

BLUE PRINT & MODEL PAPERS OF SSC PUBLIC EXAMINATIONS FOR THE ACADEMIC YEAR 2024-25
BY THE DIRECTOR OF GOVERNMENT EXAMINATIONS (SSC BOARD), A.P.

15E & 16E

Format of Design (Subject other than language)

Question Paper/Test

Subject: Mathematics

Unit/Paper: 15E/T, 16E/T

Class: X

Time: 3 hrs 15 min

Marks: 100

Weightage to Objective

Objective	Knowledge	Understand	Application	Analyse	Evaluation	Creation	Total
% of Marks	20	25	20	15	10	10	100
Marks	20	25	20	15	10	10	100

Weightage to Form of Question

Forms of Questions	E/LA	SA	VSA	O (MCQ) - 1 Mark Qns	Total
No. of Questions	5	8	8	12	33
Marks Allotted	8	4	2	1	100
Estimated Time	70 m	60 m	30 m	20 m	180m + 15m

Weightage to Objective

S. No.	Unit/Sub-Units	Marks
1	Real Numbers	1 + 8 = 9
2	Polynomials	1 + 1 + 2 + 4 = 8
3	Pair and Linear Equations in two variables	1 + 8 = 9 (8)
4	Quadratic Equations	1 + 2 + 4 = 7
5	Arithmetic Progressions	1 + 4 + 8 = 13
6	Triangles	1 + 2 + 8 = 11
7	Coordinate Geometry	2 + 8 = 10
8	Introduction to Trigonometry	1 + 2 + 4 = 7
9	Some Applications of Trigonometry	1 + 2 + 8 = 11
10	Circles	1 + 2 + 4 = 7
11	Areas Related to Circles	8
12	Surface Areas and Volumes	1 + 2 + 4 = 7
13	Statistics	4 + 8 = 12
14	Probability	1 + 4 + 8 = 13
Total		100 (32)

Weightage to Major Content Areas

Schemes of Sections	4
Pattern of Options	Internal choice in Section IV only

Estimated Difficulty Level	Difficult	20 % Marks
	Average	40 % Marks
	Easy	40 % Marks

Index of Abbreviations

(E/LA: Essay/Long Answer; SA: Short Answer; VSA: Very Short Answer; O: Objective)

FORMAT OF BLUEPRINT (Subject other than language)

Subject: MATHEMATICS

Class: X

Unit/Paper:

Max Marks: 100

Time: 3 H : 15 Min.

S. No.	Objective	Knowledge				Understanding				Application				Analysis				Evaluation				Creation				Total (Row-wise)	
	Form of Questions	E/LA	SA	VSA	O	E/LA	SA	VSA	O	E/LA	SA	VSA	O	E/LA	SA	VSA	O	E/LA	SA	VSA	O						
1	1								1									1					1 + 8 = 9				
2	2					1		1													1	1	1+1+2+4=8				
3	3									1+1											1	1	1 + 8 = 9 (8)				
4	4							1									1					1	1 + 2 + 4 = 7				
5	5			1														1					1 + 4 + 8 = 13				
6	6				1				1					1									1 + 2 + 8 = 11				
7	7			1														1					2 + 8 = 10				
8	8			1									1										1 + 2 + 4 = 7				
9	9				1	1																	1 + 2 + 8 = 11				
10	10				1									1							1	1	1 + 2 + 4 = 7				
11	11																						8				
12	12					1						1						1					1 + 2 + 4 = 7				
13	13									1													4 + 8 = 12				
14	14																			1			1 + 4 + 8 = 13				
	Total (Col-wise)		20 (Marks Total)				25 (Marks Total)				20 (Marks Total)				15 (Marks Total)				10 (Marks Total)				10 (Marks Total)				100 (Marks Total)

Notes: Figures within brackets to indicate the number of questions and figures outside the brackets to indicate marks.

Denotes that marks have been combined to form one question.

Summary: Essay (E)

Short Answer (SA)

Very Short Answer (VSA)

Objective (O)

Steps: a, b, c, d, e, f, g, h, i, j

No.

No.

No.

No.

5

8

8

12

Marks:

Marks:

Marks:

Marks:

5 × 8 = 40

8 × 4 = 32

8 × 2 = 16

12 × 1 = 12

Sections

Pattern of Options

1, 2, 3, 4

Scheme of Sections

Internal Choice

Only in Section-IV

SSC PUBLIC EXAMINATIONS 2025 - 26
MATHEMATICS (MODEL PAPER - 2)
(ENGLISH VERSION)

Time : 3 Hours 15 Minutes

Max. Marks : 100

Instructions :

1. In the duration of 3 hours 15 minutes, 15 minutes of time is allotted to read the question paper.
 2. All answers shall be written in the answer booklet **only**.
 3. Question paper consists of 4 Sections and 33 questions.
 4. Internal choice is available in section - IV **only**.
 5. Answers shall be written neatly and legibly.
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SECTION - I

12 × 1 = 12 M

Note : i) Answer all the questions in one word or phrase.

ii) Each question carries 1 mark.

1. If HCF (20,35) = 5 then LCM (20,35) = ____
A) 140 B) 175 C) 250 D) 350
2. A polynomial is an algebraic expression in which the exponent of any variable is a ____
A) integer B) Whole number C) rational number D) real number
3. Create a cubic polynomial, which is a binomial.
4. Generate a pair of linear equations which are dependent.
5. **Statement (I) :** 3, 6, 9, 12, is an A.P.

Statement (II) : 2, 2, 2, 2, is not an A.P.

Now, choose the correct answer.

- A) Both Statements are True.
 - B) Statement I is true. Statement II is False.
 - C) Statement I is false. Statement II is true.
 - D) Both Statements are false.
6. If $\triangle ABC \sim \triangle XYZ$ then which of the following may be true.
A) $\angle A = \angle Z$ B) $AB = XY$
C) $\frac{AC}{BC} \neq \frac{XZ}{YZ}$ D) $\angle B = \angle Z$
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7. In a right triangle ABC if $\tan A = 1$ then $\angle A =$
- A) 0° B) 30° C) 45° D) 60°
8. Which of the following situations involves an angle of depression.
- A) A bird looking up at the sky.
- B) A man looking at the top of a tower in front of him.
- C) A girl looking down at a car from the balcony.
- D) A person looking at the top of a tree in front of him.
9. Identify the correct relation.
- i) curved surface area of a cone p) $\pi r(l+r)$
- ii) Total surface area of a cone q) $\frac{1}{3}\pi r^2 h$
- iii) volume of a cone r) $\pi r l$
- A) i - r, ii - p, iii - q B) i - p, ii - q, iii - r
- C) i - p, ii - r, iii - q D) i - q, ii - p, iii - r
10. In tossing a fair coin once the probability of getting head is
- A) 1 B) $\frac{1}{2}$ C) 2 D) 0
11. Draw a rough sketch as a tangent of a circle passes through the end point of its radius.
12. Form a quadratic equation whose roots are reciprocal to each other ?

SECTION - II **$8 \times 2 = 16$ M**

Note : i) Answer all the questions.

ii) Each question carries 2 marks.

13. Create a quadratic polynomial whose sum and product of zeroes are equal.
14. Give the nature of roots of quadratic equation $2x^2 - 5x + 1 = 0$.
15. State basic proportionality theorem (Thales theorem)
16. If $\cot \theta = \frac{7}{8}$ evaluate $\frac{(1 + \sin \theta)(1 - \sin \theta)}{(1 + \cos \theta)(1 - \cos \theta)}$
17. Name any two real life situations where Trigonometry is used ?
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18. A tangent PQ at a point P of a circle of radius 5cm meets a line through the centre O at a point Q. So that OQ = 12cm. Find the length of PQ.



Find the surface area of adjacent solid.

20. Find the coordinates of midpoint of a line segment joining the points $(-2, -2)$ and $(2, -4)$

SECTION - III

$8 \times 4 = 32$ M

Note : i) Answer all the questions.

ii) Each question carries 4 marks.

21. Suppose we throw a dice once.

"What is the probability for getting a number greater than 4" Now create 4 such type of questions.

22. Write the formula to find median of a grouped data and explain the terms in it.

23. A hemispherical depression is cut out from one face of a cubical wooden block such that the diameter 'l' of the hemisphere is equal to the edge of the cube. Complete the surface area of the remaining solid.

24. State the conditions under which a quadratic equation will have

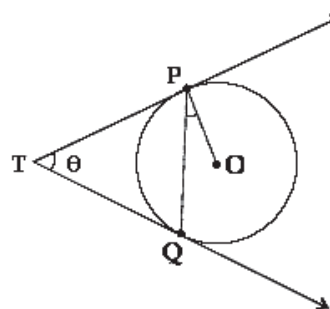
i) two real and distinct roots ii) two equal roots.

25. Find the values of i) $\sin 60^\circ \cos 30^\circ + \sin 30^\circ \cos 60^\circ$

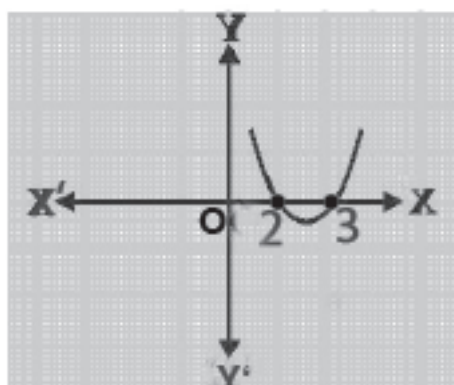
ii) $2\tan^2 45^\circ + \cos 30^\circ - \sin^2 60^\circ$

26. State the formulae for the n^{th} term and the sum of first 'n' terms of an arithmetic progression (A.P.) Then, using these formulae, find the 10^{th} term and sum of first 10 terms of the A.P. 2, 7, 12,

27. Two tangents TP and TQ are drawn to a circle with centre O from an external point T. prove that $\angle PTQ = 2\angle OPQ$.



28. Observing the graph Answer the following Questions.



- 1) Write the zeroes of the polynomial.
- 2) Find the sum of the zeroes of the polynomial.
- 3) Find the product of the zeroes of the polynomial.
- 4) What is the shape of the polynomial.

SECTION - IV

5 × 8 = 40 M

Note : i) Answer all the questions.

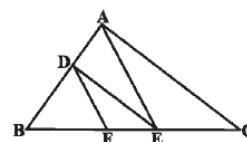
ii) Each question carries 8 marks.

iii) There is an internal choice for each question.

29. a) Is $\sqrt{5}$ irrational ? Justify your answer.

OR

b) In the figure, $DE \parallel AC$ and $DF \parallel AE$. Prove that $\frac{BF}{FE} = \frac{BE}{EC}$



30. a) Do the points (3,2), (-2,-3) and (2,3) form a triangle ? If so, name the type of triangle formed.

OR

b) A brooch is made with silver wire in the form of a circle with a diameter 35 mm. The wire is also used in making 5 diameters which divides the circle into 10 equal sectors. Find.

- i) the total length of silver wire required
- ii) the area of each sector of the brooch.

31. a) A piggy bank contains hundred 50p coins, fifty Rs. 1 coins, twenty Rs. 2 coins and ten Rs.5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin.

- i) will be a 50p coin ? ii) will not be a Rs.5 coin ?
iii) will be a Rs.2 coin ? iv) will not be a Rs. 1 coin ?

OR

- b) The angles of depression of the top and bottom of an 8m tall building from the top of a multi storied building are 30° and 45° respectively. Find the height of the multi storied building and the distance between the two buildings.
32. a) The table below shows the daily expenditure on food of 25 house holds in a locality.

Daily Expenditure (in Rs.)	100-150	150-200	200-250	250-300	300-350
Number of households	4	5	12	2	2

Select suitable method to find the mean daily expenditure on food.

OR

- b) If the sum of the first 'n' terms of an AP is $4n - n^2$ what is the first term ? What is the sum of first two terms ? What is the second term? Similarly, find the 3rd, 10th and nth terms.
33. a) Draw the graph of the following pair of linear equations and find the solution from the graph.
- i) $2x + 3y = 13$ ii) $4x + 5y = 23$

OR

- b) 10 students of a class X took part in a mathematics quiz. If the number of girls is 4 more than the number of boys, find the number of boys and girls who took part in the quiz.
- From the pair of linear equations for the above problem and find their solution graphically.
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