Exam: MST-II_Nov-2021_CA3CO11_Mathematics-III_Reschedule

Mathematics -III (T)
0/40

1 Not Answered

For large values of n and small values of Probability of success P Binomial distribution _____.

A.	**loses its discreteness**
✓ B.	**tends to Poisson distribution**
C.	**stays as it is**
D.	**Gives oscillatory values**

2 Not Answered

The mean and variance of _____ distribution are same.

✓ A.	Poisson Distribution
B.	Normal Distribution
C.	Exponential Distribution
D.	Binomial distribution

3 Not Answered

If the function y=f(x) is defined in the interval [0,2] which is divided into 6 equal parts, then the value of h is

A.	0

✓ B.	1/3
C.	4/5
D.	1/6

4 Not Answered

The standard normal variate formula for normal distribution is given by

A.	$Z = \frac{X}{\sigma}$
B.	$Z = \frac{\mu}{\sigma}$
C.	$. Z = \frac{X+\mu}{\sigma}$
✓ D.	$Z = \frac{X-\mu}{\sigma}$

5 Not Answered

The mean and variance of _____ distribution are same.

✓ A.	Poisson Distribution
B.	Normal Distribution
C.	Exponential Distribution
D.	Binomial distribution

6 Not Answered

The value of k for the p.d.f
$f(x) = \begin{cases} kx^2, 0 \le x \le 3 \\ 0, otherwise \end{cases}$ is

A.	$2/9$
B.	$1/3$
✓ C.	$1/9$
D.	1

7 Not Answered

The points of inflexion of normal curve are -

✓ A.	$\pm\sigma$
B.	σ^2
C.	$-\sigma^2$

8 Not Answered

If dydx=y-xy+x with y(0)=1, then by Using Euler's method, the first approximation value of y corresponding to x=0.1 is

A.	1
B.	1.3

✓ C.	1.02
D.	2.1

9 Not Answered

$y_{n+1} = y_n + \frac{1}{2}(k_1 + k_2), where\ k_1 = hf(x_n, y_n)$ *and*
$k_2 = hf[x_n + h, y_n + hf(x_n, y_n)]$ is a Runge's formula of order _____.

A.	1
✓ B.	2
C.	3
D.	4

10 Not Answered

The formula for Euler's method is given by y_{n+1}=

✓ A.	**$y_n+hf(x_n,y_n)$**
B.	**$y_{n-1}+hf(x_n,y_n)$**
C.	**$y_n+f(x_n,y_n)$**
D.	**$y_{n-1}+f(x_n,y_n)$**

11 Not Answered

To solve ordinary differential equation $\frac{dy}{dx} = f(x, y)$ in which of the following

method the value of y is first predicted and then corrected

A.	Euler's Modified method
B.	Taylor's series method
C.	Runge kutta method
✓ D.	None of these

12 Not Answered

In Binomial distribution, the value of variance is

A.	$\sqrt{np}$
B.	$\sqrt{npq}$
C.	np
✓ D.	None of these

13 Not Answered

If range [-3,3] is divided in to six equal part then inter length h=

✓ A.	1
B.	2
C.	3
D.	None

14 Not Answered

The Poisson distribution is defined as (where symbols have their usual meaning in probability)

✓ A.	$\frac{e^{-m}m^r}{r!}$
B.	$\frac{e^{m}m^r}{r!}$
C.	$\lambda e^{-\lambda x}$
D.	$n_{c_r}q^{n-r}p^r$

15 Not Answered

Which of the following methods is a multi-step method?

A.	**Euler**
B.	**Runge-Kutta**
C.	**Taylor series**
✓ D.	**None of these**

16 Not Answered

The curve $y = f(x)$ is assumed to be a straight line in _____rule.

✓ A.	Trapezoidal

B.	Simpson’s 1/3
C.	Simpson’s 3/8
D.	None of these

17 Not Answered

Weddle Rule is used to find the solution of

A.	Ordinary differential equation
✓ B.	Numerical Integration
C.	Partial differential equation
D.	Both Ordinary and partial differential equation

18 Not Answered

The process of numerical integration is called

✓ A.	Quadrature
B.	Curvature
C.	Truncation
D.	All are true

19 Not Answered

The value of k for the p.d.f

$$f(x) = \begin{cases} kx^2, 0 \leq x \leq 3 \\ 0, otherwise \end{cases}$$ is

A.	2/9
✓ B.	1/3
C.	1/9
D.	1

20 Not Answered

Picard's method belongs in the category of

✓ A.	single step method
B.	double step method
C.	Multi step method
D.	None of these.

21 Not Answered

Using Runge-Kutta method of fourth order find the value of k_1 ,if $y' = xy, for\ x = 1.1\ and\ y(1) = 2$ by taking $h = 0.1$

A.	1
✓ B.	0.2
C.	2

D.	3

22 Not Answered

A variable that can assume any value between two given points is called _____

✓ A.	Continuous random variable
B.	Discrete random variable
C.	Irregular random variable
D.	None of these

23 Not Answered

Weddle Rule is used to find the solution of

✓ A.	Numerical Integration
B.	Ordinary differential equation
C.	Partial differential equation
D.	Both Ordinary and partial differential equation

24 Not Answered

The polynomial of order 1 is integrated by ____ rule.

A.	Simpson’s 1/3
✓ B.	Trapezoidal

C.	Simpson's 3/8
D.	Weddle

25 Not Answered

In which formula the number of sub-intervals should be taken as multiple of 6

A.	Trapezoidal rule
B.	Simpson's 3/8 rule
C.	Simpson's 1/3 rule
✓ D.	Weddles Rule

26 Not Answered

What does (1-p) stand for in the binomial distribution?

A.	**number of trials**
B.	**number of success**
C.	**Probability of success**
✓ D.	**Probability of failure**

27 Not Answered

To solve ordinary differential equation using Euler's Modified method $\frac{dy}{dx} = f(x, y)$, y (0) = 1 at x = 1 with h = 0.1, how many steps (n) are required ?

A.	1
✓ B.	10
C.	3
D.	5

28 Not Answered

In trapezoidal rule h is divided by

A.	3
✓ B.	2
C.	4
D.	None

29 Not Answered

A variable which can assume finite or countably infinite number of values is known as

A.	Continuous
✓ B.	Discrete
C.	Qualitative
D.	None of these.

30 Not Answered

Using Picard's method, find the first approximation of $\frac{dy}{dx} = x + y$ when $x_0 = 0, y_0 = 1$.

A.	x^2
B.	$2x^2$
✓ C.	$xy + \frac{x^2}{2}$
D.	2x

31 Not Answered

The Binomial distribution is defined as (where symbols have their usual meaning in probability)

A.	$\frac{e^{-m}m^r}{r!}$
B.	$\frac{e^{m}m^r}{r!}$
C.	$\lambda e^{-\lambda x}$
✓ D.	$n_{c_r}q^{n-r}p^r$

32 Not Answered

A variable that can assume any value between two given points is called _____

✓ A.	Continuous random variable
B.	Discrete random variable
C.	Irregular random variable
D.	None of these

33 Not Answered

The variance of exponential distribution is

A.	$\frac{1}{\lambda}$
✓ B.	$\frac{1}{\lambda^2}$
C.	λ
D.	λ^2

34 Not Answered

To solve ordinary differential equation using Euler's Modified method $\frac{dy}{dx} = f(x, y)$, y (0) = 1 at x = 1 with h = 0.5, how many steps (n) are required ?

A.	1
✓ B.	2
C.	3
D.	None of these

35 Not Answered

Which of the following continuous distribution is a limiting form of Binomial distribution?

A.	Poisson distribution
B.	Exponential distribution
C.	Gamma distribution
✓ D.	Normal distribution

36 Not Answered

The relation of mean and variance for the binomial distribution is –

Where m = mean and σ^2 = variance

A.	$m = \sigma$
✓ B.	$m < \sigma^2$
C.	$\sigma^2 = m^2$
D.	None

37 Not Answered

Which of the following continuous distribution is a limiting form of Binomial distribution?

A.	Poisson distribution

B.	Exponential distribution
C.	Gamma distribution
✓ D.	Normal distribution

38 Not Answered

For a Poisson Distribution, if mean(m) = 1, then P(1) is?

A.	e
B.	e/2
✓ C.	1/e
D.	Indeterminate

39 Not Answered

Which of the following is a continuous theoretical distribution?

A.	Poisson Distribution
✓ B.	Normal Distribution
C.	Binomial Distribution
D.	None of these.

40 Not Answered

For derivation of Trapezoidal rule from cote's formula we put n =

A.	1
B.	2
C.	3
D.	None