ECAT Pre General Science Mathematics Online Test

Sr	Questions	Answers Choice
1	The line l is horizontal if	A. m is undefined B. m=0 C. m=1 D. m=0-1
2	The coordinates of a point P(x,y) referred to XY-system are	A. (x+y,y+k) B. (x-h,y-k) C. (x,y) D. (x-h,y-k)
3	The point of concurrency of the medians of the ΔABC is called its	A. Orthocenter B. Centriod C. Circumcentre D. Incentre
4	If the lines 2x-3y-1=0,3x-y-5=0 and 3x+py+8=0 meet at a unique point then	A. p = -14 B. p = -1 C. p =0 D. p=12
5	If the points (a,2b):(c,a+b):(2c-a,h) lie on the same line then	A. h=2a B. h=a+b C. h=ab D. h=ac
6	Area bounded between the curve xy=2 and the lines x=1 and x=2	A. ln2 square units B. ln√2 square units C. ln4 square units D. Square units
7	The degree of differential equation is the power of the	A. Lowest order derivative B. Highest order derivative C. Integral D. All are correct
8	An equation containing at least one derivative of a depends variable with respect to independent variable is a (an)	A. Implicit equation B. Differential equation C. General equation D. None of these
9	The process of finding a function whose derivative is given is called a	A. Differentiation B. Integration C. Differential D. None
10	The set of all antiderivaties of f(= ∫f(x)dx) is the	A. Definite integral B. Indefinite integral C. Integral D. Area
11	The function ø(x) is ananti derivativeof function f (x),x∈Df if	A. ø′(x) =∫f(x)dx B. ø(x) =∫f(x)dx C. ø′(x) =f(x) D. ø(x) =∫′(x)dx
12	The number of arbitrary constants in the general solution of a differential equation is equal to the different equation	A. Order B. Degree C. Variables D. All are correct
13	The different of tan x is	A. sec2 x B. ln |sec x| C. sec2 xdx D. -cos ec2 x
14	The approximate percentage increase in the volume of a cube if the length of its each edge changes from 5 to 5.02 is	A. 1.2% B. 1.5% C. 0.16% D. 100.16%
15	∛8.6 is approximately equal to	A. 2.488 B. 2.48 C. 2.0488 D. 2.05

16	The approximate increase in the area of a circular disc if its diameter increased form 44cm to 44.4cm is	A. 0.4cm B. 8.8πcm C. 17.6 πcm D. 35.2πcm
17	f(x)g(x)- ∫g(x) f′(x) dx is equal to	A. ∫f(x)g′(x)dx B. ∫f′(x)g(x)dx C. ∫f′(x)g(x)′dx D. ∫f(x)g(x)dx
18	The area bounded by y = x (x2 - 4) and below x - axis is	A. 4 B. 0 C. -4 D. 8
19	Archimedes approximate the function by horizontal function and the area under f by the sum of small	A. Parallelograms B. Squares C. Retangles D. Polygons
20	If y = 2x , then	A. y1 -ln2y = 0 B. y2-(ln2)2 y = 0 C. y2-(ln2)y1 = 0 D. All are correct
21	Two positive integers whose sum is 30 and their product will be maximum are	A. 12,18 B. 10,20 C. 15,15 D. 14,16
22	The velocity and acceleration at any point t of a particle which moves along straight line x = 5r-3	A. 5,3 B. 5,-3 C. 5,0 D. 10,0
23	The distance of a moving particle at any instant t is x = 3t2 +1 then velocity of particle at t = 10 is	A. 50 cm/sec B. 60 cm/sec C. 61 cm/sec D. None of these
24	If y=sin(ax+b) then y4=_____:	A. sin4(ax+b) B. a4sin(ax+b) C. a4cos(ax+b) D. None of these
25	If f(√x)=sin x , then f′(x) =_____;	A. 2xcosx2 B. cosx2 C. cos√x D. None of these
26	If f (x) = |x|, then (0,0) is the	A. Critical point B. Inflection point C. Stationary point D. None of these
27	If f (x)=a0 +a1x+a2x2+a3x3-----+0n-1xn-1+anxn then f(n) (x) is equal to	A. n! B. ann! C. 0 D. an
28	If y = eax sin bx and y2 - 2ay1 + (a2+b2) y=0 the for what values of a and b we have y2+10y1+34y =0	A. a = -10,b=34 B. a=-5,b=3 C. a=5,b=3 D. a=10,b=34
29	A stationary point x is a relative exterma of y= f(x) is	A. f″ (x) > 0 B. f″ (x) < 0 C. f″ (x) ≠ 0 D. f″(x) = 0
30	The interval in which f(x)=x3-6x2+9x is increasing	A. 1<x<3 B. x<1 and x>3 C. X ≥1 and x ≤ 3 D. -∞ < x < ∞