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FOR AP CLASS 10 PREPARATION

AP SSC Model Paper 2027 Mathematics - Model Paper 1 (English Medium)

EXAM	YEAR	TYPE	SUBJECT
AP Class 10	2027	Sample Paper	Maths

BLUE PRINT & MODEL PAPERS OF SSC PUBLIC EXAMINATIONS FOR THE ACADEMIC YEAR 2026-27
BY THE DIRECTOR OF GOVERNMENT EXAMINATIONS (SSC BOARD), A.P.

15E & 16E

BLUE PRINT AND MODEL PAPERS
SSC PUBLIC EXAMINATIONS 2026 -2027

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15 E & 16 E

FORMAT OF DESIGN (SUBJECT OTHER THAN LANGUAGE)

QUESTION PAPER / TEST

SUBJECT: MATHEMATICS
UNIT/PAPER: 15E/T,16 E/T
CLASS :X
TIME: 3 Hrs 15 Min
MAX MARKS :100

WEIGHTAGE TO OBJECTIVE

OBJECTIVE	AWARENESS (60%)	SENSITIVITY (20%)	CREATIVITY (20%)
% OF MARKS	60	20	20
MARKS	60	20	20

WEIGHTAGE TO FORM OF QUESTIONS

FORMS OF QUESTIONS	ESSAY/LONG ANS	SHORT ANSWER	VERY SHORT ANS	OBJECTIVE	TOTAL
NO OF QUESTIONS	5	8	8	12	33
MARKS ALLOTED	8	4	2	1	100
ESTIMATED TIME	70 MIN	60 MIN	30 MIN	20 MIN	180 MIN +15 MIN

CHAPTERWISE WEIGHTAGE

S NO	UNIT/SUB-UNIT	MARKS		
1	REAL NUIMBERS	1 +8	=	9
2	POLYNOMIALS	1+2+4	=	7
3	PAIR OF LINEAR EQUATION IN TWO VARIABLES	1+2+8	=	11
4	QUADRATIC EQUATIONS	1+2+4	=	7
5	ARITHEMETIC PROGRESSIONS	1+4+(8)	=	5 + (8)
6	TRIANGLES	1+2+(8)	=	3 + (8)
7	COORDINATE GEOMETRY	2+8	=	10
8	INTRODUCTION TO TRIGNOMETRY	1+2+4	=	7
9	APPLICATIONS OF TRIGNOMETRY	1+2+(8)	=	3 + (8)
10	CIRCLES	1+2+4	=	7
11	AREAS RELATED TO CIRCLES	1+(8)	=	1 + (8)
12	SURFACE AREAS AND VOLUMES	1+4+(8)	=	5 + (8)
13	STATISTICS	4+8	=	12
14	PROBABILITY	1+4+8	=	13
	TOTAL		=	100 +(40)

	1 MARK	2 MARKS	4 MARKS	8 MARKS	
AWARENESS	4	4	6	3	60
SENSITIVITY	4	2	1	1	20
CREATIVITY	4	2	1	1	20
TOTAL QUESTIONS	12	8	8	5	100

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SSC PUBLIC EXAMINATIONS 2026 -2027 :BLUEPRINT

SUBJECT:MATHEMATICS | **TIME : 3 HrS 15 Min** | **CLASS:X**

Max Marks:100 | **PAPER CODE:15E/16E**

S.NO	ABILITY / Form of Question / CHAPTER	AWARENESS(COGNITIVE DOMAIN) 60%				SENSITIVITY(EFFECTIVE DOMAIN) 20%				CREATIVITY (PSYCHOMOTOR DOMAIN) 20%				TOTAL MARKS
		E/LA (8m)	SA (4m)	VSA (2m)	O (1m)	E/LA (8m)	SA (4m)	VSA (2m)	O (1m)	E/LA (8m)	SA (4m)	VSA (2m)	O (1m)	
1	REAL NUMBERS				1 (1M)					1 (8M)				1+8 = 9
2	POLYNOMIALS		1 (4M)									1 (2M)	1 (1M)	1+2+4=7
3	PAIR OF LINEAR EQUATIONS	1 (8M)		1 (2M)									1 (1M)	1+2+8=11
4	QUADRATIC EQUATIONS		1 (4M)					1 (2M)					1 (1M)	1+2+4=7
5	ARITHEMETIC PROGRESSIONS		1 (4M)						1 (1M)	1 (8M)				1+4+(8)=5+(8)
6	TRIANGLES	1 (8M)		1 (2M)	1 (1M)									1+2+(8)=3+(8)
7	CO-ORDINATE GEOMETRY					1 (8M)		1 (2M)						2+8=10
8	INTRO TRIGNOMETRY		1 (4M)	1 (2M)					1 (1M)					1+2+4=7
9	APPLI OF TRIGNOMETRY	1 (8M)							1 (1M)			1 (2M)		1+2+(8)=3+(8)
10	CIRCLES			1 (2M)			1 (4M)						1 (1M)	1+2+4=7
11	AREAS RELATED TO CIRCLES				1 (1M)	1 (8M)								1+(8) = 1+(8)
12	SURFACE AREAS AND VOLUMES	1 (8M)	1 (4M)		1 (1M)									1+4+(8)=5+(8)
13	STATISTICS	1 (8M)	1 (4M)											4+8 = 12
14	PROBABILITY	1 (8M)							1 (1M)		1 (4M)			1+4+8=13

TOTAL MARKS	60 MARKS	20 MARKS	20 MARKS	TOTAL=100+(40)

ESSAY (E)	No	5	MARKS	5 X 8=40	PATTERN	1,2,3,4
SHORT ANSWER(SA)	No	8	MARKS	8X4=32	OPTIONS	
VERY SHORT ANSWERS (VSA)	No	8	MARKS	8X2=16	SCHEME OF	INTERNAL CHOICE
OBJECTIVE (O)	No	12	MARKS	12X1=12	SECTION	SEC IV ONLY

15E & 16E

AP SSC Model Paper 2027 Mathematics - Model Paper 1 (English Medium)

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15E & 16E

MATHEMATICS (15E & 16E) EXAMINATION BLUEPRINT-MODEL PAPER-1 (2026-27)

Question wise, Chapter Distribution and Domain wise (Questions 1 to 33)

Q.NO	Chapter/Topic	Domain
1	Real Numbers	Awareness
2	Polynomials	Creativity
3	Pair of linear Equations in two variables	Creativity
4	Quadratic Equation	Creativity
5	Arithmetic Progression	Sensitivity
6	Triangles	Awareness
7	Introduction of Trigonometry	Sensitivity
8	Applications of Trigonometry	Sensitivity
9	Circles	Creativity
10	Areas Related to circles	Awareness
11	Surface Areas and Volumes	Awareness
12	Probability	Sensitivity
13	Polynomials	Creativity
14	Quadratic Equation	Sensitivity
15	Triangles	Awareness
16	Co-ordinate geometry	Sensitivity
17	Trigonometry	Awareness
18	Circles	Awareness
19	Pair of linear Equations in two variables	Awareness
20	Applications of Trigonometry	Creativity
21	Polynomials	Awareness
22	Quadratic Equation	Awareness
23	Arithmetic Progression	Awareness
24	Introduction of Trigonometry	Awareness
25	Circles	Sensitivity
26	Surface Areas and Volumes	Awareness
27	Statistics	Awareness
28	Probability	Creativity
29(a)	Real Numbers	Creativity
29(b)	Arithmetic Progression	Creativity
30(a)	Statistics	Awareness
30(b)	Triangles	Awareness
31(a)	Co-ordinate geometry	Sensitivity
31(b)	Areas Related to Circles	Sensitivity
32(a)	Probability	Awareness
32(b)	Surface Areas and Volumes	Awareness
33(a)	Pair of linear Equations in two variables	Awareness
33(b)	Applications of Trigonometry	Awareness

ABILITIES AND THEIR OBJECTIVES AS PER PARAKH NORMS:

I) AWARENESS: KNOWLEDGE/UNDERSTANDING OF THE CONSTRUCT/UNDERSTANDING OF THE PROCESS
(Resembles old objectives Knowledge, Understanding and Application)
II) SENSITIVITY: CONFLICT RESOLUTION/OPEN MINDEDNESS/COLLABORATION (Resembles old objective Analysis)
III) CREATIVITY: GENERATE INNOVATIVE IDEAS/FLEXIBILITY/FLUENCY/EXPLORATION/COMBINING IDEAS & CONCEPTS (Resembles old objectives Evaluation and Creativity)

NOTE: Overall, the lesson-wise weightage and ability-wise weightage will be followed. But there is no rigid rule that a question with a particular number must come from a particular lesson

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SSC PUBLIC EXAMATINATIONS 2026 - 27

MATHEMATICS (MODEL PAPER - 1)

(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.*

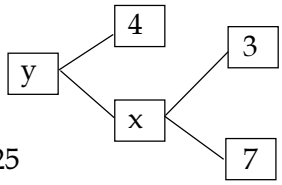
SECTION - I

12 × 1 = 12 M

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

ii) **Each** *question carries* **1** *mark.*

1. If a number Y is prime factorised then the values of x and y in the given figure ( )



A) 10, 14 B) 21, 25

C) 21, 84 D) 84, 21

2. Explore the pattern in the following polynomials and identify which one has zeroes 1 and 2. ( )

A) $x^2 - 3x + 2$ B) $x^2 + 3x + 2$ C) $x^2 - 2x + 3$ D) $x^2 + 2x - 3$

3. The pair of equations $x - y = 1$ and $x + ky = 5$ has a unique solution. If $x = 2$ and $y = 1$ then find the value of k ( )

A) 3 B) –3 C) $\frac{1}{3}$ D) $\frac{-1}{3}$

4. Find the value of k if the equation $x^2 + kx + 6 = 0$ has equal roots

5. Which of the following could represent A.P. ( )

A) 2, 4, 8, 6 B) 5, 5, 5, 5 C) 1, 4, 9, 16 D) 2, 3, 5, 8

6. In Triangles PQR and TSM, $\angle P = 55°$, $\angle Q = 25°$, $\angle M = 100°$ and $\angle S = 25°$. Which of the following statement is correct. ( )

A) $\Delta PQR \sim \Delta TSM$ B) $\Delta QPR \sim \Delta SMT$

C) $\Delta PRQ \sim \Delta TSM$ D) $\Delta QPR \sim \Delta TSM$

15E & 16E

7. Ravi is having a disgreement with his friend while comparing the values of sin 27° and sin 72°. How would you help them resolve the conflict ? ( )

   A) Ask them to stop discussing the problem to move to another question.

   B) Explain the sine is an increasing function for angles between 0° and 90°, so sin 72° > sin 27°.

   C) Tell Ravi to accept his friends answer without any explanation.

   D) Suggest that both answers are correct to avoid and argument.

8. A Group is finding the height of a tower using trignometric ratios arrange the following steps in the correct sequence ( )

   1) Calculate the height using the trigonometric ratio

   2) Draw and label the right triangle

   3) Identify the given measurements

   4) Choose the appropriate trigonometric ratios

   A) 3, 2, 4, 1 B) 2, 3, 1, 4 C) 4, 3, 2, 1 D) 3, 4, 2, 1

9. Draw a rough sketch to represent the following information.

   The chord of larger circle is a tangent to a smaller concentric circle.

10. A farmer wants to sow seeds in a circular field of radius 14 m. Find the area of field to be sown (in m^2). ( )

    A) 308 B) 616 C) 528 D) 704

11. The Total Surface Area of cylinder of radius r and height h is ( )

    A) $\pi r(r + h)$ B) $2\pi r(r + h)$ C) $2\pi r^2(r + h)$ D) $\pi r^2(r + h)$

12. When a die is thrown once to find the Probability of getting an even number P(E). Which of the following statements is true. ( )

    A) Getting Even and Odd numbers are equally likely therefore P(E) = 0.5

    B) $P(E) = \frac{n(E)}{n(S)} = \frac{3}{6}$

    C) Both A and B. D) Neither A nor B.

SECTION - II

8 × 2 = 16 M

Note : ***i) Answer* all *the questions.***

ii)* Each *question carries* 2 *marks.

13. Form a quadratic polynomial whose zeroes are a and b if a + b = 6 and ab = 4

14. Rahul believes that the qudartic equation $x^2 + 5x + 6 = 0$ has both positive roots. Do you agree with him justify your answer.

15E & 16E

15. State AA criteria for similarity of two triangles.

16. The co-ordinates of the vertices of a triangle are A(5, 1), B(1, 5) and C(–3, –1). Find the length of the median AD.

    To solve the problem the class was divided into 3 groups.

    Group 1: Draw triangle ABC and identified the median AD.

    Group 2: Found the co-ordinates of the midpoint D of BC.

    Group 3: Used the distance formula to find the length of AD.

    Using the ideas contributed by all 3 groups, find length of AD.

17. If $\sin(A + B) = 1$ and $\tan(A - B) = \frac{1}{\sqrt{3}}$ $0° < A + B \leq 90°$ and $A > B$ find the values of A and B.

18. A tangent PQ at a point P of a circle of radius 5 cm meets a line through the centre O at Q so that OQ = 13 cm. Find the length of PQ.

19. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ findout whether the following equations one consistent or inconsistent

    $5x - 3y = 11$

    $-10x + 6y = 22$

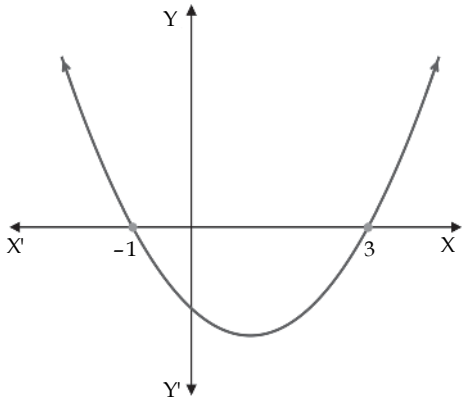
20. A person observes two banks of a river at angles of depression θ_1 and θ_2 $(\theta_1 < \theta_2)$ from the top of a tree of height h which is at a side of the river. The width of the river is 'd'. Draw a rough diagram for the given situation.

SECTION - III

Note : ***i) Answer* all *the questions.***

ii)* Each *question carries* 4 *marks.

21. Observe the graph of a polynomial and answer the questions given below.



    i) How many zeroes has the polynomial.

    ii) What are the zeroes of given polynomial ?

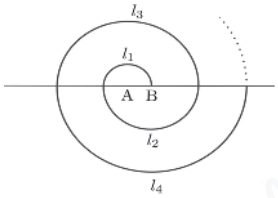
    iii) If the polynomial is expressed as $ax^2 + bx + c$ what is the value of $\frac{-b}{a}$

    iv) What is the product of its zeros.

15E & 16E

22. The speed of a boat in still wate is 11 km/hr. It can go 12 km upstream and return downstream to the original point in 2 hours 45 min. Find the speed of the stream.

23. A Spiral is made up of successive semicircles with centres alternatively at A and B starting with centre A of radii 0.5cm, 1 cm, 1.5 cm, 2 cm as shown in figure what is the total length of such a spiral made up of 13 consecutive semicircles.



24. State whether the following statements are true or false. Justify your answer.

    A) sin (A + B) = sin A + sin B B) sin θ = cos θ for all values of θ.

25. Joffer thinks that lengths of two tangents drawn to a circle from any external point are not always equal. How would you resolve his conflict.

26. A cubical block of side 7 cm is surmounted by a hemisphere. What is the greatest diameter the hemisphere can have ? Find the surface area of the solid.

27. Write the formula for calculateing the median of grouped data. Explain the meaning of each symbol used in the formula.

28. Create any four different probability questions invloving two dice thrown simultaneously similar to the example question given below:

    Example: What is the probability of getting even numbers on the top faces of both dice when two dice are thrown simultaneously.

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) Given that $\sqrt{5}$ is an irrational number justify that $2 + 3\sqrt{5}$ is also an irrational number.

OR

b) Find the sum of first 51 terms of an AP whose second and third terms are 14 and 18 respectively.

30. a) The following table shows the marks obtained by 40 students in a Maths test.

0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
3	5	9	10	8	5

15E & 16E

i) Write class marks (x_i) of each class.

ii) Find $f_i x_i$ values for each class.

iii) Find the mean of grouped data using the direct method.

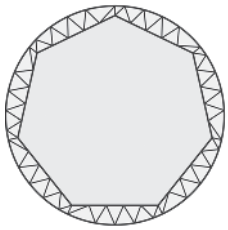
OR

b) State and prove Basic proportionality (Thales) theorem.

31. a) The distance between points p(2, –3) and Q(10, y) is 10 units. By solving the problem Jyothi says y has only one value. But Preethi disagrees with Jyothi. Resolve their conflict by giving logical conclusion.

OR

b) A round table cover has six identical designs as shown in the figure. The radius of the table cover is 28 cm. The cost of matching the designs is ₹0.35 per cm^2. The students of class worked in groups to solve the problem.



Group 1: Divided the design into six equal sectors and found the angle of each sector.

Group 2 : Calculated the area of one design in a sector.

Group 3 : Calculated the total area of all 6 designs.

By using the ideas contributed by all the three groups. Find the total cost of making the design.

32. a) One card is drawn from a well shuffled deck of 52 cards. Calculate the probability of that card drawn will be

i) A numberd card ii) A letter card

iii) not a face card iv) A diamond but not face card.

OR

b) A solid cylinder has a height of 2.4 cm and a radius of 0.7 cm. A conical cavity of the same height and radius is hollowed out. Find the total surface area of the remaining solid to the nearest cm^2.

33. a) Draw the graph of the following pair of linear equations and find the solution from the graph. x + 3y = 6 and 2x – 3y = 12

OR

b) The angles of depression of the top and the bottom of an 8 m tall building from the top of a multi-storeyed building are 30° and 45°, respectively. Find the height of the multi-storeyed building and the distance between the two buildings.