ADITYA TALENT SCHOOL

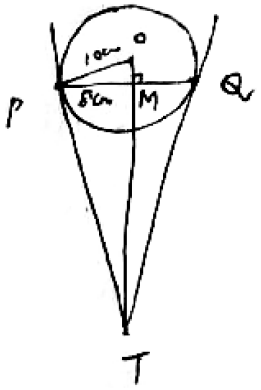
X CLASS **DAILY EXAM** **Dt : 19-04-2020**

MATHEMATICS - 2 (25 MARKS)

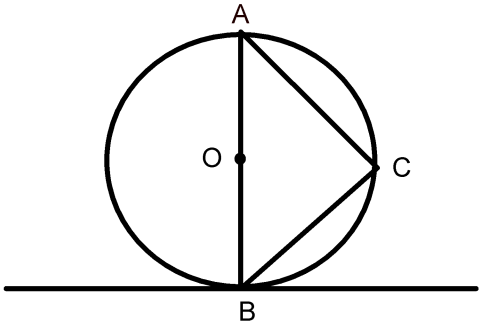
SECTION - I

$^1/_2$ mark questions. **20 x $^1/_2$ = 10**

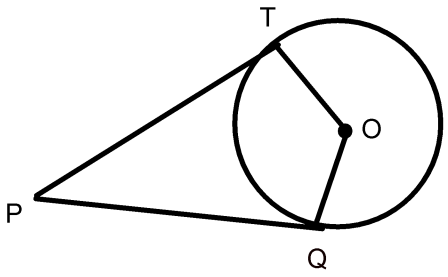
1. Two concentric circles are of radii 5 cm and 3 cm respectively. The length of a chord of the larger circle which is a tangent to the smaller circle is ..... cm.
2. Centre of the circle ..... to the circle (belongs / does not belong)
3. The number of the tangents drawn from an external point to the circle is .....
4. The area of a circle that can be inscribed in a square of sides 6 cm is ..... cm^2.
5. The area of a circle whose area and circumference are numerically equal is ..... sq.units.
6. The angle between a tangent to a circle and the radius drawn at the point of contact is .....
7. The length of tangent from a point 15 cm away from the centre of a circle of radius 9 cm is .....
8. If $\overline{AP}$ and $\overline{AQ}$ are the two tangents to a circle with centre O, so that $\angle POQ = 110°$, then $\angle PAQ =$ .....
9. The longest chord of a circle is .....
10. The straight line which intersects the circle in two coincident points is called a .....
11. The length of the minute hand of a clock is 14 cm. The area swept by the minute hand in 10 minutes is .....
12. Angle in a semicircle is .....
13. The parallelogram circumscribing a circle is .....
14. In the given figure, $\overline{PQ}$ is a chord of length 16 cm, of a circle of radius 10 cm. The tangents at P and Q intersect at a point T. Then the length of TP is ..... cm



15. In the given figure $\angle BAC = 60°$ and $\overline{AB}$ is a diameter. Then $\angle CBA =$ .....



16. In the given figure, $\overline{PQ}$ and $\overline{PT}$ are tangents to a circle with centre O and radius 5 cm. If $PQ = 12\,cm$, then the perimeter of quadrilateral PQOT is ..... cm.



17. The area of a quadrant of a circle whose radius is 2 cm is ..... cm^2.
18. The line containing the radius through the point of contact of the tangent of a circle is called ..... of the circle at that point.
19. The number of parallel tangents to a circle is .....
20. The word 'tangent' comes from the Latin word .....

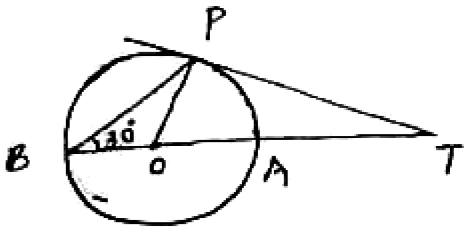
SECTION - II

1 mark questions. 15 x 1 = 15

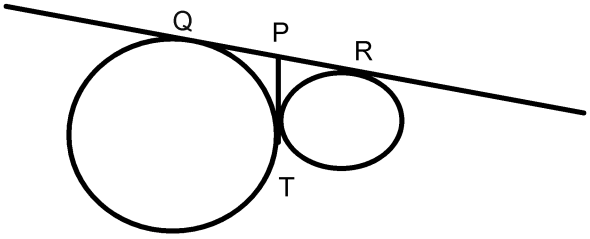
21. Prove that tangents to a circle at the end points of a diameter are parallel.
22. If a circle touches all the four sides a quadrilateral ABCD, then prove that $AB + CD = BC + DA$.
23. Find the area of a sector whose radius is 7 cm and angle at the centre is $120°$.
24. Define a secant of a circle.
25. Prove that the lengths of the tangents drawn from an external point to a circle are equal.
26. Define the point of contact of a tangent to a circle.
27. Define segment of a circle.
28. Write the formula for the area of a sector of a circle and explain the terms in it.

29. A chord of a circle of radius 10 cm subtends a right angle at the centre. Find the area of the corresponding minor segment.

30. In the given figure BOA is a diameter of a circle and the tangent at a point P meets BA produced at T. If $\angle PBO = 30°$, then find $\angle PTA$.



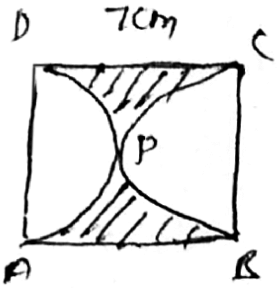
31. In the given figure, QR is a common tangent to the circles which meet at T. Tangent at T meets QR at P. If QP = 3.8 cm, then what is the length of QR?



32. How can you find the area of major segment of a circle using the area of minor segment?

33. How can you locate the centre of a circle when it is drawn by using the bangle?

34. Find the area of the shaded region in figure, if ABCD is a square of side 7 cm and APD and BPC are semicicrles.



35. Find the area of a regular hexagon of side 2 cm.

GENERAL SCIENCE - 2 (25 MARKS)

SECTION - I

Answer the following questions. Each question carries half mark.

1. I am double layered and the space between two layers is filled with fluid and I give protection to heart. Who am I?
2. Name the scientist that discovered capillaries.
3. Which animal phylum shows branched digestive system that supplies digested food directly to all the cells in the body?
4. Pick out organisms with open type of circulatory system from the given list.

   Leech, cockroach, starfish, butterfly, earthworm.

   Answer 5 and 6 questions by reading the following sentence.

   In fish blood flows through heart ___(5) and so it is called____ type of circulation.

7. Why do forest areas have more rainfall than nearby areas?
8. Find the mismatch

   1. Mitral valve ---- bicuspid valve
   2. Pacemaker ---- AV node
   3. Heart strings ---- Chordae tendineae

9. I am an annual plant with well defined characters and bisexual flowers, which was involved in Mendel's study. Who am I?
10. Expand DNA.
11. Name the scientist that wrote principles of geology.

    answer (12 and 13th) questions by reading the following paragraph.

    Structurally similar but functionally different organs are called_____(12) organs. Functionally similar but structurally different organs are called___(13) organs.

14. Find the correct match

1. Father of genetics ----- Darwin
2. Inheritance of acquired ----- Lamarck“ characters-
3. Natural selection ----- Mendel

15. What are the scientists that study fossils called?
16. What are allosomes?
17. Write down any two reasons for floods in a city or big town.
18. Tell one method of disposing of biodegradable waste in your house.
19. Define lymph.
20. Correct the sentence and rewrite.

    Systemic aorta originates from right ventricle and carries deoxygenated blood.

    Answer the following questions. Each question carries one mark.

SECTION - II

1 mark questions. 15 x 1 = 15

21. Find out the possible effects of local small scale industries on the environment.
22. Why do we get edema in our legs, after a long journey?
23. Walls of arteries are thicker and of veins are thinner. Why?
24. What are haemophilia and thalassemia?
25. Which part of the plant is studied by biologists with the help of aphids?
26. Which factors influence the rate of transpiration?
27. Do plants have circulatory system like animals? If so, what are the main components of it?
28. What makes 'lub' sound of heartbeat?
29. Human being is said to be' a moving museum of vestigial organs '. Why?
30. Raju went to library to study about interesting aspects of fossil dinosaur.“Which book will help him?
31. What is the phenotypic ratio of a cross between two heterozygous plants with round and yellow seeds.
32. Define. a) heredity b) variations
33. One researcher conducted cross hybridization of pure tall plant (TT) with a pure dwarf plant (tt) and got all tall plants in F1 generation. Why did dwarf character do not express in F1 generation?
34. What is meant by genotype?
35. What is the difference between a monohybrid cross and a dihybrid cross.