

Paper 2017(Supp)

1. The solution set of equation,  $4x^2 - 16 = 0$  is:  
(a)  $\{\pm 4\}$  (b)  $\{4\}$  (c)  $\{\pm 2\}$  (d)  $\pm 2$
2. If  $\alpha, \beta$  are the roots of  $3x^2 + 5x - 2 = 0$ , then " $\alpha + \beta$ " is:  
(a)  $\frac{5}{3}$  (b)  $\frac{3}{5}$  (c)  $-\frac{5}{3}$  (d)  $-\frac{2}{3}$
3. Roots of the equation  $4x^2 - 4x + 1 = 0$  are:  
(a) Real, equal (b) Real, unequal (c) Imaginary (d) Irrational
4. Find ' $x$ ' in proportion  $4 : x :: 5 : 15$  is:  
(a)  $\frac{75}{4}$  (b)  $\frac{4}{3}$  (c)  $\frac{3}{4}$  (d) 12
5. The fourth proportional  $w$  of  $x : y :: v : w$  is:  
(a)  $\frac{xy}{v}$  (b)  $\frac{vy}{x}$  (c)  $xvy$  (d)  $\frac{x}{vy}$
6. Partial fraction of  $\frac{x+2}{(x+1)(x^2+2)}$  are of the form:  
(a)  $\frac{A}{x+1} + \frac{B}{x^2+2}$  (b)  $\frac{A}{x+1} + \frac{Bx+C}{x^2+2}$  (c)  $\frac{Ax+B}{x+1} + \frac{C}{x^2+2}$  (d)  $\frac{A}{x+1} + \frac{Bx}{x^2+2}$
7. If number of elements in set A is '3' and in set B is '2', then number of binary relations in  $A \times B$  is:  
(a)  $2^8$  (b)  $2^3$  (c)  $2^6$  (d)  $2^2$
8. A histogram is a set of adjacent:  
(a) Squares (b) Rectangles (c) Circles (d) Triangles
9. The observations that divide a data set into four equal parts are called:  
(a) Deciles (b) Quartiles (c) Percentile (d) Medians
10.  $\frac{1}{1+\sin\theta} + \frac{1}{1-\sin\theta}$  is equal to:  
(a)  $2\sec^2\theta$  (b)  $2\cos^2\theta$  (c)  $\sec^2\theta$  (d)  $\cos\theta$
11. Locus of a point in a plane equidistant from a fixed point is called:  
(a) Radius (b) Diameter (c) Circumference (d) Circle
12. A line which has only one point in common with a circle is called:  
(a) Sine of a circle (b) Cosine of a circle  
(c) Tangent of a circle (d) Secant of a circle
13. The length of a chord and the radial segment of a circle are congruent, the central angle made by the chord will be:  
(a)  $30^\circ$  (b)  $45^\circ$  (c)  $60^\circ$  (d)  $75^\circ$
14. The portion of a circle between two radii and an arc is called:  
(a) Sector (b) Segment (c) Chord (d) Tangent
15. How many common tangents can be drawn for two touching circles?  
(a) 1 (b) 2 (c) 3 (d) 4