs. 30,500

10.Gross profit in both market

- a. Rs.23,000
- b. Rs. 20,300
- c. Rs. 32,000
- d. Rs. 30,200

ANSWER KEY

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1	d. $(X,Y) \notin R$
2	a. both (X,W) and $(W,X) \in R$
3	a. $(F1,F2) \in R, (F2,F3) \in R$ and $(F1,F3) \in R$
4	c. Equivalence relation
5	b. $\sin^{-1}(1/2)$
6	c. $\cos^{-1}(\sqrt{3}/2)$
7	c. $[-1, 1], [0, \pi]$
8	c. Rs. 46,000
9	b. Rs. 53,000
10	c. Rs. 32,000

