Paper 2018(Supp)

1. An equation of the form $\mathbf{2x^4 - 3x^3 + 7x^2 - 3x + 2 = 0}$ are:
   (a) Reciprocal equation (b) Radical equation
   (c) Exponential equation (d) None of these

2. The nature of roots of equation $\boldsymbol{ax^2 + bx + c = 0}$, is determined by:
   (a) Sum of roots (b) Product of roots
   (c) Synthetic division (d) Discriminant

3. If $A \subseteq B$, then $A - B$ is equal to:
   (a) A (b) B (c) $\emptyset$ (d) $B - A$

4. Sum of the deviation of variable X from its mean is always:
   (a) One (b) Negative (c) Same (d) Zero

5. When $\theta = 180°$ then $\boldsymbol{P(x, y)}$ lies on:
   (a) x=y (b) y-axis (c) x'-axis (d) y'-axis

6. In a continued proportion $\boldsymbol{a : b :: b : c}$, $\boldsymbol{ac = b^2}$, b is said to be _____ proportional between a and c.
   (a) Third (b) Fourth (c) Mean (d) Both A and B

7. $\frac{\boldsymbol{x^5}}{(\boldsymbol{x^2+1})^2}$ is:
   (a) A proper fraction (b) An improper fraction
   (c) An identity (d) A constant term

8. If $\frac{\boldsymbol{a}}{\boldsymbol{b}} = \frac{\boldsymbol{c}}{\boldsymbol{d}}$ then Componendo property is:
   (a) $\frac{\boldsymbol{a}}{\boldsymbol{a+b}} = \frac{\boldsymbol{c}}{\boldsymbol{c+d}}$ (b) $\frac{\boldsymbol{a}}{\boldsymbol{a-b}} = \frac{\boldsymbol{c}}{\boldsymbol{c-d}}$
   (c) $\frac{\boldsymbol{ad}}{\boldsymbol{bc}}$ (d) $\frac{\boldsymbol{a-b}}{\boldsymbol{b}} = \frac{\boldsymbol{c-d}}{\boldsymbol{d}}$

9. The angles with same vertices in a segment of a circle are:
   (a) Incongruent (b) Acute (c) Equal (d) Right

10. One and only one circle can pass through _____ non collinear points.
    (a) One (b) Two (c) Three (d) Four

11. Find half the perimeter of a circle whose radius is 20 cm, $(\pi = 3.14)$:
    (a) 31.42cm (b) 62.83cm (c) 125.65cm (d) 188.50cm

12. A 4cm long chord of a circle subtends a central angle of 60°, the radial segment of this circle is:
    (a) 1cm (b) 2cm (c) 3cm (d) 4cm

13. The opposite angles of any quadrilateral inscribed in a circle are:
    (a) Equal (b) Unequal
    (c) Complementary (d) Supplementary

14. The measure of the external angle of regular octagon is:
    (a) $\frac{\pi}{4}$ (b) $\frac{\pi}{6}$ (c) $\frac{\pi}{8}$ (d) $\frac{\pi}{2}$

15. If a circle passes through the vertices of a right angle ΔABC with $m\overline{AC} = 3cm$ and $m\overline{BC} = 4cm$, $m\angle C = 90°$ then the radius of the circle is:
    (a) 1.5cm (b) 2.0cm (c) 2.5cm (d) 5cm