Vivekanand College, Kolhapur (Autonomous)
Department of Statistics
Internal Examination Sept. - 2025

Notice

Date: 10/09/2025

All the students of **B.Sc. – I** are hereby informed that, the internal examination of **Semester- I** will be held as per following time table.

Sr. No.	Date	Time	Title of the Paper
01	29/09/2025	12.20 pm to 01.10 pm	Descriptive Statistics-I
02	30/09/2025	12.20 pm to 01.10 pm	Elementary Probability Theory

Nature of Question Paper (Total Marks = 10)

Que. 1) 2-MCQ's each carrying 1 mark

Que. 2) Solve any 1 question out of 2 (1x4=4)

Que. 3) Solve any 2 questions out of 3 (2x2=4)

(Ms. V. C. Shinde)
HEAD
DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)
ESTD. JUNE 1964

Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)
Department of Statistics
Internal Examination Sept. - 2025

Notice

Date: 10/09/2025

All the students of **B.Sc. – II** (Major & Minor subject) are hereby informed that, the internal examination of **Semester- III** will be held as per following time table.

Sr. No.	Date	Subject	Time	Title of the Paper
01	19/09/2025	Major	3.50 pm to 4.40 pm	Probability Distributions - I
		Minor	3.00 pm to 3.50 pm	Data Science
02	20/09/2025	Major	3.50 pm to 4.40 pm	Statistical Methods
		Minor	3.00 pm to 3.50 pm	Foundations of Inference & Testing

Nature of Question Paper (Total Marks = 10)

Que. 1) 2 MCQ's each carrying 1 mark

Que. 2) Solve any 1 question out of 2 (1x4=4)

Que. 3) Solve any 2 questions out of 3 (2x2=4)

Vivekanand College, Kolhapur (An Empowered Autonomous Institute) ESTD. JUNE 1964

Ms. V. C. Shinde)
HEAD
DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

Vivekanand College, Kolhapur (Empowered Autonomous)
Department of Statistics
B.Sc – III Internal Examination Sept. – 2025

Notice

Date: 10/09/2025

All the students of B.Sc.– III are hereby informed that, the Internal Examination of Semester – V will be held as per following time table.

Sr.No.	Major/ Minor	Date	Time	Paper No.
1	Major	19/09/2025	12.00 pm to 01.00 pm	Paper – IX : Probability Distributions
2		20/09/2025		Paper – X : Statistical Inference
3		22/09/2025		Paper – XI : Sampling Theory
4		23/09/2025		Paper – XII : Machine Learning
5	Minor	20/09/2025	11.30 am to 12.30 pm	Paper – IX : Reliability Theory

Nature of Question Paper (Total Marks = 10)

Que. 1) 2 MCQ's each carrying 1 mark

Que. 2) Solve any 1 question out of 2 (1x4=4)

Que. 3) Solve any 2 questions out of 3 (2x2=4)

Vivekanand College, Kolhapur (An Empowered Autonomous Institute) ESTD. JUNE 1964

(Ms. V. C. Shinde)
HEAD
DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

Vivekanand college, Kolhapur
(An Empowered Autonomous Institute)
Department of Statistics
B.Sc. I Sem I Internal Examination 2025-26
Paper I and II: Descriptive Statistics I & Elementary Probability Theory

Total Marks 20 **Time:12.00 Noon to 1.30 pm** **Date 15/10/2025**

Paper I : Descriptive Statistics I

Q1) Choose Correct Alternative (1×2 = 2)

1) Mean square deviation (M.S.D.) is minimum when deviation is taken from_____.
   A) Mean B) Median
   C) Mode D) H.M

2) In case of positive Skewed distribution, the relation between mean, median and mode is_____
   A) Mean > Median > Mode B) Mean < Median < Mode
   C) Mean = Median = Mode D) Mean < Median ≤ Mode

Q2) Attempt any One (4× 1 = 4)

1) Define mean. State and prove any one property of mean.
2) Write note on Kurtosis of the distribution.

Q3) Attempt any Two (2×2= 4)

1) Define raw and central moments. State the formulae of relation between raw moments and central moments up to order four.
2) Define variance. Also write formula for combined variance of two groups.
3) Explain qualitative data and quantitative data.

****

Paper II : Elementary Probability Theory

Q1) Choose Correct Alternative (1×2 = 2)

1)The collection of all possible outcomes of random experiment is called as …..
   A) Event B) Sample Space C) Sure event D) Compound event

2)If A⊆ B, then P(A|B) is……...
   A) Zero B) One C) $\frac{P(A)}{P(B)}$ D) $\frac{P(B)}{P(A)}$

Q2) Attempt any One (4× 1 = 4)

1)Define pairwise independence of two events. If A and B are independent events, then prove that A^c and B are independent events.
2)Define i) Axiomatic definition of probability ii) Certain event

Q3) Attempt any Two (2×2= 4)

1) If A and B are two mutually exclusive events then show that,

$$P(A|B^c) = \frac{P(A)}{1-P(B)}$$

2)Define equiprobable sample space

3) With usual notation prove that $P(A^c) = 1-P(A)$

****

Vivekanand college, Kolhapur
(An Empowered Autonomous Institute)
Department of Statistics
B.Sc. II Sem III Internal Examination 2025-26
Paper V and VI: Probability Distributions I & Statistical Methods

Total Marks 20 **Time:3.00 pm to 4.30 pm** **Date 01/10/2025**

Paper V : Probability Distributions I

Q1) Choose Correct Alternative **(1×2 = 2)**

1) Let X be a geometric variate with mean 1.5 then P(X=1) is .....
   A) 0.4 B) 0.24 C) 0.6 D) 0.5
2) If X ~ NBD (k_1, P_1) & Y ~NBD (k_2,P_2) both X &Y are independent then X+Y has.....
   A) Geometric distribution B) NBD(k1 + k2, p1 + p2)
   C) NBD(k1 + k2, P)$if\ p1 + p2 = p$ D) none of these

Q2) Attempt any One **(4× 1 = 4)**

1) State & Prove Lack of memoryless property of Geometric distribution.
2) Define Negative Binomial Distribution. Find its mean.

Q3) Attempt any Two **(2×2= 4)**

1) Define Power series distribution.
2) Define Probability Density function & Distribution Function.
3) State the recurrence relation for successive probabilities of Negative binomial distribution.

****

Paper VI: Statistical Methods

Q1) Choose Correct Alternative **(1×2 = 2)**

1) In multiple linear regression the subscripts before dot are called .....
   A) Primary Subscript B) Secondary Subscript
   C) Subscript D) None of these
2) With usual notations if $R_{2.13} = 1$ then $R_{1.23}$ and $R_{3.12}$=.....
   A)1 B)0 C)0.5 D)$2R_{2.13}$

Q2) Attempt any One **(4× 1 = 4)**

1) If total corelation coefficients $r_{12}=r_{13}=r_{23}=\rho\ (\rho \neq +1\ or\ -1)$ then show that $1-R^2_{1.23}=\frac{(1-\rho)(1+2\rho)}{1+\rho}$.
2) Define residual $X_{1.23}$ and obtain its variance.

Q3) Attempt any Two **(2×2= 4)**

1) State the equations of three regression planes. Also state the formulae's of all partial regression coefficients.
2) With usual notations show that, $b_{12.3} = \frac{b_{12}-b_{13}b_{32}}{1-b_{23}b_{32}}$
3) With usual notation show that $1 - R^2_{1.23} = (1 - r^2_{13})(1 - r^2_{12.3})$.

SHRI SWAMI VIVEKANAND SHIKSHAN SANSTHA'S
VIVEKANAND COLLEGE, KOLHAPUR
(An Empowered Autonomous Institute)
B. Sc. (Part -II) Internal Examination (Semester III) 2025
MIN-II- Foundations of Inference & Testing

Day & Date: Saturday, 04/10/2025 **Time: 3.00 pm - 4.30 pm** **Total marks -10**

Q. 1. Select correct alternative. [02]

i) Critical region is region in which ……..

A) H_0 is rejected B) H_1 is rejected

C) Either H_0 or H_1 is rejected D) Both H_0 or H_1 is rejected

iii) Type I error is ……

A) accepting H_0 when it is false B) rejecting H_0 when it is false

C) accepting H_0 when it is true D) rejecting H_0 when it is true

Q.2. Attempt anyone. [04]

i) Write a procedure of testing significance difference between two population means in large number of samples.

ii) Explain testing procedure of significance of population proportion $P = P_0$ in large samples.

Q.3. Attempt any two. [04]

i) Define normal distribution. State its properties.

ii) Define critical region and acceptance region.

iii) Define power of the test.

***

HEAD
DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

VIVEKANAND COLLEGE, KOLHAPUR
(An Empowered Autonomous Institute)
B. Sc. III STATISTICS Sem V
Internal Examination, 2025
Paper –IX: Probability Distributions

Day & Date: Friday, 19/09/2025 **Total marks -10**
Time: 12.00 noon -1.00PM

Q.1 Select the most correct alternative **2M**

1) The mean and mode of Logistic distribution with parameters $\mu=5$ and $\sigma = 3$ is....

a) (5,3) b) (3, 5) c) (5, 5) d) (3,3)

2) If X and Y are independent standard normal variates then distribution of XY is

a) Laplace b) Gamma c) Weibull d) Cauchy

Q.2 Attempt only one. **(1*4=4)**

1)Define Laplace distribution. Find mean and variance of Laplace distribution.

2)Define Cauchy distribution. Obtain its mean.

Q.3 Attempt any two **(2*2=4)**

1) Define Lognormal distribution with parameters $(\mu, 2)$ and find median of LN $(\mu, 2)$.

2)Define Pareto distribution. Obtain its mode and Karl Pearsons coefficient of skewness.

3)If X~C (0,1) then show that $x^2 \sim \beta_2 (1/2,1/2)$.

Vivekanand college, Kolhapur
(An Empowered Autonomous Institute)
Department of Statistics
B.Sc. III Sem V Internal Examination 2025-26
Paper X: Statistical Inference I

Total Marks 10 **Time:12.00 Noon to 1.00 pm** **Date :20/09/2(**

Q1) Choose Correct Alternative **(1×2 = 2)**

If $X_1, X_2, \ldots\ldots X_n$ is a random sample from uniform distribution over (0,(Then the unbiased estimator of θ is

a) $\bar{x}$ b) Max $(X_1, X_2, \ldots\ldots X_n)$ c) $\frac{\bar{x}}{2}$ d) $2\bar{x}$

ii) The sufficient statistic for σ^2 of N $(0, \sigma^2)$ based on a single observation x

b) x^2 b) x c) $|x|$ d) 2x

Q2) Attempt any One **(4× 1 = 4)**

3. Find the maximum likelihood estimator of θ, if $X_1, X_2, \ldots, Xn$ is a samp size n from $f(x,\theta)=e^{-(x-\Theta)}$, $x \geq \theta$, $\theta \geq 0$.
4. Let X_1, X_2, X_3 be a random sample from P(λ) distribution. If $T_1 = \frac{X_1+2X_2+3X_3}{6}$ and $T_2 = \frac{X_1+X_2+X_3}{3}$. Obtain relative efficiency o estimator T_1 over T_2.

Q3) Attempt any Two **(2×2= 4)**

4. Let $X_1, X_2, \ldots, Xn$ be a random sample from P(λ). Obtain an unbiased estimator of λ.
5. Let $X_1, X_2 \ldots, Xn$ be a random sample from discrete uniform distributio Obtain a sufficient statistic for Parameter N.
6. Let $X_1, X_2, \ldots, Xn$ be a random sample from $\beta_1(\theta,1)$ distribution. Obtair moment estimators of θ.

****

VIVEKANAND COLLEGE, KOLHAPUR
(An EMPOWERED AUTONOMOUS INSTITUTE)
B.Sc. Part- III (Statistics) (Sem-V) (Major)
Internal Examination: September 2025
Paper XI: Sampling Theory

Day: Monday — Time: 12.00-1.00 pm
Date: 22/09/2025 — Marks: 10

****

Q.2 Choose the most correct alternative. **(1*2=2M)**

1. List of all the units of the population is called .....
   a) Random sampling b) Bias
   c) Sampling frame d) probability sampling
2. For large population with population variance S^2 confidence coefficient $1-\alpha$ and margin of error d, the size of SRSWOR will be.....
   a) $\frac{Z^2_{\alpha/2}S^2}{d^2}$ b) $\frac{Z^2_{\alpha/2}}{S^2d^2}$
   c) $\frac{Z^2_{\alpha/2}S^2}{2d^2}$ d) none of these

Q2. Attempt only one. **(1*4=4M)**

1.Explain SRSWOR and SRSWR sampling method.

2. Derive an expression for variance of unbiased estimate of population proportion.

Q3. Attempt any two. **(2*2=4M)**

1.Define sampling error & non sampling error.

2.Define the term sampling fraction.

3. Define standard error.

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department of Statistics

B.Sc. Part-III (Sem V) Internal Examination Sept 2025

Sub: Machine Learning

Day: Tuesday **Time: 12:00 pm -1:00 pm**

Date: 23 Sept 2025 **Marks: 10**

Q. 1 Choose the correct alternative. **[2*1=2]**

(i) Which of the following visualizations is best suited to detect the presence of outliers in a numerical dataset?

A) Heatmap B) Boxplot C) Histogram D) Scatterplot

(ii) In k-Nearest Neighbours (KNN) classification, the predicted class of a test sample is determined by:

A) The class with the highest prior probability B) The class of the single closest training sample

C) The majority class among the k closest training sample D) The output of a decision tree

Q. 2 Solve any 1 of the following. **[1*4=4]**

(i) Explain Equal-width binning and Equal-frequency binning techniques used for data discretization with a simple example.

(ii) Define Correlation Matrix. How can it be used to understand relationships between numerical variables?

Q.3 Solve any 2 of the following. **[2*2=4]**

(i) Mention any two real-life applications of Supervised Learning.

(ii) What is meant by Train-Test Split in machine learning?

(iii) Explain the difference between structured and unstructured data with one example each.

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (An Empowered Autonomous Institute)
B.Sc. III(MIN) Statistics (Sem V) Internal Examination September-2025
Course- Reliability Theory Course Code: DSE03STA53
Date: 29/09/2025 Time: 12.00 pm to 1.00 pm Marks: 10

Q.1) Select the most correct Alternative. (2)

I) In a k-out-of-n system, the system works if:

a) At least k components fail b) At least k components work

c) Exactly k components work d) At least n components work

II) If each component of a series system has reliability P, and there are 5 components, system reliability is:

a) 5P b) P^5 c) $1 - P^5$ d) $1-(1- P)^5$

Q.2) Solve any 1 question out of 2 (4)

a) Write down the structure function for following system.

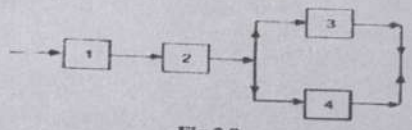

Fig 2.9

b) Obtain reliability function for 2 out of 3 system.

Q.3) Solve any 2 questions out of 3 (4)

a) Define coherent system with an example.

b) Define the Structure function for series and parallel system.

c) Define the Relevant and Irrelevant component.

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)

Notice **Date: 21/02/2026**

All students of B.Sc. I are hereby informed that the internal examination for Semester II will be conducted department-wise from 11th to 13th March 2026 as per the given schedule. Students are requested to be present in their respective classrooms on time.

Sr. No.	Date	Time	Subject	Roll Number	Block Strength	Room Number	Total Strength
1	Wednesday 11-03-2026	12.00 to 1.30 pm	Mathematics	7201-7221,7223-7238, 7240,7241,7243	40	202	168
				7244-7247,7249-7261, 7263-7267,7269-7286	40	203	
				7287-7310,7328-7351	48	204	
				7352-7367,7341,7565-7566,7569,7571-7576, 7579-7581, 7583-7584, 7588,7591-7593, 7595, 7603-7604,7606,7608	40	208	
			Zoology	7242,7248,7368-7407	42	302	214
				7408-7440,7442-7453	44	303	
				,7455-7461,7463-7496,7498-7500	44	310	
				7501-7532,7534-7541	40	311	
				7442-7555,7557-7561, 7563-7564,7567-7568, 7570,7577-7578, 7582, 7585-7587,7589-7590, 7594,7596-7602, 7605, 7607	44	407	
2	Thursday 12-03-2026	12.00 to 1.30 pm	Physics	7201-7221,7223-7238,7240,7241,7243	40	202	108
				7244-7247,7249-7261,7263-7267,7269-7282,7295,7358-7360	40	203	
				7361-7367,7565-7566,7571-7576,7579-7581,7583-7584, 7591-7593,7595,7603-7604,7606,7608	28	204	
			Botany	7242,7248,7368-7407	42	302	214
				7408-7440,7442-7453	44	303	
				,7455-7461,7463-7496,7498-7500	44	310	
				7501-7532,7534-7541	40	311	
				7442-7555,7557-7561, 7563-7564,7567-7568, 7570,7577-7578, 7582, 7585-7587,7589-7590, 7594,7596-7602, 7605, 7607	44	407	
		3.00 pm to 4.30 pm	Comp. Sci.	7268,7283-7294,7296-7311,7313-7331	48	310	89
				7332-7367, 7474,7497 ,7562, 7569,7588	41	311	
3	Friday 13-03-2026	12.00 to 1.30 pm	Statistics	7265-7282, 7306, 7311, 7313-7317,7441, 7497, 7562, 7565,7575, 7580,7584, 7591, 7592,7603,7604,7608	38	302	78
				7318-7357	40	303	
			Chemistry	7201-7221,7223-7232,7242-7243,7248,7295,7368-7372	40	202	146
				7373-7412	40	203	
				7413-7430,7432-7440,7442-7453,	39	204	
				7455-7458,7527,7541,7563-7564,7567-7568,7570,7572,7574,7577-7578,7581-7582,7585-7586,7589-7590,7597-7601,7605	27	208	
			Microbiology	7499-7526,7528-7530	32	209	63
				7531-7532,7534-7540, 7542-7555,7557-7561, 7596,7602,7607	31	210	
			Biotechnology	7459-7496,7498,7587,7594	41	310	41
		3.00 pm to 4.30 pm	Electronics	7233-7238,7240-7241,7244-7247,7249-7261,7263-7264,7268,7283-7294,7296-7297	42	310	82
				7298-7305,7307-7311,7313-7327, 7497, 7562, 7566, 7569,7571,7573,7579,7583, 7588,7593, 7595,7606	40	311	
				Total	289		

(Mr. A. B. Bhosale)
Convener
Time- table Committee

Chief Controller of Examination
Vivekanand College, Kolhapur.
(Empowered Autonomous)

(Dr. S. P. Thorat)
I/c Principal
Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)
20-2-2026

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur
(An Empowered Autonomous Institute)
Notice

Date: 21/02/2026

All students of B.Sc. II are hereby informed that the internal examination for Semester IV will be conducted on department-wise 13th and 14th March 2026 from 2:30 PM to 4:00 PM. Students are requested to be present in their respective classrooms on time, as per the given schedule.

Sr. No.	Date	Subject	Roll Number	Student Strength	Room Number
1	Friday 13-03-2026 (Major)	Physics	7701-7719	19	311
2		Chemistry	7815-7862,7979-7980, 7982-7983, 7989	53	407
3		Mathematics	7720-7736 ,7978	18	311
4		Statistics	7737-7758	22	302
5		Electronics	7759-7762,7977,7986-7988	8	302
6		Comp. Sci.	7763-7814	37	310 A
			7800-7814	15	303
7		Botany	7887-7895,7985	10	215
8		Zoology	7863-7886,7984	25	215
9		Biotechnology	7948-7975	28	208
10		Microbiology	7896-7911,7945-7947 ,7976, 7981, 7912-7944	54	204
			Total	289	

Sr. No.	Date	Subject	Roll Number	Student Strength	Room Number
1	Saturday 14-03-2026 (Minor)	Physics	7720-7732,7737-7738, 7759, 7815-7820,7986-7988	25	311
2		Chemistry	7718-7719,7881-7886,7945-7947,7985	12	303
3		Mathematics	7701-7711,7739-7758,7760-7762, 7783-7808,7977	61	204
4		Statistics	7717,7733-7736,7809-7814, 7978	12	303
5		Electronics	7712-7716,7763-7782	25	302
6		Botany	7824,7826-7865	41	208
			7866-7480,7912-7936	40	210
			7937-7944,7965-7984,7989	27	212
7		Zoology	7821-7823,7825,7887-7911,7848-7964	46	310
			Total	289	

(Mr. A. B. Bhosale)
Convener
Time- table Committee

Chief Controller of Examination
Vivekanand College, Kolhapur.
(An Empowered Autonomous)

(Dr. S. P. Thorat)
I/c Principal
Vivekanand College, Kolhapur
(An Empowered Autonomous I...

Vivekanand College, Kolhapur (An Empowered Autonomous Institute) ESTD. JU... 19...

Vivekanand college, Kolhapur
(An Empowered Autonomous Institute)
Department of Statistics
B.Sc. I Sem II Internal Examination March 2026
Paper III and IV: Descriptive Statistics II & Discrete Probability Distributions

Total Marks 20 **Time:12.00 Noon to 1.30 pm** **Date 13/03/2026**

Paper III : Descriptive Statistics II

Q1) Choose Correct Alternative (1×2 = 2)

1) For n attributes, the total number of class frequencies of all order are....

A) 2n B) 2^n C) 3n D) 3^n

2)Rank correlation coefficient is equal to 1 if .....

A) $\sum di^2 = 1$ B) $\sum di^2 = 0$ C) $\sum di^2 > 0$ D) $\sum di^2 < 0$

Q2) Attempt any One (4× 1 = 4)

1) Write a note on Scatter Diagram.

2) Derive expression for acute angle between the two regression lines.

Q3) Attempt any Two (2×2= 4)

1) Define fundamental set of class frequency. Verify whether the given set {N, (AB), (αB), (Aβ)}is fundamental set or not.

2) Write note on coefficient of determination.

3) Define Yule's coefficient of Association and coefficient of Colligation.

Paper IV : Discrete Probability Distributions

Q1) Choose Correct Alternative (1×2 = 2)

1) A r.v. X follows one point distribution assuming value k then mean is equal to ...
A) Zero B) One C) Constant k D) None of these

2) The mean of hypergeometric distribution with parameters (N,M, n) is .....
A) MN/n B) nM/N C) N/Mn D) n/MN

Q2) Attempt any One (4× 1 = 4)

1) Obtain mean and variance of two point distribution.

2) State and prove Binomial approximation to Hypergeometric distribution
i) Classical definition of probability ii) Exhaustive events

Q3) Attempt any Two (2×2= 4)

1) Define Binomial distribution.

2) Obtain mean of Uniform distribution.

3) Comment on nature of Binomial distribution

Vivekanand college, Kolhapur
(An Empowered Autonomous Institute)
Department of Statistics
B.Sc. II Sem IV Internal Examination March 2026
Paper VII and VIII: Probability Distributions II & Testing of Hypothesis

Total Marks 20 **Time:2.30 pm to 4.00 pm** **Date 13/03/2026**

Paper VII : Probability Distributions II

Q1) Choose Correct Alternative **(1×2 = 2)**

1) If X follows exponential distribution, then -------
   a) Mean =Standard deviation b) mean =variance
   c) Mean > Standard deviation d) none of these
2) If $X \sim N(0,1)$, then X^2 follows .....
   a) Chi-square distribution with 1 degree of freedom
   b) Gamma distribution with $n = 2$
   c) Normal distribution
   d) Poisson distribution

Q2) Attempt any One **(4× 1 = 4)**

1) Find mean & variance of uniform distribution.
2) Define exponential distribution. State &prove memoryless property of exponential distribution.

Q3) Attempt any Two **(2×2= 4)**

1) Find the MGF of gamma distribution.
2) Define exponential distribution. Find its Cumulative distribution function.
3) If $X \sim U(0,10)$, find its mean & $P(X>4)$

Paper VIII : Testing of Hypothesis

Q1) Choose Correct Alternative **(1×2 = 2)**

1) In the context of testing statistical hypothesis, which of the following statement is true .....
   A) reject H_0 when H_0 is true is type II error
   B) reject H_0 when H_1 is true is power of the test
   C) H_1: $\mu_1 \neq \mu_2$ is one tailed alternative
   D) H_0: $\mu = 4.6$ is simple null hypothesis
2) The degree of freedom of Chi-square test statistics for testing independent attributes in case of 4×3 contingency table are.....
   A) 12 B) 9 C) 8 D) 6

Q2) Attempt any One **(4× 1 = 4)**

1) Describe the procedure for testing Population correlation coefficients H_0: $\rho_1=\rho_2$ based on normal distribution.
2) Explain the procedure of testing the equality of population variances.

Q3) Attempt any Two **(2×2= 4)**

1) Explain chi square test for goodness of fit.
2) Define Type I and Type II errors. Explain with suitable examples.
3) Define the following terms
   a) Power of test b) P value