Gurukul Global School
Class - IX
Mathematics (041)

ASSESSMENT TERM II GGS 2025-26

Date: 24-02-2026
Time: 3 hrs.

M.M. 80

Ayansh Singla

General Instructions:

(i) *This Question Paper has 5 Sections A, B, C, D, and E.*
(ii) *Section A has 20 Multiple Choice Questions (MCQs) carrying 1 mark each.*
(iii) *Section B has 5 Short Answer-I (SA-I) type questions carrying 2 marks each.*
(iv) *Section C has 6 Short Answer-II (SA-II) type questions carrying 3 marks each.*
(v) *Section D has 4 Long Answer (LA) type question carrying 5 marks.*
(vi) *Section E has 3 sourced based/Case Based/passage based/integrated units of assessment (4 marks) with sub-parts of the values of 1, 1 and 2 marks each respectively.*
(vii) *All Questions are compulsory. However, an internal choice in 1 Question of 2 marks, 1 Question of 3 marks and 1 Question of 5 marks has been provided. An internal choice has been provided in the 2 marks questions of Section E.*
(viii) *Draw neat figures wherever required. Take π =22/7 wherever required if not stated.*

SECTION–A

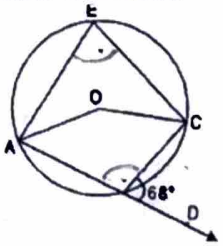
It consists of 20 questions of 1 mark each.

1. Which of the following is a terminating decimal?
a) 1/3 b) ¼ c) 1/6 d) 1/7 (1)

2. The degree of $4x^3-12x^2+3x+9$ is
a) 0 b) 1 c) 2 d) 3 (1)

3. The value of $f(x) = 5x-4x^2+3$ when x = -3, is:
a) −48 b) -12 c) -6 d) 6 (1)

4. In fig. O is the centre of the circle. The value of ∠ AEC



a)112° b) 68° c) 78° d) 60° (1)

5. The coefficient of x^2 in in $(x + 5)^3$
a)75 b)1 c)15 d)25 (1)

6. The radius of a hemispherical bowl is 7 cm. The ratio of the surface area and volume of the balloon is
a) 1:4 b) 4:1 c) 7:3 d) 3:7 (1)

7. Which one of the following is a polynomial?
a) $\sqrt{x} - x$ b) $x^2 + \sqrt{3}$ c) $\sqrt[3]{x^2}$ d) $\frac{x+1}{x-1}$ (1)

8. The coefficient of x the polynomial $p(x) = x^3- 9x+3x^5$ is
a) 1 b) 0 c) 3 d) −9 (1)

9. The point (0, –5) lies:
a) On the x-axis
b) On the y-axis
c) In the first quadrant
d) None of the above
(1)

10. If two complementary angles are in the ratio 13 : 5, then the angles are:
a) 13°, 5°
b) 25°, 65°
c) 65°, 25°
d) 65°, 35°
(1)

11. The area of an equilateral triangle with side 2 cm is:
a) $4cm^2$
b) $12cm^2$
c) $3cm^2$
d) $\sqrt{3}cm^2$
(1)

12. What do you call a figure formed by two straight lines having a common point?
a) Angle
b) Triangle
c) Rhombus
d) Kite
(1)

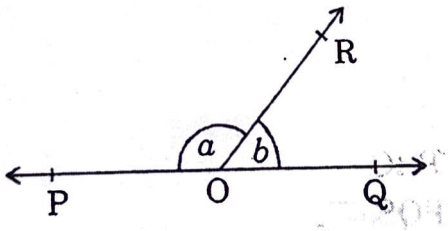
13. If the perpendicular distance of a point P from the x-axis is 7 units and the foot of the perpendicular lies on the negative direction of x-axis, then the point P has:
a) y-coordinate = 7 or –7 only
b) y-coordinate = 7 only
c) y-coordinate = –7 only
d) x-coordinate = –7
(1)

14. Every point on a number line _____.
a) Can be associated with a rational number.
b) Can be associated with a irrational number.
c) Can be associated with a natural number.
d) Can be associated with a real number.
(1)

15. Which of the following is an axiom?
a) Theorems
b) Definitions
c) The universal truth in all branches of Mathematics
d) Universal truth specific to geometry
(1)

16. Two lines are respectively perpendicular to two perpendicular lines. Then these two lines are _____ to each other.
(a) parallel
(b) inclined at same acute angle
(c) perpendicular
(d) intersecting at 110°
(1)

17. In figure given below, if ∠POR and ∠QOR from a linear pair and a-b = 80°, then the value of a and b are:



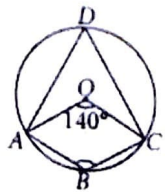
a) 50,130
b) 60,120
c) 130,50
d) 160,80
(1)

18. In triangle ABC, if AB=BC and ∠B = 70°, ∠A will be:
a) 70^0
b) 110^0
c) 55^0
d) 130^0
(1)

Directions: (Question 19 and 20)
A statement of assertion (A) is followed by a statement of Reason (R). Choose the correct answer out of the following choices.
a) Both A and R are true and R is the correct explanation of A
b) Both A and R are true but R is not the correct explanation of A
c) A is true but R is false
d) A is false but R is true

19. Assertion (A) : The factorisation of $z^3 + 125$ is $(z + 5)(z^2 – 5z + 25)$.
Reason (R) : We know $x^3 + y^3 = (x + y)^3 + 3xy(x + y)$
(1)

20. Assertion(A): In the given figure, O is the centre of circle. If ∠AOC = 140°, then ∠ABC=110°
Reason (R) : In cyclic quadrilateral, opposite angles are supplementary.
(1)



SECTION – B

It consists of 3 questions of 2 marks each.

23. Simplify :

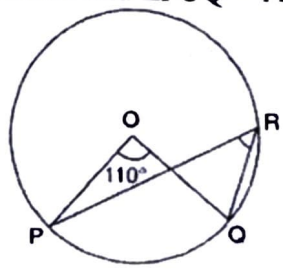
$\sqrt[4]{81} - 8(\sqrt[3]{216}) + 15(\sqrt[5]{32}) + \sqrt{225}$

OR

Find the rational number of the form p/q corresponding to the decimal representation 0.22222….., where p and q are integers and $q \neq 0$. (2)

24. Find out four different solutions of the equation. $x + 2y = 6$. (2)

25. In the given figure, if O is the centre of circle and $\angle POQ = 110°$, then find $\angle PRQ$



OR

Evaluate the following using suitable identity:
$(-2x+3y+z)^2$ (2)

27. Find the value of a, if $x - a$ is a factor of $x^3 - ax^2 + 2x + a - 1$ (2)

28. Evaluate using identity: 107×105

(2)

SECTION C

Section C consists of 6 questions of 3 marks each

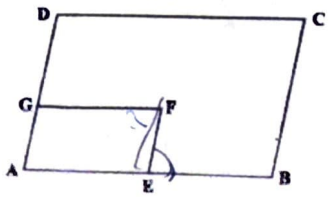
26. A survey conducted by an organisation for the cause of illness and death among the women between the ages 15 – 44 (in years) worldwide found the following figures (in %):

S.No.	Causes	Female fatality rate (%)
1.	Reproductive health conditions	31.8
2.	Neuropsychiatric conditions	25.4
3.	Injuries	12.4
4.	Cardiovascular conditions	4.3
5.	Respiratory conditions	4.1
6.	Other causes	22.0

a) Represent the information given above graphically.
b) Which condition is the major cause of women's ill health and death worldwide? (3)

29. In the following figure ABCD and AEFG are parallelograms. If $\angle DCB$ measures 50^0, determine the measure of…. (3)

(a) $\angle GFE$ (b) $\angle FEB$



OR

a) Find two irrational numbers between ¼ and ½

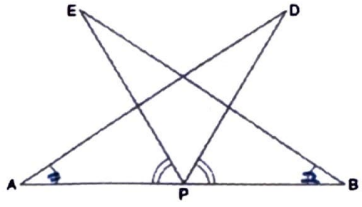
b) Find the value using identity:

$(-7)^3 + (12)^3 + (-5)^3$ (2)

AB is a line segment and P is its mid-point. D and E are points on the same side of AB such that ∠BAD = ∠ABE and ∠EPA = ∠DPB. Show that

(i) ΔDAP ≅ ΔEBP

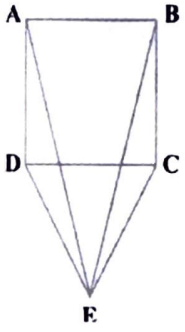
(ii) AD = BE



OR

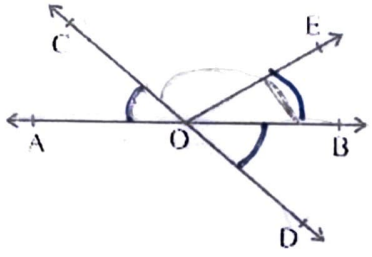
Represent √10 and √17 on number line. (3)

CDE is an equilateral triangle formed on a side CD of a square ABCD figure.
Show that Δ ADE ≅ Δ BCE.



(3)

In the given Fig , lines AB and CD intersect at O. If ∠AOC +∠BOE = 70° and ∠BOD = 40°, find ∠BOE and reflex ∠COE. (3)

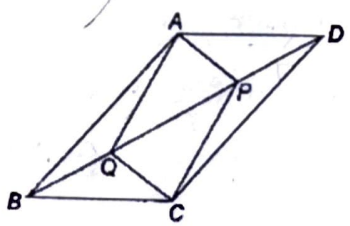


The perimeter of a triangular field is 420 m and its sides are in the ratio 6 : 7 : 8. Find the area of the triangular field. (3)

SECTION-D

Section D consists of 4 questions of 5 marks each

In parallelogram ABCD, two points P and Q are taken on diagonal BD such that DP = BQ (see figure). Show that: (5)

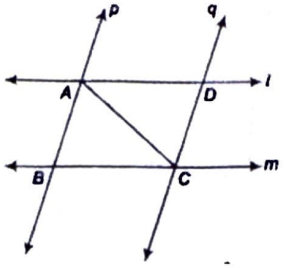


(i) ΔAPD ≅ ΔCQB (ii) AP = CQ

(iii) ΔAQB ≅ ΔCPD (iv) AQ = CP

(v) APCQ is a parallelogram.

33. a) l and m are two parallel lines intersected by another pair of parallel lines p and q (see figure). Show that $\Delta ABC \cong \Delta CDA$.



(3)

b) In an isosceles right angled triangle PQR right angled at P, if PQ=PR then find angle R.

(2)

34. A cylindrical pillar is 50 cm in diameter and 3.5 m in height. Find the cost of painting the curved surface of the pillar at the rate of Rs. 12.50 per m^2.

OR

A hemispherical bowl made of brass has an inner diameter 10.5cm. Find the cost of tin-plating it on the inside at the rate of Rs 16 per 100 cm^2. (Assume $\pi = 22/7$) (5)

35. The following table gives the lifetimes of 400 neon lamps.

Life Time (in hours)	Number of Lamps
300 – 400	14
400 – 500	56
500 – 600	60
600 – 700	86
700 – 800	74
800 – 900	62
900-1000	48

(i) Represent the given information with the help of a histogram.

(ii) How many lamps have a lifetime of more than 700 hours?

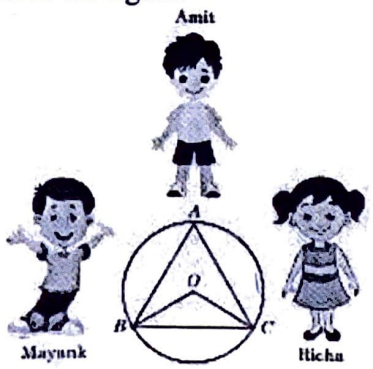
OR

Prove that the angle subtended by an arc at the circle is double the angle subtended by it at the remaining part of the circle

(5)

SECTION-E

36. Three friends Amit, Mayank, and Richa were playing with the ball by standing in a circle at A, B, and C points respectively. Richa throws a ball to Amit, Amit to Mayank, and Mayank to Richa. They all are equidistant from each other as shown in the figure.



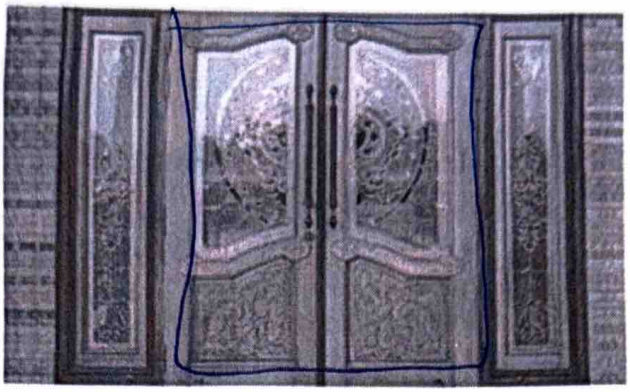
(i) Which type of ▲ABC is given in figure? (1)

(ii) What is the measure of ∠ABC? (1)

(iii) If AB = 6 cm, then BC + CA is equal to____

OR

57. In the current scenario, people use such door whose top half part is made of glass and bottom half part is wooden.



The glass portion of the door is having length and width in the ratio of 5 : 3. The wooden frame around the glass portion adds 11 inches to the total width and 14 inches to the total length. Consider the length of the glass portion as $5x$ inches:

On the basis of the above information, solve the following questions:

a) Find the total length of the glass portion of the door (in inches) is represented in terms of x. (1)

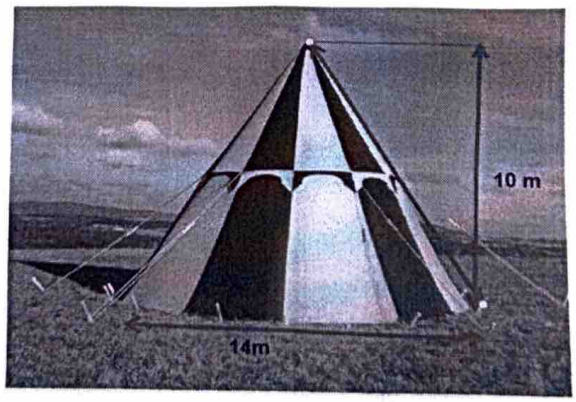
b) Find the total width of the glass portion of the door (in inches). (1)

c) Write the polynomial representation of the area of the door.

OR

Find the zeroes of the polynomial representing the area. (2)

58. Once four friends Rahul, Arun, Ajay and Vijay went for a picnic at a hill station. Due to peak season, they did not get a proper hotel in the city. The weather was fine so they decided to make a conical tent at a park. They were carrying 300 m² cloth with them. As shown in the figure they made the tent with height 12 m and diameter 10 m.



a) Find the slant height of tent. (1)

b) What was the volume of air inside the tent? (1)

c) What was the area of the floor of the tent?

OR

What was the area of cloth used for the tent? (2)

****