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**Sri Sumangala College - Panadura**

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ප්‍රථම වාර පරීක්ෂණය - 2020 මාර්තු  
**1<sup>st</sup> Term Test - March 2020**

ශ්‍රේණිය } 11 <b>Grade</b> }	විෂයය } <b>Subject</b> }	ගණිතය	පත්‍රය } II <b>Paper</b> }	කාලය } <b>Time</b> }	පැය 03
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- Answer 10 questions selecting 5 questions from part A and 5 questions from part B.
- Each question carries 10 marks.
- The volume of a cone of base radius r, height h is  $\frac{1}{3}\pi r^2 h$  and the volume of a sphere radius r is  $\frac{4}{3}\pi r^3 h$ .

**Part A**

❖ **Answer only 5 questions.**

- 1) A person deposited Rs:12000/= in the bank A. It pays 15% annual interest and after one year he deposited total amount which received from bank A in another bank named B. Its pays 25% annual interest.
  - I) After 6 months he withdrawer total amount from bank B. Find the total amount he received.
  - II) If he brought imported computer accessories by using the total amount he received from bank B and 15%. Import duty has added to it. Find the import amount of the computer accessories.

- 2) The table of values prepared to draw graph of function  $Y=2x^2 -3$  is given below.

X	-3	-2	-1	0	1	2	3
Y	15	5	.....	-3	-1	-5	15

- I) Find the value of y, when  $x=-1$
- II) Using a suitable scale draw the graph of the above function in graph paper.
  - Using graph;
- III) Write minimum point.
- IV) Give the range of x when  $Y \leq -2$ .
- V) Find the positive roots of  $2x^2 -3=0$
- VI) If the above graph shifted 4 units towards the y axis, Write the equation of the function.

3) The following table gives information above the mass of 80 apples.

Mass (Kg)	160-170	170-180	180-190	190-200	200-210	210-220
No: of apple	06	10	15	23	18	08

- I) Find the probability of getting the apple more than 200g..
- II) Find model class interval?
- III) Find the mean of the given data by nearest gramme.
- IV) If the vendor hopes to sell 500 apples within next week and he hopes to sell 100g of apples for Rs:60/= . Show that the vendor can gain more than Rs:60000/= income by selling 500 apples.

4) a) A square shaped lamina whose one side is  $y$  has been removed from the rectangular lamina whose length and breadth are  $2y$  and  $y+3$  respectively. The area of the remaining portion is  $55\text{cm}^2$ . According to given information.

- I) Show that:  $Y^2+6Y-55=0$
- II) Slove:  $Y^2+6Y-55=0$  and find the length and breadth of rectangle.

b) Simplify  $\frac{7}{p+2} - \frac{4}{p^2-4}$

5) a) The distance between the two stations is 340km. Two trains that run parallel to each other at the same time. The speed of one train is  $5\text{kmh}^{-1}$  more than other train. After two hours the two trains are 30km apart. Find the speed of two trains?

b) Simplify 
$$\begin{aligned} 2x + 3Y &= 5 \\ 3X - Y &= -9 \end{aligned}$$

6) a) A hollow cone that is 5cm in radius and 12cm in slant height is filled with water.  $\frac{1}{4}$  of filled water removes when some spheres are add in to the conical container. The radius of the sphere is 0.5cm. Find the number of spheres which are add into conical container.

b) Simplify using log table  $\sqrt[3]{0.03791} \times 75.8$

### Part B

❖ Answer only 5 questions.

7) Square shaped tables are arranged for a certain competition as follows.

- A square table seats 4 people
- Two Square table joined together seat 6 people

➤ Three table joined together seat 8 peoples

- I) Write the number of seats in first five arrangements separately and name the progression that the above number sequence represents.
- II) If 10 tables are join as above find the number of seats in the arrangement
- III) If 32 seats are in a certain arrangement follow the number of tables used.
- IV) If 25 tables are joined in the last arrangement show that the number of seats in the hall are above 650.

8) By using straight edge and the compass drawing the construction line clearly.

- I) Construct the triangle ABC where  $BC=7\text{cm}$ ,  $\hat{A}BC = 75^\circ$  and  $AB=5\text{cm}$ .
- II) Construct the perpendicular bisector of BC
- III) Construct bisector of  $\hat{A}CB$ . Name the intersection point of the bisector and the (ii) perpendicular as "P"
- IV) Create a perpendicular to P to AC. Name the point where AC meets "L".
- V) Construct the circle such that center is P and radius is PL. Find the length of CL without measuring.

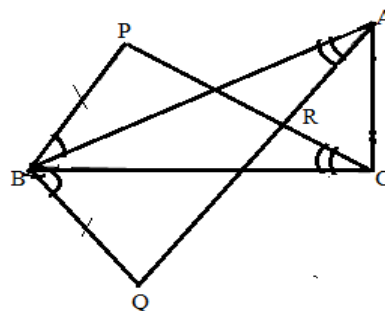
9) A window is located 9m up from the base of building P. The angle of elevation to the top of another building Q which opposite to P is  $50^\circ$  from the window and angle of depression to the base of the building Q is  $20^\circ$  from the same window. Draw a scale diagram to illustrate above information by using suitable scale. Find the distance between P and Q buildings and height of the building Q by using the scale diagram.

10) AB is a diameter of a circle whose center is "O". The chord AP bisects the angle  $\hat{B}AS$  Side As has produced up to Q and  $PQ=PA$  .

- I) Show that  $OP \parallel AQ$
- II) Prove that  $\hat{ASP} = 90^\circ + \hat{BAP}$
- III) Prove that  $\hat{APQ} = \hat{BPS}$
- IV) Show that  $\hat{SPQ} = 90^\circ$

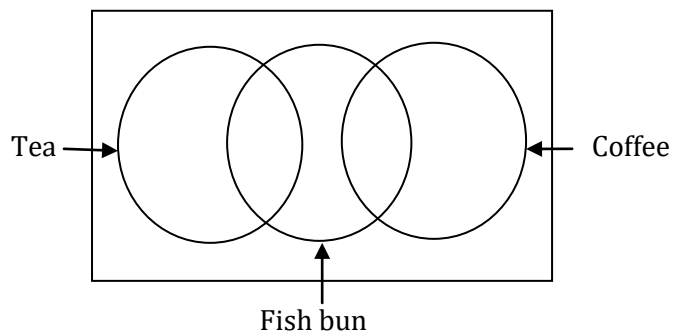
11)  $PB=BQ$ ,  $\hat{P}BA=\hat{C}BQ$  and  $\hat{B}AQ=\hat{B}OP$

- I) Show that  $\triangle PBC \cong \triangle QBA$
- II) Prove that  $RA = RC$



12) The venn diagram donates the information about 100 peoples in a pastry shop.

- 32 people takes Coffee
- 40 people takes Tea
- 50 people takes Fish bun
- 17 people don't take any
- No one takes Tea and Coffee



I) Complete the venn diagram

18 people takes Coffee and Fish bun

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II) How many people take only Tea?

III) Find the number of people doesn't take Coffee.