No. of printed Pages/Questions: 5/44

O.P JINDAL SCHOOL, SAVITRI NAGAR

Annual Examination – (2023 – 24)

Class / Section: VII **MM: 80**

Subject: Mathematics **Time: 3 hrs**

Name: _____ **Roll No.** _____

(Fifteen Minutes Extra will be given for reading the Question Paper.)

General Instructions:

i. This question paper contains 44 questions. All questions are compulsory.
ii. This question paper is divided into 4sections – Sections A, B, C and D.
iii. Section A comprises 20 questions (Q.No. 1 to 20) of 1 mark each.
iv. Section B comprises 8 questions (Q.No. 21 to 28) of 2 marks each.
v. Section C comprises 8 questions (Q.No. 29 to 36) of 3 marks each.
vi. Section D comprises 4 questions (Q.No. 37 to 40) of 4 marks each. There is case-study based questions (Q.No. 41 to 44) of 1 mark each.
vii. There is no overall choice. However an internal choice has been provided. You have to attempt only one of the alternatives in all such questions.

(SECTION – A)

Choose the correct option:

Q1. If two angles of a triangle are 35° and 75° then its third angle is

a) 105° b) 75° c) 70° d) 75°

Q2. Which percent is equal to $\frac{2}{5}$?

a) 10% b) 20% c) 30% d) 40%

Q3. The perimeter of a regular hexagon of side 3 cm is

a) 12 cm b) 15 cm c) 18 cm d) 21 cm

Q4. A binomial contains

a) 1 term b) 2 terms c) 3 terms d) 4 terms

Q5. Which one is exponential form of -343?

a) 7 b) $(-7)^3$ c) 14 d) -14

Q6. Which of the following is a solid figure?

a) Triangle b) circle c) rectangle d) triangular prism

Q7. The side of an equilateral triangle whose perimeter is 72 cm

a) 18 cm b) 14 cm c) 24 cm d) 19 cm

Q8. If $5^n = 125$, then 3^{n-3} equals

a) 1 b) 0 c) 5 d) 25

Q9. If AB = PQ, AC = PR and $\angle A = \angle P = 40°$, then by which congruence rule $\Delta ABC \cong \Delta PQR$.

a) ASA b) SAS c) RHS d) SSS

Q10. The net of a solid consists of three quarters of a circle and another small circle. It is a net of a-

a) Prism b) pyramid c) sphere d) cone

Q11. Which of the following is a criterion for congruence of triangles?

a) RSH b) SSA c) ASA d) LHS

Q12. The hypotenuse of a right triangle of sides 3 cm and 4 cm is

a) 25cm b) 7 cm c) 5 cm d) 12 cm

Q13. A shopkeeper purchased an article for Rs. 4560 and sold it for Rs. 5000. Then profit is

a) Rs. 9560 b) Rs. 540 c) Rs. 450 d) Rs. 440

Q14. The value of (8 + 5p) for p = 3 is

a) 16 b) 23 c) 11 d) 22

Q15. What will be the simple interest on certain sum of Rs. 5000 and amount is Rs. 5600.

a) Rs. 11600 b) Rs. 600 c) Rs. 5000 d) Rs. 5600

Q16. Out of 60 students of a class, 20 are girls. What percent of students are boys?

a) 40% b) 20% c) 60% d) 66.67%

Q17. The symbol for congruence is

a) $\equiv$ b) $\approx$ c) $\cong$ d) $\sim$

Q18. If $\Delta ABC \cong \Delta PQR$, then $\angle B$ corresponds to

a) $\angle P$ b) $\angle Q$ c) $\angle R$ d) none of these

Directions: In the following questions a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

a) Both assertion (A) and reason (R) are true and reason (R) is correct explanation of assertion (A).

b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A).

c) Assertion (A) is true but reason (R) is false.

d) Assertion (A) is false but reason (R) is true.

Q19. **Assertion (A)** – The ratio of 50 paise to Rs. 1 is 1:2.

Reasons (R) - A ratio can be defined as the relationship or comparison between two numbers of the same unit to check how big is one number than the other one.

Q20. **Assertion (A)** – A triangle with three equal sides is called an equilateral triangle.

Reasons (R) – triangle with two equal sides is called a scalene triangle.

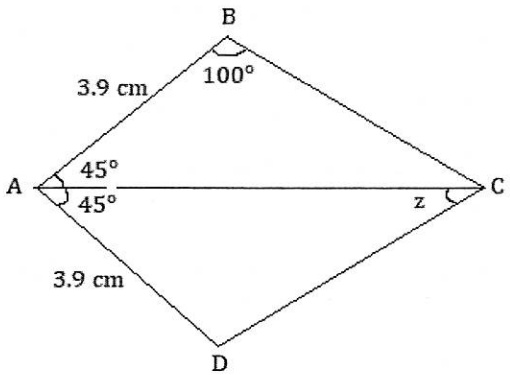
(SECTION – B)

Answer the following questions:

Q21. Write faces and edges of a cuboid.

Q22. Find the measurement of unknown in the given pairs of congruent triangles.

(Use congruence rule).

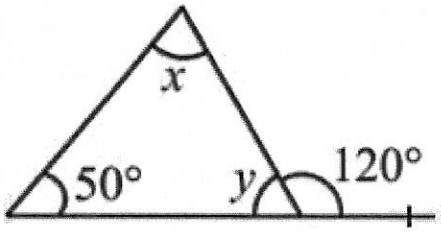


Q23. Find the circumference of a circle whose diameter is 7.7 cm.

OR

Find the area of a triangle whose base is 52 cm and hypotenuse is 65 cm.

Q24. Find the value of unknown x and y in the given figure.



Q25. Find two equivalent ratios of 9 : 24.

OR

Express the given ratios in simplest form: 35 days to 6 weeks

Q26. A man lost 8% by selling his motorcycle for Rs. 27600. Then find the CP of the motorcycle?

OR

Find : 30% of 500

Q27. Write down terms and factors of the given expressions:

$7a^2b - 5ab$

Q28. Simplify: $3^2 \times 10^3$

(SECTION – C)

Q29. Write faces, edges and vertices of Cube and Cone.

Q30. Solve as per direction:

a) Express 653900000 in standard form.

b) Express 9.085×10^6 in usual form.

c) Simplify: $(-5)^4$

Q31. The area of a triangle is equal to that of a square whose each side measures 35 cm. Find the side of the triangle whose corresponding altitude is 28 cm.

OR

Find the radius and diameter of a circular puddle whose circumferences is 220 cm.

Q32. Find the sum-

$5b - 2c + 3 - d$, $a + 2b - c + d$, $2 - d + 3c + a$

OR

Simplify: $[5c - (a + 2b)] - [3a - (b - 2c)]$

Q33. The angles of a triangles are in the ratio 5:6:7. Find the angles.

Q34. Find the simple interest and amount when principal = Rs. 5500, Rate = 14% p.a. and time = 3 years.

Q35. PQRS is square whose diagonal PR is joined. Prove that $\Delta PQR \cong \Delta PSR$ by the help of suitable congruence rule.

Q36. Construct an equilateral triangle of side 6.3 cm.

OR

Construct 45° by using ruler and compass.

(SECTION – D)

Q37. Simplify the given equation and find the value when $x = -2$ and $y = 1$.

$$-3(x+y) + 4(2x-3y) - (2x-y)$$

OR

What should be added to $3 - 2x^2y - xy^2$ to get $3 - 3x^2y - 2xy^2$?

Q38. The length and breadth of a rectangular field are in the ratio 4 : 3. If the area of the field is 4800 m^2. Find length, breadth and perimeter of the field.

OR

A race track is in the form of a ring. The inner circumference of the racetrack is 352 m and the outer circumference is 396 m. Find the width of the track.

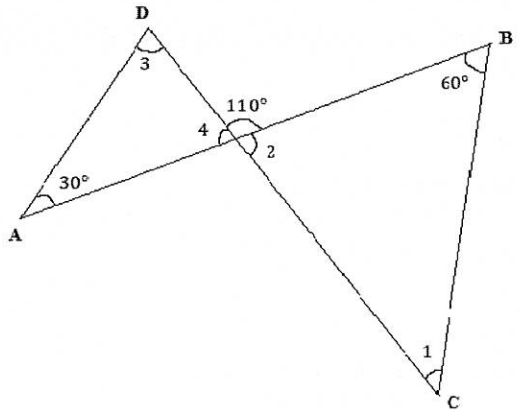
Q39. Evaluate :

$$\frac{2^4 \times 25 \times 9^2 \times 15^4}{5^4 \times 6^2}$$

Q40. Construct a ΔPQR in which QR = 5.8 cm, $\angle Q = 60°$ and $\angle R = 30°$ by using ruler and compass. Also, measure $\angle P$.

Case study based question:

Based on the given diagram answer the following questions.



Q41. The value of $\angle 1$ is

a) 20° b) 30° c) 40° d) 50°

Q42. The value of $\angle 2$ is

a) 90° b) 70° c) 45° d) 180°

Q43. The value of $\angle 3$ is

a) 100° b) 110° c) 60° d) 80°

Q44. The value of $\angle 4$ is

a) 70° b) 120° c) 110° d) 140°

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