2007 M.C.A COMPUTER APLICATIONS

MCA MOCK TEST QUESTION PAPER

MATHMATICS (Mock Test 2)

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For TCYonline.com

Time : 3 hour
Mark : 60

Q-1 The function $f(x) = x / 1 + x^2$ is
(a) not one-one (b) one-one
(c) not continuous at $x = 0$ (d) none of these

Q-2 ? x^0 dx = ?
(a) 2 x (b) x
(c) 3 (d) 55

Q-3 If $dy/dx = e – 2y$ & $y = 0$, when $x = 5$, then the value of x when $y = 3$ is
(a) e^5 (b) e^6
(c) $e^6 + 9 / 2$ (d) none of these

Q-4 $y = 0$ is
(a) xy – plane (b) yz – plane
(c) xz – plane (d) none of these

Q-5 In three dimensional space , the locus of the equation $x^2 + y^2 = 0$ is
(a) { (0 , 0 , 0) } (b) XY – plane
(c) Z – axis (d) none of these

Q-6 The shortest distance between two intersecting lines is always
(a) 0 (b) 1
(c) 11 (d) 4

Q-7 The median of the data 1 , 3 , 4 , 2 , 6 , 7 , 8 , 4 , 5 , 10 , 11 is
(a) 4 (b) 5
(c) 6 (d) 7

Q-8 G.M of the observation 2 , 4 , 8 , 16 , 32 is
(a) 21/3 (b) 23
(c) 12.4 (d) none of these

Q-9 The line $3x – 4y = 0$ is
(a) is a tangent to the circle $x^2 + y^2 = 25$ (b) is a normal to the circle $x^2 + y^2 = 25$
(c) does not meet the circle $x^2 + y^2 = 25$ (d) does not pass through the origin

Q-10 cos 900 = ?
(a) 1 (b) 0
(c) 3 (d) 4

b

Q-11 If n = 2 , then which of the rule is applicable to solve ? f (x) dx

a

(a) Simpson's 3/8 rule (b) weddle's rule

(c) Simpson's 1/3 rule (d) none of these

Q-12 If x = cos2? + sec2? then

(a) x ? 1 (b) x ? 2

(c) x ? 1 (d) none of these

Q-13 3 (sin ? – cos)4 + 6 (sin ? + cos ?)2 + 4 (sin6? + cos6?) is equal to

(a) 0 (b) 13

(c) 7 (d) none of these

Q-14 The value of tan ?/8 tan 3?/8 is equal to

(a) 1 (b) – 1

(c) 2 (d) none of these

Q-15 What is the polar form of 0

(a) cos 2 + i sin 2 (b) cos 2 + i sin 3

(c) cos 3 + i sin 2 (d) cos 0 + i sin 0

Q-16 21/4 . 41/8 . 81/16 --------------- to ? is equal to

(a) 1 (b) 2

(c) 3/2 (d) 5/2

Q-17 If x is a non-zero rational number & xy is irrational , then y must be

(a) a rational number (b) an irrational number

(c) non-zero (d) an integer

Q-18 Let A be an invertible 3 ? 3 matrix , then det (A adj A) is equal to

(a) (det A) – 1 (b) (det A) 3

(c) (det A)2 (d) det A

Q-19 ? x3 ?x? dx is equal to

(a) x 5 / 5 (b) x 5 / 6

(c) x4 ?x? / 4 (d) none of these

Q-20 nth term of the sequence ½ , ¾ , 7/8 , -------------- is

(a) 2n – 1 (b) 2n – 1/ 2n

(c) 1 – 1/ 2n (d) none of these

Q-21 Area enclosed between x – axis , the graph of y = x3 & the ordinates x = – 1 , x = 1 is

(a) 0 (b) ½

(c) ¼ (d) none of these

Q-22 The expansion of (8 – 3x)3/2 in terms of power of x is valid only if

(a) x < 3/8 (b) b < 8/3

(c) x > 8/3 (d) ?x? < 8/3

Q-23 In 4 + i5 , which one of them is real part

(a) 4 (b) 5

(c) both a & b (d) none of these

Q-24 In 4 (cos 300 + i sin 300) , what is the argument

(a) 150 (b) 200

(c) 550 (d) 300

Q-25 Octal representation of the number 0.1875 is

(a) (0.15)8 (b) (0.41)8

(c) $(0.14)8$ (d) None of these

Q-26 Equation of the sphere which passes through the points $(a , 0 , 0)$, $(0 , b , 0)$, $(0 , 0 , c)$ & $(0 , 0 , 0)$ is

(a) $x2 +y2 + z2 – ax – by – cz = 0$ (b) $x2 +y2 + z2 + ax – by – cz = 0$

(c) $x2 +y2 + z2 – ax + by – cz = 0$ (d) $x2 +y2 + z2 – ax – by + cz = 0$

Q-27 If In is the identity matrix of order n , then $(In) – 1$

(a) does not exist (b) = In

(c) = O (d) = nIn

Q-28 The system of equations $x + y + z = 6$, $x + 2y + 3z = 14$, $x + 3y + 5z = 20$ has

(a) a unique solution (b) only finitely many solution

(c) infinitely many solution (d) no solution

Q-29 If det A = 3 , & A is of order 2 ? 2 , then det 4A is equal to

(a) 3 (b) 12

(c) 48 (d) 36

Q-30 $tan 750 + cot 750$ is equal to

(a) 2?3 (b) 2 + ?3

(c) 2 – ?3 (d) 4

ANSWER

1 2 3 4 5

a b c c c

16 17 18 19 20

b b b c c

6 7 8 9 10

a b b b b

21 22 23 24 25

b d a d c

11 12 13 14 15

c c b a d

26 27 28 29 30

a b d c d