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FOR AP CLASS 10 PREPARATION

AP SSC Model Paper 2027 Mathematics - Model Paper 2 (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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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

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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	Introduction of Trigonometry	Awareness
17	Application of Trigonometry	Creativity
18	Circles	Awareness
19	Pair of linear Equations in two variables	Awareness
20	Coordinate geometry	sensitivity
21	Probability	Creativity
22	Statistics	Awareness
23	Surface Areas and Volumes	Awareness
24	Quadratic equations	Awareness
25	Introduction to trigonometry	Awareness
26	Arithmetic Progression	Awareness
27	Circles	Sensitivity
28	Polynomials	Awareness
29(a)	Real Numbers	Creativity
29(b)	Arithmetic Progression	Creativity
30(a)	Co-ordinate geometry	Sensitivity
30(b)	Areas Related to Circles	Sensitivity
31(a)	Statistics	Awareness
31(b)	Triangles	Awareness
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 - 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.*

SECTION - I

12 × 1 = 12 M

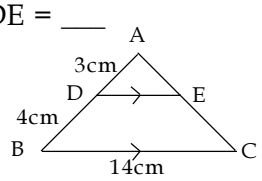
Note : *i) Answer* **all** *the questions in* **one word** *or phrase.*

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

1. Prime factorisation of 156 = $a^2 \times b \times c$ then a + b + c =
2. Create a quadratic polynomial whose one zero is $2 + \sqrt{3}$
3. Express y in terms of x from the equation 3x + 5y – 11 = 0.
4. Write any quadratic equation whose roots are reciprocals to each other.
5. Your friend writes the sequence 5, 8, 11, 15, 17 as an A.P. What would you tell to your friend ?
6. In figure DE|| BC, AD = 3 cm, BD = 4 cm and BC = 14 cm then DE = ___

   A) 7 cm B) 6 cm

   C) 4 cm D) 3 cm



7. Your classmate writes cos θ = $\frac{\text{adjacent side to } \theta}{\text{opposite side to } \theta}$. Do you agree ? If not ? State the correct trignometric ratio
8. Two students measure the height of a tree. One gets 20 m and the other get 22 m. What should they do before deciding which answer is correct.

   A) Accept the first answer only

   B) Accept the second answer only

   C) Recheck the measurements and calculations to system.

   D) Ignore both answers.

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9. Draw a rough sketch of a circle and two lines parallel to a given line such that one is a tangent and the other is a secant to the circle.

10. If the circumference of a circle and the perimeter of a square are equal, then the

    A) Area of circle = Area of square

    B) Area of circle > Area of square

    C) Area of circle < Area of square

    D) We can't definitely say about the relation between Areas.

11. The formula to find the volume of sphere of radius r cm is _____

    A) $\frac{4}{3}\pi r^2$ B) $\frac{4}{3}\pi r^3$ C) $\frac{3}{4}\pi r^3$ D) $\frac{3}{4}\pi r^2$

12. A friend says the probability of an event can be $\frac{5}{3}$. How would you respond.

    A) Agree, because probability can be any positive value

    B) Politely explain that probability of an event always lies between $0 \leq P(E) \leq 1$. So, It can't

    C) Ignore the friends opinion

    D) Say the answer is wrong without giving any reason.

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

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

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

13. Write two different linear polynomials in variable x, whose zero is –4 ?

14. **Student 1:** The length of a recntangular park should be twice its breadth.

    Student 2 : The area of the park should 20 m^2. Use both student ideas to determine the length and breadth of the park.

15. State converse of basic proportioinality theorem.

16. If $\sec\theta + \tan\theta = P$ then what is the value of $\sec\theta$ in terms of P ?

17. Draw a figure to represent the following sitatuion.

    A student observes the top of a tower at angle of elevation 45°.

18. A tangent PQ at a point of a circle of radius 5 cm meets a line through the centre 'O' at a point Q. So that OQ = 12 cm then what is the length of PQ.

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19. For what condition will 3x + ky = 7 and 6x + 4y = 14 have exactly one solution ? Using the condition find the value of k.

20. A point lies 4 units left of y - axis and 3 units below the x-axis many students ploted the point is only in 1st quadrant. Write the correct co-ordinates. Name the quadrant.

SECTION - III

8 × 4 = 32 M

Note : ***i) Answer* all *the questions.***
ii)* Each *question carries* 4 *marks.

21. A child has a die whose six faces shows the letters as given below.

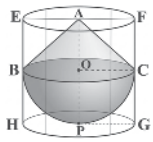
A	B	C	D	E	A

The die is thrown once using this data create 4 questions.

Eg: What is the probability of getting D when a die is thrown once ?

22. Write the formula to find mode of a grouped data and give the meanings of symbols used in it.

23. A solid toy is in the form of a hemisphere surmounted by a right circular cone. The height of the cone is 2 cm and the diameter of the base is 4 cm Determine the volume of the toy ?



24. Find two consecutive poisitive integers, sum of whose squares is 365.

25. In ΔABC, right angled at B, AB = 24 cm, BC = 7 cm Determine

i) sin A, cos A ii) sin C, cos C

26. How many two digit numbers are divisible by 3 ?

27. A circular rainwater harvesting pit has radius 4 m. Two support wires are drawn from a common external point P and touches the pit boundary at points A and B.

a) Draw suitable figure.

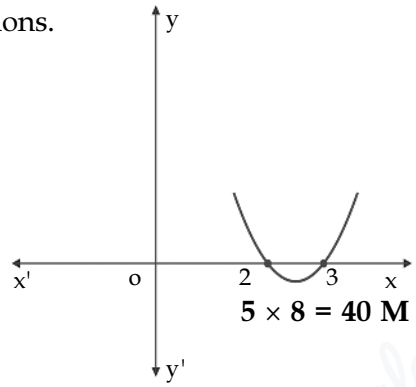
b) What can you say about the lengths of two wires.

c) Name the theorem used.

d) Write the angle when a radius is drawn at the point of contact.

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28. Observing the graph and 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) Name 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) Given $\sqrt{3}$ is irrational. Prove that $\frac{5+2\sqrt{3}}{7}$ is also irrational. Using method of contradiction.

OR

b) If the sum of the first n terms of an AP is $4n - n^2$, what is the first term (that is S_1)? What is the sum of first two terms? What is the second term similarly, find the third the 10^{th} and the nth terms.

30. a) In a classroom, 4 friends are seated at the points A, B, C and D. Champa and Chameli walk into the class and after observing for a few minutes. They noticed the co-ordinates of A, B, C and D are (3, 4), (6, 7), (9, 4) and (6, 1) respectively. Champa asks Chameli, "Don't you think ABCD is a square", Chameli disagrees. Using distance formula, find which of them is correct.

OR

b) A village has constructed a rain water harvesting pond in the shape of sector of a circle with the radius 21 m and central angle 60° the curved boundary is fenced and the area enclosed by the sector is used for storing rain water.

a) Find the length of curved boundary (arc)

b) Find the area of sector

c) Explain how rain water harvesting helps in conserving water resources.

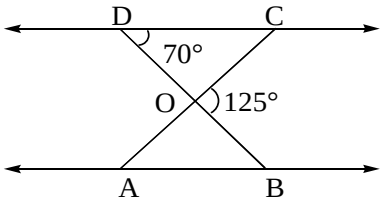
31. a) The distribution below gives the weights of 30 students of a class. Find the median weight of the students.

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

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OR

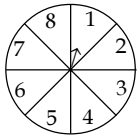
b) i) Name the pair of similar triangles in the given figure.



ii) Which similarity criterian is used in proving those triangles similar and state the similarity criterian.

iii) Write the proportionality relation obtained from the similar triangles.

32. a) A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 (see figure) and these are equally likely out comes. Caliculate the probabilities that it will point at



i) 8 ii) an odd number

iii) a number greater than 3 iv) a number less than or equal to 8

OR

b) A solid design consisting of a right circular cone of height 120 cm and radius 60 cm standing on hemisphere of radius 60 cm is placed upright in a right circular cylinder full of water such that it touches the bottom. Find the volume of water left in the cylinder, if the radius of the cylinder is 60 cm and its height is 180 cm.

33. a) Form the pair of linear equations in the following problems, and find their solutions graphicllay.

i) 10 Students of 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.

OR

b) A 1.2 m tall girl spots a balloon moving with the wind in a horizontal line at a height of 88.2 m from the ground. The angle of elevation of the balloon from the eyes of the girl at any instant is 60°. After some time, the angle of elevation reduces to 30° (see figure). FInd the distance travelled by the balloon during the interval.

