Question Paper Sadhan Devi Vidyapith (Session 2017-18)

साधना देवी विद्यापीठ

Punjabi Colony (Dharampur) Samastipur. 848101 (Bihar)

Final Terminal Examination- 2017-18

Class :- IX

Sub :- Maths

Time :- 3hrs

F.M. :-100

General instructions Section A contains 8 questions of 1 mark each & Section B contains 6 question of 2 marks each Section C contains 10 questions of 3 marks each & Section D contains 10 question of 5 marks each
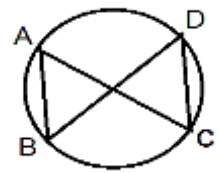
Section A

Choose the correct answer:

1. Which of the following is not a parallelogram.

(a) Rectangle (b) Square (c) Trapezium

2. In the given figure $<ABC = 70°$, $<ACB = 30°$, $<BDC = ?$ (a) 70° (b) 60° (c) 80°

3. In a medical examination of students the blood groups are as   A Student is selected at random the probability that chosen student has blood group AB is

Blood groups	A	AB	B	O
No. of Students	10	12	13	5

$(a)\frac{1}{4}$ $(b)\frac{3}{10}$ $(c)\frac{13}{40}$

4. Tally marks are used to find   (a) Mean   (b) Median   (c) Frequency   (d) Class mark

5. The semi perimeter of square is 12cm then area of the square is (a) $9cm^2$ (b) $36cm^2$ (c) $144cm^2$

6. If two sides of a right angled triangle is 5cm and 12cm then third sides is (a) 7em (b) 1.7cm (c) 13cm

7. In the given figure, ABCD is a rhombus and $< DAB = 70^0$. Then $<CDB$ (a) 65° (b) '70° (c) 55° D,
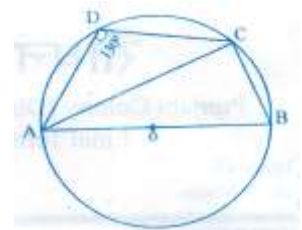
8. The radius of sphere is 21cm. What is the surface area of the sphere? (a) $9702cm^2$ (b) $5544cm^2$ (c) $4312cm^2$

Section B

9. How many metres of cloth 5m wide will required to make a conical tent of base radius 7m and height 24m.

10. The angles of quadrilateral are in the ratio 2 : 4 : 5 : 7 find these angles
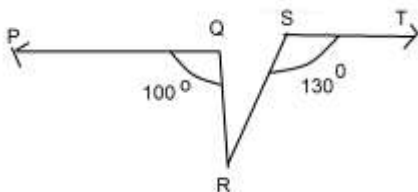
11. In the given figure O is the centre of the circle and $<ADC = 130^0$ find $<BAC$.

12. Find value of K, if x - 1 is a factor of $2x^2 + kx + 2$

13. A team scored following number of goals in a series of 10 matches are 2,3,4,5,0 , 1, 3 , 3 , 4 , 3 find mean scores

14. In the given figure PQ // ST, Find $<QRS$

Section C

15. If the diagonals of a cyclic quadrilateral are diameters of a circle through the vertices of the quadrilateral. Prove that it is a rectangle.

14. Draw a frequency polygon for the given data without constructing a Histogram

Cost of living index	140-150	150-160	160-170	170-180	180-190	190-200
Number of week	5	10	20	9	6	2

17. ABC is a triangle in which altitudes BE and CF equal. Prove that ABC is an isosceles triangle.

18. The following observations have been arranged in ascending order whose median is 63 .find the value of x.
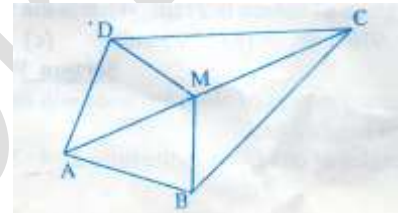
29, 32, 48, 50, x + 2, 72, 78, 84, 95

19. Construct a triangle ABC in which BC = 6cm <B = 60° and AC - AB = 2cm.

20. Prove that the perpendicular to the centre of a circle to a chord bisects the chord.

21. The curved surface area of a right circular cylinder of height 14cm is 88cm^2. Find the diameter of the base of the cylinder.

22. Find the area of a quad. ABCD in which AB = 9cm , BC = 12cm. CD = 5cm ,
DA = 8cm and <C = 90°.

23. Eleven bags of wheat flour each marked 5kg actually contained weights as (in
kg) : 4.97 , 5.05 , 5.08 , 5.03 , 5.00 , 5.06 , 4.98 5.04 , 5.07 , 5.00
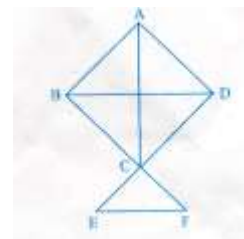Find the probability more than 5kg of flour.

24. In the given figure M is the midpoint of AC,
Prove that ar (ABMD) = ar (DMBC)

25. Construct a triangle ABC in which BC = 7cm <B = 75^0 , AB + AC = 13cm .
Write steps of constructions.

26. In the adjoining figure ABCD is a square with diagonal BD = 32m CEF is an
isosceles triangle where FF = 8m and each equal side is 6m. Find area of the
figure.

27. ABCD is a trapezium in which AB//CD and AD = BC, show that AC= BD.

28. ABCD is a rhombus and P, Q, R and S are the mid points of AB, BC, CD and DA respectively show that PQRS is a rectangle.

29. ABCD is a trapezium with. AB//DC, A line parallel to AC intersects AB at X and BC at Y, prove that ar(ADX) = ar(ACY).

30. A circular park of radius 20m is situated in a colony. Three boys A, B and C are sitting at equal distance on its boundary each having a toy telephone in his hands to talk each other. Find the length of string of each phone.

31. Draw a histogram for the following data. Also draw frequency polygon

Marks	10-15	15-20	20-25	25-30	30-35	35-40	140-45
No. of Students	7	9	8	5	6	10	4

32. In the given figure ABCD is a rectangle if the unshaded area is 48cm^2 and AB :
BC = 3 : 2 find perimeter of the rectangle.
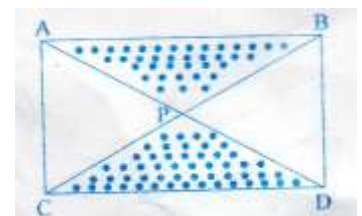
33. A right triangle with side 5cm , 12 cm and 13 cm is revolved about side 12cm. Draw figure of the solid so obtained and find the volume of the solid.

34. A Joker's cap is in the form of a right circular cone of base radius 7m and height 24m. Find the cost of sheet required for 10 such caps at the rate of Rs 17.50/m2