

O. P. JINDAL SCHOOL, SAVITRI NAGAR
Annual Examination - (2022 – 2023)

Class / Section: VIII
Subject: Mathematics

Name: _____

MM: 80
Time: 3 Hrs.
 Roll No. : _____

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

General Instructions:

- (i) This question paper has 5 sections A-E.
 (ii) Section A has 20 MCQs carrying 1 mark each.
 (iii) Section B has 5 questions carrying 2 marks each.
 (iv) Section C has 6 questions carrying 3 marks each.
 (v) Section D has 4 questions carrying 5 marks each.
 (vi) Section E has 3 case based integrated units of assessment (04 marks each) with sub-parts of the values of 1 mark each.
 (vii) All the questions are compulsory. There is no overall choice. However an internal choice has been provided. You have to attempt only one of the alternatives in all questions.

SECTION – A

- Q1.** How many vertices will be in a polyhedron with 7 faces and 12 edges?
 a) 7 b) 10 c) 8 d) 12
- Q2.** Find the quotient of $(3xy^2 \div 3xy)$
 a) $6x^2$ b) $3x$ c) x d) y
- Q3.** A line graph which is a whole unbroken line is called a:
 (a) Bar graph b) Histogram c) Pie chart d) Linear graph
- Q4.** Product of: $-2z^2$ and $3z$
 a) $-6z^3$ b) $6z^2$ c) $-6z^2$ d) None of these
- Q5.** 8065 is divisible by:
 a) 9 b) 5 c) 4 d) 8
- Q6.** Exponential form of $7^{-2} \div 7^3$
 a) 7^{-5} b) 7^5 c) 7^1 d) 7^{-1}
- Q7.** $1 \text{ m}^2 = \underline{\hspace{2cm}} \text{ cm}^2$
 a) 10 b) 100 c) 1000 d) 10000

- Q8.** How many edges are in a square pyramid?
a) 9 b) 7 c) 8 d) None of these
- Q9.** In a class 60% are girls, if the total strength of the class is 30 then find number of girls.
a) 12 b) 18 c) 20 d) 30
- Q10.** Sum of two numbers is 42. If one number is double of the other, find both numbers.
a) 10, 20 b) 13, 26 c) 14, 28 d) none of these
- Q11.** If $2p + 4 = 0$, then p is
a) 2 b) -3 c) -1 d) -2
- Q12.** Value of $\left(\frac{-1}{5}\right)^{-3}$
a) $\frac{-1}{15}$ b) 125 c) $\frac{-1}{125}$ d) -125
- Q13.** x and y vary in inverse proportion. When $x = 5$, then $y = 12$. Find x when $y = 10$.
a) 12 b) 9 c) 3 d) 6
- Q14.** Find factors of $2x^2y - 4xy$.
a) $2xy(x - 2)$ b) $2x(2xy - 2y)$ c) $xy(2x - 2)$ d) $2y(x^2 - 2x)$
- Q15.** 68970000 can be written in standard form as:
a) 6.897×10^{-7} b) 689.7×10^{-5} c) 6.897×10^7 d) 68.97×10^6
- Q16.** Add: $(3xy + 4)$, $(-xy - 7)$, $(2 - xy)$
a) $-xy + 1$ b) $xy - 1$ c) $3xy - 6$ d) $2xy + 1$
- Q17.** Find the area of a trapezium if the sum of its parallel sides is 50 cm and height is 10 cm.
a) 220 cm^2 b) 250 cm^2 c) 500 cm^2 d) None of these
- Q18.** If $405x$ is exactly divisible by 9, then the least value of x is
a) 9 b) 7 c) 0 d) 5

Q19. In a 3-D figure, there are 12 edges, 8 vertices and 6 faces. This 3-D solid can be:

- a) Cuboid b) Triangular prism c) Cone d) None of these

Q20. Find height of a cuboid whose volume is 108 cm^3 and base area is 54 cm^2 .

- a) 2cm b) 6cm c) 7cm d) 8cm

SECTION – B

Q21. Find quotient: $(x^2 - 4) \div (x + 2)$

OR

Solve: $3xy + (-4 + xyz) + (2xy - xyz)$

Q22. Verify Euler's formula for a tetrahedron.

Q23. Find the value of x: $5^x \times 5^{2+x} = 5^4$

OR

Solve: $\frac{3^{-2} \cdot 2^4}{3^{-5} \cdot 16}$

Q24. Find the value of A and B.

$$\begin{array}{r} A \quad 2 \\ + 7 \quad B \\ \hline 8 \quad A \\ \hline \end{array}$$

Q25. Factorise: $25x^2 - 10xy + y^2$

SECTION - C

Q26. If each edge of a cube is doubled,

- (i) How many times will its surface area increase?
(ii) How many times will its volume increase?

OR

Find the volume of the cylinder if the circumference of the cylinder is 132 cm and height is 25 cm.

Q27. Solve: $\frac{2x+1}{3} - \frac{x-9}{15} = \frac{1}{3}$

OR

The ages of Hari and Harry are in ratio 5 : 7, Four years from now the ratio of their ages will be 3 : 4. Find their present ages.

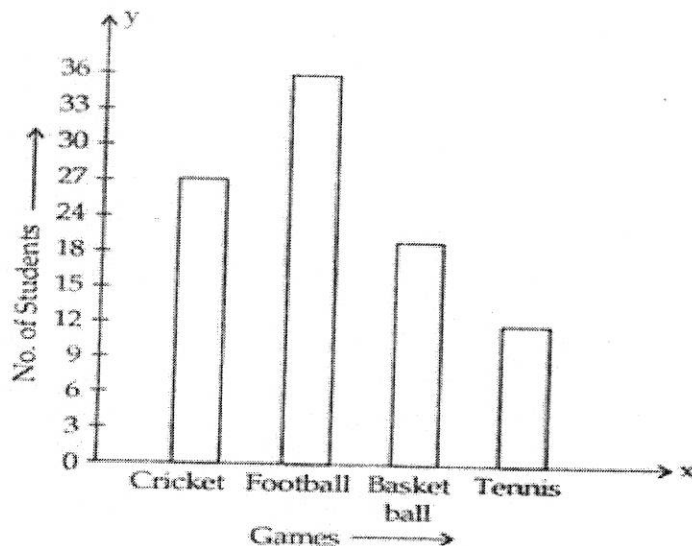
Q28. Using identity, find the value of: 98×102

OR

Simplify: $(a^2 + 5)(b^3 + 3) + 5$

Q29. Read the graph and answer the following questions:

- (a) What information is shown in graph?
- (b) Which game is liked by most of the students?
- (c) How many students like cricket more than tennis?

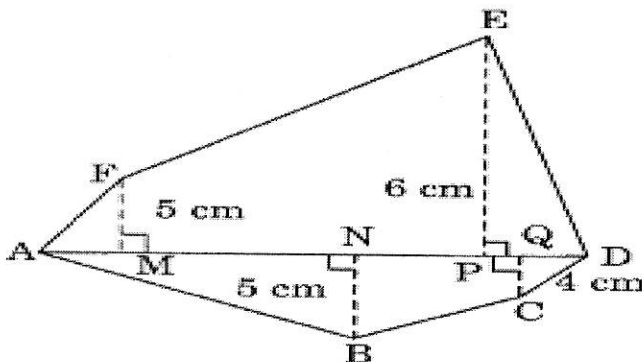


Q30. A football team wins 7 games, which is 35% of the total games played. How many games were played in all? and how many games team lost?

Q31. If the thickness of a pile of a 12 cardboard is 65 mm, find the thickness of a pile of 312 such cardboards in centimeter.

SECTION - D

Q32. Find the area of polygon ABCDEF, if $AD = 18$ cm, $AQ = 14$ cm, $AP = 12$ cm, $AN = 8$ cm, $AM = 4$ cm, and FM, EP, QC and BN are perpendiculars to diagonal AD where $FM = 5$ cm, $BN = 5$ cm, $QC = 4$ cm, and $EQ = 6$ cm.



- Q33.** A train is moving at a uniform speed of 75 km/hour.
- How far will it travel in 20 minutes?
 - Find the time required to cover a distance of 250 km.

- Q34.** Draw a line graph for the following table which shows the cost of apples.

Number of apples	1	3	4	5	6
Cost (in ₹)	5	10	15	20	25

OR

Plot the following points on a graph sheet. Verify if they lie on a line and passes through origin.

P (1, 1), Q (2, 2), R (3, 3), S (4, 4)

- Q35.** Maria invested ₹8,000 in a business. She would be paid interest at 5% per annum compounded annually. Find (i) The amount credited against her name at the end of the second year.
(ii) The interest for the 3rd year.

OR

The population of a city increases by 10% of what it had been at the beginning of each year. If the population in 1997 had been 7,26,000, find the population of the city in (i) 1999 (ii) 1995

SECTION-E

- Q36.** There are two types of boxes, cylindrical and cubical. The height and radius of the cylindrical box is 7cm and 14 cm respectively. It has been obtained that the side of cubical box is half the radius of the cylinder.
- Find side of cubical box.
 - What is the curved surface area of the cylindrical box?
 - What is the total surface area of cubical box?
 - Find difference between lateral surface area of both the boxes.
- Q37.** Rashmi collected an amount of ₹ $(x^2 + 2x + 1)$ for donation for the flood relief people. She collected the amount by total $(x + 1)$ students.
- What are the factors of amount?
 - How much money given by each student?
 - What is the amount if $x = 100$?
 - How many students have given money if $x = 20$.
- Q38.** Raman sold a watch for ₹990 and made a profit of 10%. He sold another watch at same price but suffered a loss of 10%.
- Find the cost price of first watch.
 - Find the cost price of second watch.
 - Find about profit or loss on whole transaction?
 - How much profit or loss is there on whole transaction?
