Paper Code Number: 8196	2015 (A)	Roll No: _____

INTERMEDIATE PART-II (12th CLASS)

MATHEMATICS PAPER-II TIME ALLOWED: 30 Minutes

GROUP-II **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) $\int \frac{1}{1+x^2}\,dx =$ _____ (A) $\tan^{-1}x$ (B) $Cot^{-1}x$ (C) $Cos^{-1}x$ (D) $Sin^{-1}x$

(2) $\int (e^x + 1)dx =$ _____ (A) e^x (B) $e^x + x$ (C) $e^x + x^2$ (D) $e^x + x^3$

(3) $\int Cot\,x\,dx =$ _____ (A) $\ell n\,Sec\,x$ (B) $\ell n\,Co\sec x$ (C) $\ell n\,Sin\,x$ (D) $\ell n\,Cot\,x$

(4) The distance between two points $A(x_1, y_1)$ and $B(x_2, y_2)$ is:- (A) $(x_2 - x_1)^2 + (y_2 - y_1)^2$

(B) $\sqrt{(x_2 - x_1) + (y_2 - y_1)}$ (C) $\sqrt{(x_1 - y_1)^2 + (x_2 - y_2)^2}$ (D) $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

(5) The slope of the line with inclination 0^o is:- (A) 0 (B) $\frac{1}{\sqrt{3}}$ (C) 1 (D) $\sqrt{3}$

(6) $x + 2y > 6$ is not satisfied by:- (A) $(2, 3)$ (B) $(2, 2)$ (C) $(3, 2)$ (D) $(3, 3)$

(7) Equation of circle with centre at origin and radius $\sqrt{5}$ is:-

(A) $x^2 + y^2 = \sqrt{5}$ (B) $x^2 + y^2 = 5$ (C) $x^2 + y^2 = 25$ (D) $x^2 - y^2 = 5$

(8) The point on the parabola which is closest to the focus is:-

(A) Vertex (B) Directrix (C) Focus (D) Origin

(9) $\vec{i} \,.\, \vec{i} =$ _____ (A) 0 (B) 1 (C) 2 (D) 3

(10) $\vec{j} \times \vec{k} =$ _____ (A) $\vec{i}$ (B) $-\vec{i}$ (C) 1 (D) 0

(11) $f(x) = x + 1$ is a function then $f(t^2 - 1) =$ _____ (A) $t + 1$ (B) $t^2 + 1$ (C) t (D) t^2

(12) If $f(-x) = -f(x)$ then f is called:-

(A) Linear function (B) Periodic function (C) Odd function (D) Even function

(13) $\frac{d}{dx}\left(\sqrt{x-9}\right) =$ _____ (A) $\frac{2}{\sqrt{x-9}}$ (B) $\frac{-1}{2\sqrt{x-9}}$ (C) $\frac{1}{2\sqrt{x-9}}$ (D) $\sqrt{x-9}$

(14) $\frac{d}{dx}(-Co\sec x) =$ _____ (A) $Cot^2 x$ (B) $Co\sec^2 x$ (C) $\tan x$ (D) $Co\sec x\,Cot\,x$

(15) Derivative of $Sin^{-1}x$ is:- (A) $Cos^{-1}x$ (B) $\frac{1}{\sqrt{1-x^2}}$ (C) $\frac{-1}{\sqrt{1-x^2}}$ (D) $Sin^{-1}x$

(16) If $y = e^{2x}$ then $\frac{dy}{dx}$ is:- (A) e^{2x} (B) $2e^{2x}$ (C) $4e^{2x}$ (D) $8e^{2x}$

(17) If $y = \ell n\,x$, then $y' =$ _____ (A) 0 (B) $\frac{1}{x}$ (C) 1 (D) x

(18) If $V = x^3$ then the differentional of V is:- (A) $3x^2dx$ (B) $3x^2$ (C) x^3dx (D) $3x^2dv$

(19) $\int \sec 5x \tan 5x\,dx =$ _____ (A) $5\sec 5x$ (B) $\frac{1}{5}\sec x$ (C) $\frac{1}{5}\sec 5x$ (D) $\frac{1}{5}\tan 5x$

(20) $\int a^x\,dx =$ _____ (A) $\frac{a^x}{\ell n\,a}$ (B) $\frac{\ell n\,a}{a^x}$ (C) $\frac{1}{a^x \ell n\,a}$ (D) $a^x . \ell n\,a$