Paper Code Number: 6195	2015 (A)	Roll No: _____

INTERMEDIATE PART-I (11th CLASS)

MATHEMATICS PAPER-I GROUP-I TIME ALLOWED: 30 Minutes

OBJECTIVE MAXIMUM MARKS: 20

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve question on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) If S is sample space and E is an event, then:-

(A) $0 < P(E) < 1$ (B) $-1 < P(E) < 1$ (C) $0 \le P(E) \le 1$ (D) $-1 \le P(E) \le 1$

(2) If A and B are independent events, then $P(A \cap B) =$

(A) $P(A) + P(B)$ (B) $P(A) - P(B)$ (C) $P(A).P(B)$ (D) $P(A) + P(B) - P(A \cap B)$

(3) If n is even, then middle term in the expansion of $(a+x)^n$ is:-

(A) $\left(\frac{n}{2}+1\right)th$ (B) $\left(\frac{n}{2}-1\right)th$ (C) $\frac{n}{2}th$ (D) $\left(\frac{n+1}{2}\right)th$

(4) $\binom{3}{3} + \binom{4}{3} + \binom{5}{3} + ---- + \binom{n+2}{3}$ equals:-

(A) $\binom{n+3}{3}$ (B) $\binom{n+4}{3}$ (C) $\binom{n+4}{2}$ (D) $\binom{n+3}{4}$

(5) The area of the sector of circular region of radius r is given by:-

(A) $r^2\theta$ (B) $2r^2\theta$ (C) $\frac{1}{2}r^2\theta$ (D) $\frac{1}{3}r^2\theta$

(6) $2Sin^2\theta/2$ equals:- (A) $1 + Cos\,\theta$ (B) $1 - Cos\,\theta$ (C) $1 + Sin\,\theta$ (D) $1 - Sin\,\theta$

(7) The period of $Cot\ 8x$ is:- (A) π (B) 8π (C) $\frac{\pi}{8}$ (D) 2π

(8) With usual notations, $R =$ (A) $\frac{abc}{4\Delta}$ (B) $\frac{abc}{\Delta}$ (C) $\frac{4abc}{\Delta}$ (D) $\frac{4\Delta}{abc}$

(9) The value of $Sec\left(Sin^{-1}\frac{\sqrt{3}}{2}\right) =$ (A) $\frac{1}{2}$ (B) 2 (C) $\frac{\sqrt{3}}{2}$ (D) $\frac{1}{\sqrt{2}}$

(10) If $Sin\,x = \frac{1}{2}$, then $x =$ (A) $\frac{\pi}{6}, \frac{5\pi}{6}$ (B) $\frac{-\pi}{6}, \frac{5\pi}{6}$ (C) $\frac{-\pi}{6}, \frac{-5\pi}{6}$ (D) $\frac{\pi}{3}, \frac{2\pi}{3}$

(11) If n is prime number, then $\sqrt{n}$ is:-

(A) Rational (B) Irrational (C) Prime number (D) Complex number

(12) If A^C is complement of a set A, then $A \cap A^C$ is equal to:- (A) A (B) A^C (C) U (D) ϕ

(13) If $G = \{1, -1, i, -i\}$ is a group under multiplication, then inverse of $-i$ is:-

(A) 1 (B) -1 (C) i (D) $-i$

(14) If order of a matrix A is $m \times n$ and order of B is $n \times p$, then order of AB is:-

(A) $m \times n$ (B) $m \times p$ (C) $p \times m$ (D) $n \times p$

(15) $\begin{bmatrix} 1 & 0 \\ 0 & 0 \end{bmatrix}$ is:- (A) Null matrix (B) Identity matrix (C) Diagonal matrix (D) Scalar matrix

(16) For $ax^2 + bx + c = 0$, if $b^2 - 4ac < 0$, then roots are:-

(A) Real (B) Imaginary (C) Equal (D) Rational

(17) Equation $2^{2x} - 3.2^x + 32 = 0$, is ____ equation.

(A) Reciprocal (B) Radical (C) Exponential (D) Linear

(18) Partial fraction of $\frac{x^2+1}{(x-1)(x+1)}$ is of the form:-

(A) $1 + \frac{A}{x-1} + \frac{B}{x+1}$ (B) $\frac{A}{x-1} + \frac{B}{x+1}$ (C) $1 + \frac{Ax+B}{x^2-1}$ (D) $\frac{Ax+B}{x-1} + \frac{C}{x+1}$

(19) $\sum_{k=1}^{n} k^2 =$ (A) $\frac{n(n+1)}{2}$ (B) $\frac{n(n+1)(2n+1)}{6}$ (C) $\frac{n(n+1)(n+2)}{6}$ (D) $\left[\frac{n(n+1)}{2}\right]^2$

(20) No term of geometric sequence can be:- (A) 0 (B) 1 (C) 2 (D) 3