

Sl. No.

SSLC MODEL EXAMINATION, FEBRUARY - 2026

MATHEMATICS

(English)

Time : 2½ Hours

Total Score : 80

Instructions :

- Use the first 15 minutes to read the questions and think about the answers.
- There are 27 questions, spilt into five sections A, B, C, D, E.
- Answer all questions, but in questions of the type A or B, you need to answer only one of those.
- You can answer the questions in any order, writing the correct question number.
- Trigonometric tables are given at the end and can be used wherever necessary.
- Answers must be explained wherever necessary.
- No need to simplify irrationals like $\sqrt{2}$, $\sqrt{3}$, π etc. using approximations unless you are asked to do so.

SECTION - A

This Section has 8 questions of 1 score each. Select the correct answer from those given.

1. Which of the numbers below can be a term in the arithmetic sequence 5, 8, 11, ... ? 1
 (a) 25 (b) 30 (c) 35 (d) 40
2. A line is drawn through the point (2, 3) Parallel to the x-axis. What are the co-ordinates of the point at which this line cuts the y-axis ? 1
 (a) (0, 2) (b) (0, 3) (c) (2, 0) (d) (3, 0)
3. Which of the following is the algebraic form of the arithmetic sequence 7, 11, 15, ... ? 1
 (a) $3n+4$ (b) $4n+2$ (c) $4n+1$ (d) $4n+3$
4. What are the x- co-ordinates of the points where the graph of the polynomial $p(x) = x^2 - 9x + 14$ cuts the x-axis ? 1
 (a) 2, 7 (b) 3, 6 (c) 2, -7 (d) -3, 6
5. The scores of 8 students in an exam are given below : 1
 50, 52, 66, 64, 56, 55, 70, 80
 Then the median score is :
 (a) 50 (b) 56 (c) 64 (d) 60

P.T.O.

6. The surface area of a solid sphere is 120 square centimetres. If it is cut into two halves, what would be the surface area of one hemisphere in square centimetres? Score 1
- (a) 60 (b) 90 (c) 100 (d) 120

7. The equation of a circle is $(x-1)^2 + (y-3)^2 = 9$. Read the following statements: 1
- (i) Radius of the circle is 9.
 (ii) Centre of the circle is (1, 3).
 (iii) Radius of the circle is 3.
 (iv) Centre of the circle is (-1, -3).

Choose the correct answer from those given below:

- (a) (i) and (ii) are true (b) (i) and (iv) are true
 (c) (ii) and (iii) are true (d) (iii) and (iv) are true
8. Read the statements given below: 1

Statement 1: In an equilateral triangle, the circumradius is twice its inradius.

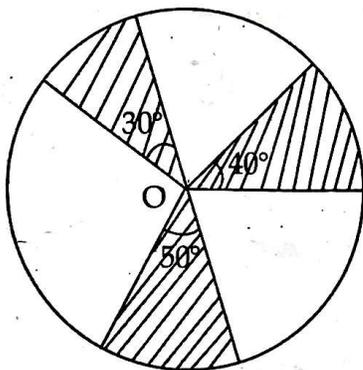
Statement 2: In a triangle with angles $30^\circ, 60^\circ, 90^\circ$ the hypotenuse is twice the opposite side of 30° .

Choose the correct answer from those given below:

- (a) **Statement 1** is true, **Statement 2** is false.
 (b) **Statement 1** is false, **Statement 2** is true.
 (c) Both **Statements** are true and **Statement 2** is not the reason of **Statement 1**.
 (d) Both **Statements** are true and **Statement 2** is the reason of **Statement 1**.

SECTION - B

9. In the figure 'O' is the centre of the circle. If we put a dot inside the circle without looking then what is the probability that the dot falls inside the shaded part? 2



18. (A) A box contains 20 apples and 30 oranges and one is taken from it. Score
- (i) What is the probability of getting an apple ? 1
- (ii) What is the probability of getting an orange ? 1
- (iii) If 10 more apples are put in the box, then what is the probability of getting an orange ? 1

OR

- (B) A bag contains 7 white and 8 blue balls. In another bag there are 6 white and 10 blue balls. One ball from each bag is taken.
- (i) In how many ways can a pair of balls be chosen, one from each bag ? 1
- (ii) What is the probability of both being white ? 1
- (iii) What is the probability that at least one is white ? 1

19. (A) The sum of first 7 terms of an arithmetic sequence is 140 and the sum of the first 8 terms is 180.
- (i) What is its 4th term ? 1
- (ii) What is its 5th term ? 1
- (iii) Find the sum of first 10 terms. 2

OR

- (B) (i) Calculate the sum of the first 15 natural numbers. 1
- (ii) Write the sequence got by multiplying the natural numbers by 6 and adding 1. Find the sum of the first 15 terms of this sequence. 3

20. The table below shows the workers in a company sorted according to their daily wages.

Daily wages (Rs.)	Number of workers
400 - 500	7
500 - 600	8
600 - 700	10
700 - 800	9
800 - 900	5
900 - 1000	4

If the workers are arranged in the order of daily wages, then

- (i) The daily wage of the worker at what position is taken as the median.? 1
- (ii) According to our assumption, what is the daily wage of the 16th worker . 2
- (iii) Calculate the median daily wage. 2

P.T.O.

SECTION - C

13. The co-ordinates of the point A is (1, 2) and the co-ordinates of the point B is (9, 10).
- (i) What are the co-ordinates of the midpoint of AB? 1
- (ii) Calculate the co-ordinates of the point P which divides AB in the ratio 1 : 3. 2
14. (i) Draw x, y axes and mark the points A(-2, 0), B(4, 0), C(6, 4) and D(0, 4). 3
- (ii) What is the area of this parallelogram ABCD? 1
15. (A) (-1, 1) and (2, 7) are two points on a line.
- (i) Find the slope of this line. 1
- (ii) Write the co-ordinates of any other point on this line. 1
- (iii) Prove that for any number x , the point $(x, 2x + 3)$ is on this line. 2
- OR
- (B) A circle of radius 10 is drawn with origin as centre.
- (i) Write the co-ordinates of a point at which this circle cuts the x -axis. 1
- (ii) Check whether the point (5, 9) is inside, outside or on the circle. 2
- (iii) Write the equation of the circle. 1

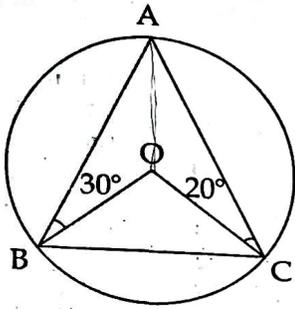
SECTION - D

16. Consider the arithmetic sequence 4, 7, 10, ...
- (i) What is the remainder on dividing each term of this sequence by 3? 1
- (ii) Prove that the square of each term is also a term of the sequence. 2
17. (A) Find the sum of the arithmetic sequences below :
- (i) $3 + 6 + 9 + \dots + 60$ 2
- (ii) $6 + 12 + 18 + \dots + 120$ 1
- (iii) $8 + 14 + 20 + \dots + 122$ 1
- OR
- (B) The sum of first and 30th term of an arithmetic sequence is 60.
- (i) What is the sum of its second and 29th term? 1
- (ii) What is the sum of its 15th and 16th term? 1
- (iii) Find the sum of first 30 terms. 2
18. The longer side of a rectangle is 6 centimetres more than its shorter side. The diagonal of the rectangle is 30 centimetres.
- (i) Write down a second degree equation by taking the shorter side as x 2
- (ii) What are the lengths of its sides? 2

19. The sum of the first 'n' terms of an arithmetic sequence is $3n^2 + 6n$.
- | | |
|--|---|
| (i) What is the sum of the first 5 terms ? | 1 |
| (ii) How many terms of the sequence starting from the first must be added to get 360 ? | 3 |

SECTION - E

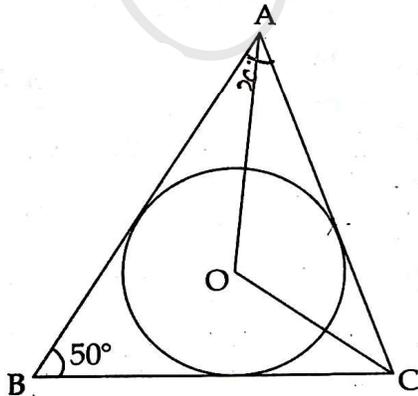
20. (A) In the picture 'O' is the centre of the circle. $\angle ABO = 30^\circ$, $\angle ACO = 20^\circ$.



- | | |
|--|---|
| (i) Find the measure of $\angle BAC$. | 2 |
| (ii) What is the measure of $\angle BOC$? | 1 |

OR

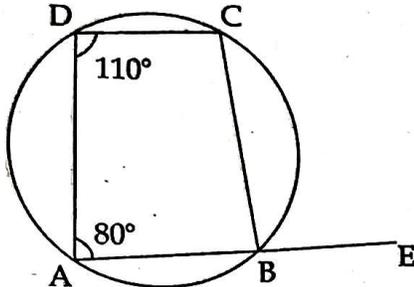
- (B) In the picture, the incircle of a triangle is drawn with centre 'O' and $\angle ABC = 50^\circ$.



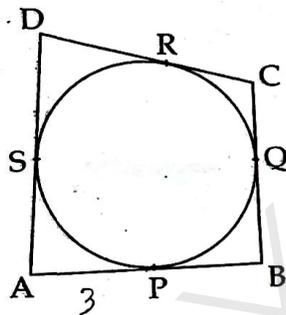
- | | |
|--|---|
| (i) If $\angle BAC = x^\circ$, then what is the measure of $\angle OAC$ in terms of 'x' ? | 1 |
| (ii) Find the measure of $\angle AOC$. | 2 |

P.T.O.

21. (i) In the figure, ABCD is a cyclic quadrilateral $\angle A = 80^\circ$, $\angle D = 110^\circ$. Find the measures of $\angle BCD$ and $\angle CBE$. Score 2

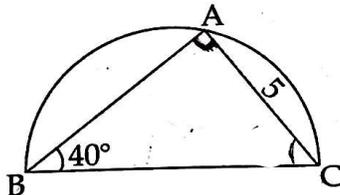


- (ii) Prove that in any cyclic quadrilateral, the outer angle at any vertex is equal to the inner angle at the opposite vertex. 2
22. (A) The tangents through the points P, Q, R and S on the circle are AB, BC, CD and AD. 1



- (i) If $AP = 3$ centimetres, then what is the length of AS. 1
- (ii) Prove that $AB + CD = AD + BC$. 2
- OR
- (B) Calculate the radius of the incircle of a triangle with sides 6 centimetres, 8 centimetres and 10 centimetres. 3

23. In the figure, BC is the diameter of the semicircle. $\angle B = 40^\circ$, $AC = 5$ centimetres.

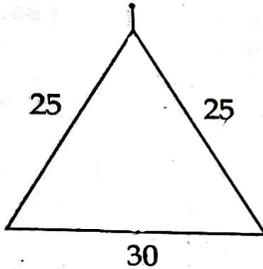


- (i) What is the measure of $\angle BAC$? 1
- (ii) What is the radius of the semicircle? 1
- (iii) Find the perimeter of triangle ABC. 2

24. (A) From the top of an electric post, two wires are stretched to either side and attached to the ground making angles 50° and 45° with the ground. The distance between the feet of the wires is 30 metres.
- (i) Draw a rough figure based on the given details. 1
- (ii) What is the height of the post? 3

OR

- (B) The lengths of two sides of a triangle are 6 centimetres and 10 centimetres and the angle between them is 35° .
- (i) What is the area of this triangle? 3
- (ii) What is the area of the triangle of same sides the same, but the angle between them is 145° ? 1
25. (A) A square pyramid is to be made with the triangle given as a lateral face. Measures are in centimetres.



- (i) What is its slant height? 1
- (ii) Find the height of the pyramid. 2
- (iii) What would be its volume? 2
- OR
- (B) A sector of central angle 216° is cutout from a circle of radius 25 centimetres and is rolled up into a cone.
- (i) What is the slant height of the cone? 1
- (ii) Find the base radius of the cone. 2
- (iii) Find the volume of the cone. 2
26. Draw a circle of radius 3 centimetres and draw tangents to it from a point 7 centimetres from centre and measure the lengths. 4
27. Draw a rectangle of sides 6 centimetres and 4 centimetres. Draw a square of the same area. 5

Trigonometric tables

Angle	sin	cos	tan
1	0.0175	0.9998	0.0175
2	0.0349	0.9994	0.0349
3	0.0523	0.9986	0.0524
4	0.0698	0.9976	0.0699
5	0.0872	0.9962	0.0875
6	0.1045	0.9945	0.1051
7	0.1219	0.9925	0.1228
8	0.1392	0.9903	0.1405
9	0.1564	0.9877	0.1584
10	0.1736	0.9848	0.1763
11	0.1908	0.9816	0.1944
12	0.2079	0.9781	0.2126
13	0.2250	0.9744	0.2309
14	0.2419	0.9703	0.2403
15	0.2588	0.9659	0.2679
16	0.2756	0.9613	0.2867
17	0.2924	0.9563	0.3057
18	0.3090	0.9511	0.3249
19	0.3256	0.9455	0.3443
20	0.3420	0.9397	0.364
21	0.3584	0.9336	0.3839
22	0.3746	0.9272	0.404
23	0.3907	0.9205	0.4245
24	0.4067	0.9135	0.4452
25	0.4226	0.9063	0.4663
26	0.4384	0.8988	0.4877
27	0.4540	0.8910	0.5095
28	0.4695	0.8829	0.5317
29	0.4848	0.8746	0.5543
30	0.5000	0.8660	0.5774
31	0.5150	0.8572	0.6009
32	0.5299	0.8480	0.6249
33	0.5446	0.8387	0.6494
34	0.5592	0.8290	0.6745
35	0.5736	0.8192	0.7002
36	0.5878	0.8090	0.7265
37	0.6018	0.7986	0.7536
38	0.6157	0.7880	0.7813
39	0.6293	0.7771	0.8098
40	0.6428	0.7660	0.8391
41	0.6561	0.7547	0.8693
42	0.6691	0.7431	0.9004
43	0.6820	0.7314	0.9325
44	0.6947	0.7193	0.9657
45	0.7071	0.7071	1.0000

Angle	sin	cos	tan
46	0.7193	0.6947	1.0355
47	0.7314	0.6820	1.0724
48	0.7431	0.6691	1.1106
49	0.7547	0.6561	1.1504
50	0.7660	0.6428	1.1918
51	0.7771	0.6293	1.2349
52	0.7880	0.6157	1.2799
53	0.7986	0.6018	1.3270
54	0.8090	0.5878	1.3764
55	0.8192	0.5736	1.4281
56	0.8290	0.5592	1.4826
57	0.8387	0.5446	1.5399
58	0.8480	0.5299	1.6003
59	0.8572	0.5150	1.6643
60	0.8660	0.5000	1.7321
61	0.8746	0.4848	1.8040
62	0.8829	0.4695	1.8807
63	0.8910	0.4540	1.9626
64	0.8988	0.4384	2.0503
65	0.9063	0.4226	2.1445
66	0.9135	0.4067	2.2460
67	0.9205	0.3907	2.3559
68	0.9272	0.3746	2.4751
69	0.9336	0.3584	2.6051
70	0.9397	0.3420	2.7475
71	0.9455	0.3256	2.9042
72	0.9511	0.3090	3.0777
73	0.9563	0.2924	3.2709
74	0.9613	0.2756	3.4874
75	0.9659	0.2588	3.7321
76	0.9703	0.2419	4.0108
77	0.9744	0.2250	4.3315
78	0.9781	0.2079	4.7046
79	0.9816	0.1908	5.1446
80	0.9848	0.1736	5.6713
81	0.9877	0.1564	6.3138
82	0.9903	0.1392	7.1154
83	0.9925	0.1219	8.1443
84	0.9945	0.1045	9.5144
85	0.9962	0.0872	11.4301
86	0.9976	0.0698	14.3007
87	0.9986	0.0523	19.0811
88	0.9994	0.0349	28.6363
89	0.9998	0.0175	57.2900