L.R. & S.M. Vissanji Academy
Secondary Section
REVISION –TEST
2021-22
SUBJECT : Mathematics

Class : 10 **Marks : 40**

Date : 7/ 02 /22 **Time: 1hr 15 mins**

INSTRUCTIONS:-

- **This paper consists of two sections (Section A & Section B).**
- **All questions in Section A & Section B are compulsory.**
- **In case of any discrepancies in the question paper contact your invigilator present in the class.**
- **This paper contains (3) printed sides.**

SECTION -A

Question -1

Choose the correct answers to the questions from the given .(Do not copy the question, Write the correct answer only)

i The invariant point with respect to the line y = -2 .

a. (3 ,2) b. (3 ,-2) c. (2 ,3) d. (-2 ,3)

ii The centroid of the triangle whose vertices are (3 ,-7) , (-8 ,6) and (5 ,10) is

a. (0 ,9) b. (0 ,3) c. (1 ,3) d. (3 ,3)

iii The inclination of the line y = $\sqrt{3}$ x - 5 is

a. 30^0 b.60^0 c. 45^0 d. 0^0

iv. If 2x -3y + 5 = 0 and px +6y + 7 =0 are parallel lines , then the value of p.

a. -4 b. 4 c. 2 d. 3

v The slope of the line passing through the points (3,-4) and (5 ,-6) is

a. 1 b.2 c. -1 d. 0

vi If radii of two concentric circles are 4cm and 5cm, then the length of each chord of one circle which is tangent to the other is

a. 3 cm b. 6cm c. 9cm d.1cm

vii The volume of the largest right circular cone that can be carved out from a cube of edge 4.2 cm is

a. 9.7 cm^3 b. 77.6cm^3 c. 58.2 cm^3 d. 19.4cm^3

viii $\frac{1+tan^2\ A}{1+cot^2\ A}$ is equal to

a. sec ^{2} A b. -1 c. cot^2 A d. tan^2 A

ix If the probability of a player winning a game is 0.33 . the probability of his losing this game is

a. 0.67 b. 0.76 c. 67 d. 0.067

x The diameter of a garden roller is 2.1 m and its width is 3m. what is the area covered by it in 10 revolutions .

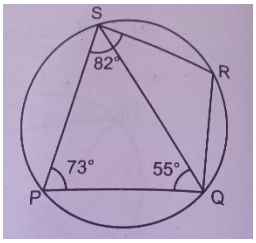
a . 198m^2 b.168m^2 c. 189m^2 d. 244 m^2

SECTION -B

Question -2

i) Find the equation of a line equally inclined to the co-ordinate axes and passing through the point P(5, -1)

[2]



ii)PQRS is a cyclic quadrilateral .Given LQPS = 73^0 ,

LPQS = 55^0 and LPSR = 82^0.

Calculate a) LQRS b) LPRQ **.** **[2]**

iii) Prove (sin $\theta + cosec\theta)^2$ + (cos $\theta + sec\theta)^2$ = 7 + tan^2 θ + cot^2 θ **[3]**

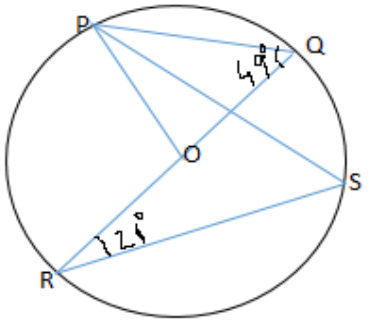
ii) The following table gives the weekly wages of workers in a factory [3**]**

Weekly wages	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90
No. of workers	5	20	10	10	9	6	12	8

Calculate a) The mean b) The modal class

Question -3

i) In the given circle ,O is the centre ,



L PQR = 49^0 and LQRS = 21^0 .Find LOPS

ii) Prove that $\sec^4 A - \tan^4 A = 1 + 2\tan^2 A$ **[2]**

iii) A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball is double that of a red ball, find the number of blue balls in the bag. **[3]**

iv) There is a small island in the middle of a 100m wide river and a tall tree stands on the island. P and Q are points directly opposite to each other on two banks and in line with the tree If the angle of elevation of the tree from P and Q are respectively 30^o and 45^o , find the height of the tree. **[3]**

Question -4

i) A cylinder is within the cube touching all the vertical faces , A cone is inside the cylinder . If their heights are same with the same base , find the ratio of their volumes. **[2]**

ii) Point P divides the line segment joining the points A(8,0) and B(16,-8) in the ratio 3:5.Find the co-ordinates of the point P .Also find the equation of the line through P and parallel to $3x + 5y = 7$ **[2]**

iii) The following table shows the marks scored by 80 students in an examination . **[3]**

Marks	Number of Students
0-10	3
10-20	7
20-30	15
30-40	24
40-50	16
50-60	8
60-70	5
70-80	2

Draw ogive for the given data and determine:

(a) the median

(b) the number of students who score more than 65 marks.

iv) Use graph paper for this question. Plot P (2,4), Q (-2,1) and R (5,0). Reflect the points P and Q in the x-axis to get P' and Q' . **[3]**

a) Write the co-ordinates of P' and Q' .

b) Give the geometrical name of the figure $PQQ'P'R$.

****