10th Class 2021

Math (Science)	Group-II	PAPER-II
Time: 20 Minutes	(Objective Type)	Max. Marks: 15

Note: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that question with Marker or Pen ink in the answer-book. Cutting or filling two or more circles will result in zero mark in that question.

1-1- $\frac{x^3 + 1}{(x - 1)(x + 2)}$ is _____.

(a) A proper fraction (b) An improper fraction ✓

(c) An identity (d) A constant term

2- **A line which has two points 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 ✓

3- **The most frequent occurring observation in a data set is called:**

(a) Mode ✓ (b) Median

(c) Harmonic mean (d) Mean

4- **The length of the diameter of a circle is how many times the radius of the circle:**

(a) 4 times (b) 3 times

(c) 1 time (d) 2 times ✓

5- **The number of methods to solve a quadratic equation is:**

(a) 1 (b) 2

(c) 3 ✓ (d) 4

6- **The number of elements in power set {1, 2, 3} is:**

(a) 4 (b) 6

(c) 8 ✓ (d) 9

7- **Through how many non-collinear points can a circle pass:**

(a) One (b) Two

(c) Three ✓ (d) Four

8- Find x in proportion 4 : x : : 5 : 15:

(a) $\frac{75}{4}$ (b) $\frac{4}{3}$

(c) $\frac{3}{4}$ (d) 12 ✓

9- The semi-circumference and the diameter of a circle both subtend a central angle of:

(a) 90° (b) 180° ✓

(c) 270° (d) 360°

10- If $A \subseteq B$, then $A \cap B$ is equal to:

(a) A ✓ (b) B

(c) ϕ (d) $\{\phi\}$

11- Two square roots of unity are:

(a) 1, –1 ✓ (b) 1, ω

(c) 1, $-\omega$ (d) ω, ω^2

12- If $y^2 \propto \frac{1}{x^3}$, then:

(a) $y^2 = \frac{k}{x^3}$ ✓ (b) $y^2 = \frac{1}{x^3}$

(c) $y^2 = x^2$ (d) $y^2 = k x^3$

13- A histogram is a set of adjacent:

(a) Squares (b) Rectangles ✓

(c) Circles (d) Data

14- Cube roots of –1 are:

(a) $-1, -\omega, -\omega^2$ ✓ (b) $-1, \omega, -\omega^2$

(c) $-1, -\omega, \omega^2$ (d) $1, -\omega, -\omega^2$

15- $\text{cosec}^2\theta - \cot^2\theta =$ _____.

(a) $\tan\theta$ (b) 0

(c) –1 (d) 1 ✓