

"Dissemination of Education for Knowledge, Science and Culture"
-Shikshanmaharshi Dr. Bapuji Salunkhe
Shri Swami Vivekanand Shikshan Sanstha's
VIVEKANAND COLLEGE, KOLHAPUR
(Empowered Autonomous)



DEPARTMENT OF STATISTICS

BRIDGE COURSE

For B.Sc. III 2024-2025

22nd July to 27th July 2024



Department of Statistics
Vivekanand College, Kolhapur
(Empowered Autonomous)
Date: 18/07/2024

To,

The Principal,

Vivekanand College,

Kolhapur (Empowered Autonomous)

Sub: Regarding Permission to organize Bridge Course......

Respected Sir,

With reference to the above subject, our department has decided to organize a Bridge Course for the students of B.Sc. III Statistics who have been recently admitted to Vivekanand College from other institutions. The course will be conducted from 22nd July 2024 to 27th July 2024 between 10:00 a.m. and 11:30 a.m. in the Department of Statistics. We kindly request you to grant permission for the same.

Thanking You.

Yours faithfully,

Mrs. V. C. Shinde

DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

Allowed pr-

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(EMPOWERED AUTONOMOUS)

Department of Statistics

Notice

Date: 18/07/2024

All the students of B.Sc. III Statistics who have been **newly admitted to**Vivekanand College from other colleges are hereby informed that a Bridge

Course will be conducted from 22nd July to 27th July 2024 in the **Department of**Statistics at 10:00 a.m., as per the following timetable.

TIMETABLE

Date: 22/07/2024 to 27/07/2024. (06 Days) Time: 10.00 am to 11.30 am

Sr. No.	Date	Name of Teacher	Sign
1.	22/07/2024	Mrs. V. C. Shinde	Mar
2.	23/07/2024	Ms. A. M. Makandar	A) Huy ang
3.	24/07/2024	Mr. Ashok B. Bhosale	Appointe
4.	25/07/2024	Ms. P. V. Ransubhe	P.V.R
5.	26/07/2024	Mr. A. P. Patil	
6.	27/07/2024	Mr. D. D. Patil	AND TO THE OWNER OF THE OWNER OW



Mrs. V. C. Shinde
HEAD
DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
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DEPARTMENT OF STATISTICS

BRIDGE COURSE SYLLABUS

Sr. No.	Name of the Topic	Name of the Teacher
1	Official Statistics-I	Mrs. V. C. Shinde
2	Official Statistics-II	Ms. A. M. Makandar
3	Introduction to R	Mr. A. B. Bhosale
4	Statistical Analysis using R	Ms. P. V. Ransubhe
5	Reliability of System	Mr. A. P. Patil
6	Ageing properties	Mr. D. D. Patil



Mrs. V. C. Shinde
HEAD
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(EMPOWERED AUTONOMOUS)



DEPARTMENT OF STATISTICS

Report on Bridge Course

Aim: To reinforce foundational concepts in Statistics and bridge the gaps in the syllabus covered across different institutions.

Objectives: To review and strengthen fundamental concepts in Statistics.

Dates: 22nd July 2024 to 27th July 2024

Time: 10:00 a.m. to 11:30 a.m.

Venue: Department of Statistics

Resource Persons: Faculty members

Number of Beneficiaries: 05

Brief Description:

A Bridge Course was conducted for newly admitted B.Sc. III Statistics students from 22nd July 2024 to 27th July 2024. The objective of the bridge course was to bridge the academic gap between different stages of learning and to help students transition smoothly into a new curriculum. A total of 5 students participated in the course to strengthen their subject knowledge in Statistics. The sessions included revision of core concepts, problem-solving exercises, and interactive discussions to enhance understanding. This initiative not only helped students improve their basic concepts but also built confidence and prepared them for advanced topics in the upcoming academic year.

Output:

Enhanced subject knowledge, improved conceptual clarity in core statistical and mathematical topics, better problem-solving ability, and increased confidence among students to cope with the B.Sc. III curriculum.



Mrs. V. C. Shinde

DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)

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Shri Swami Vivekanand Shikshan Sanstha's VIVEKANAND COLLEGE, KOLHAPUR

(EMPOWERED AUTONOMOUS)

Department of Statistics

Bridge Course 2024-25

Time: 10.00 am to 11.30 am

Attendance

Sr. No.	Name of Student	22-07-24	23-07-24	24-07-24	25-07-24	26-07-24	27-07-24
1	Chavan Pooja Pandurang	SH	See	SP	GPP.	SPP	GPP
2	Disale Sanika Balwant	Paritu	Panka	Deanifor	Deanha	bearden	psanda
3	Ekal Samiksha Rajaram	Acid	Letal	Spenal	Steral	Steral	Serval
4	Pandav Gautami Dashrath	Chardes	Gounder	Courdon	Courday	Ab	Chander
5	Salokhe Tanuja B.	Tanguyas	Tarjujas.	Taryuyal	Taryyas	Carycyal	Tanjaya



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Shri Swami Vivekanand Shikshan Sanstha's VIVEKANAND COLLEGE KOLHAPUR (EMPOWERED AUTONOMOUS) Department of Statistics BRIDGE COURSE

"Notice: Bridge Course Examination"

Date: 26/08/2024

All the students of B.Sc. III, who have attended the coaching sessions are informed that the **Bridge Course** Exam will be held on 03/09/2024 between 11:30 a.m. to 12:30 p.m. in the Room No. 401, Department of Statistics.

ESTD JUNE 1964

Mrs. V. C. Shinde
HEAD
DEPARTMENT OF STATISTICS
(IVEKANAND COLLEGE, KOLHAPUT
(EMPOWERED AUTONOMOUS)

Dissemination of Education for Knowledge, Science and Culture"
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Shri Swami Vivekanand Shikshan Sanstha's VIVEKANAND COLLEGE KOLHAPUR (EMPOWERED AUTONOMOUS) Department of Statistics BRIDGE COURSE

Mark List

Date: 04/09/2024

Sr. No.	Name of Student	Marks
1.	Chavan Pooja Pandurang	44
2.	Disale Sanika Balwant	42
3.	Ekal Samiksha Rajaram	44
4.	Pandav Gautami Dashrath	44
5.	Salokhe Tanuja B.	42



Mrs. V. C. Shinde
HEAD
DEPARTMENT OF STATISTICS
VIVEKANAND COLLEGE, KOLHAPUR
EMPOWERED AUTONOMOUS

VIVEKANAND COLLEGE KOLHAPUR (EMPOWERED AUTONOMOUS) Department of Statistics

Bridge Course

Time: 11.30-12.30

Marks: 50

Date: 9/08/2024

	Name of the Student: Chavan Puja Pandurang, Class: B.Sc. III
1.	Which of the following option is correct for reliability function or survival function at time t? A) $P[T > t]$ B) 1- $F(t)$ C) 1- $P[T \le t]$ D) All the above
2.	The reliability of 2 out of 3 system having reliability of each component 0.5 is A)0.88 B)0.62 C) 0.5 D) 0.784
3.	National income estimation is the responsible of A) CSO (Central Statistics Office)
/	B) National Sample Survey Organization (NSSO C) Finance Ministry
	D) National Income Committee
4.	Which of the following are principles of Official Statistics?
/	A) Relevance B) Impartiality C)Transparency D) All the above
45.	is used to skip an iteration of a loop.
,	A) Next B) Skip C) Group D) None
6.	
<	A) Ministry of Human Resource Development
	B) Ministry of Statistics and Programme Implementation C) Directorate of Economics and Statistics, Ministry of Agriculture
	D) None of the Above
7	Structure function for Parallel system of 2 independent components is
1.	A) X_1X_2 B) $1-(1-X1X2)$
	C) $X_1 + X_2 - X_1 X_2$ D) $X_1 X_2 X_3$
8	For a parallel system of two components having 0.6 reliability each the
0.	reliability of a system is
	A)0.16 B)0.6 C)0.84 D)0.4
9	An R function is created by using the keyword?
	A) fun B) function C) declare D) extends
10). A lifetime distribution of r.v. is said to be decreasing failure rate (DFR) distribution if
	A) Hazard rate function is decreasing function of time
	B) Ageing function is increasing function of time
	C) Hazard rate function is increasing function of time
	D) Both A & B
11	. Structure function is random variable.
	A) Binary B) Bernoulli C) Binomial D) Both A and B
12	2. Which loop executes a sequence of statements multiple times and abbreviates the code that manages the loop variable?
(A) for B) while C) do-while D) repeat

13. Which among the following is	not an activity of CSO?
A) Compilation B) Conducting Economi C) Conducting Consumer D) Training of Statistical	c Census Expenditure Survey Personnel
14. Which of the following division	on of CSO deals with Environmental Statistics?
A) National Account Divis	Sion Blog with Environmental Statistics?
C)Economics Statistics Div	o statistics Division
15. What will be output for the following sqrt(-17)	On Division
A) -4.02 B) 4.02	C) 3.67 D) NAN
survival function is	hen value of distribution function is C) 1-e ^{-2t} D) None of these ing exponential distribution with parameter θ then value of
A/(3.1)	C) $1-e^{-\theta t}$ D) None of these inimal path sets and minimal cut sets are
19. A state vector \underline{X} is called Cut vector \underline{A})0 B)1	or if $\emptyset(X) = 0$ $O(3,4)$ $O(4,4)$
A) X ₁ X ₂	em of 2 independent components is 1 - (1 - X1X2) 2 X ₁ X ₂ X ₃ that types are the Post is a simple of the post is the post in th
A) = B) <- C) = 23. Which function is used to conti	nent operator in R? D) Arrays D) =>
A) c() B) vector()	ties into a vector in R?
24. What is the output of length (c(2, 4, 6, B) 5	ombine() D) join()
B) 5 ((2, 4, 0,	8, 10)) in R?
A) start()	ha fine c
25. Which function in R is used to display to A) start() B) head() C) top	() D)view()
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VIVEKANAND COLLEGE KOLHAPUR (EMPOWERED AUTONOMOUS) Department of Statistics Bridge Course



Date: 9/08/2024	Time: 11.30-12.30	Marks: 50
		Class: B.Sc. III
Name of the Student: Disale	Saniha. B	
Which of the following option is	. c . 1:-1:1:ty function (or survival function at time t?
Which of the following option is	1- $F(t)$ C) 1-P $[T \le t]$ D)	All the above
A) $P[T > t]$ B)	1- $F(t)$ C) 1-P $[T \le t]$ D) $F(t)$	mponent 0.5 is
A) P [$T > t$] B) The reliability of 2 out of 3 system is a system in the system.	em having reliability of each con ex 0.5 D) 0.784	
A 111 X 1310.02	. / - /	
. National income estimation is the	ne responsible of	
A) CCO (Central Statisti	ics Office)	
BY National Sample Sur	vey Organization (NSSO	
C) Finance Ministry		
117	mmittee	
wat in af the following are prin	nciples of Official State	D) All the above
A) Delevance Di IIIIpa	1 Clare	
an iteration of a	C) Groun	D) None
A) Next	B) Skip	
	ystem in India is	
A I WILLIAM OF TEACH	Taralamenial	ion
B) Ministry of Statistic	cs and Programme Implementate nomics and Statistics, Ministry	of Agriculture
Of Directorate of Ecol	IOIIIICS dire	
D) None of the Above 7. Structure function for Paralle	e dent comp	onents is
- Guarante function for Paralle	l system of 2 independent comp	
7. Structure function	B) 1 – (1 - X1X2)	
C) X ₁ + X ₂ - X ₁ X ₂	D) X ₁ X ₂ X ₃	ty each the
And I system of two	components having 0.6 reliabili	ty caon was
8. For a paramet system is	TANK AT SCHOOL & HULLIAN PARTY AND	
- c time is created by I	using the keyword?	and a second to have been selected in the
A) fun A) fun B) function 10. A lifetime distribution of r.	ion C) declare D) external	ends (DER) distribution if
A) fun	v. is said to be decreasing failur	e rate (DFR) distribution =
10. A lifetime distribution of the	ion is decreasing function of tire	ne
A) Hazard fate function i	s increasing function of time ion is increasing function of tir	
B) Ageing function	ion is increasing function of tir	ne
D) Both A & B 11. Structure function is	random variable.	St. A AD
11. Structure function is	ernoulli C) Binomial D) Bo	mes and abbreviates the code the
A) Billary B) 2	quence of statements multiple ti	mes and appreviates the code and
12. Which loop executes a so-		
manages the loop variable?	B) while C) do-while	D) repeat
A) for		

13. Which among the following is no	ot an activity of CSO?
B) Conducting Economic (C) Conducting Consumer ED) Training of Statistical Position	Census Expenditure Survey
14. Which of the following division A) National Account Division C)Economics Statistics Divis 15. What will be output for the following division and the following division are provided in the following division and the following division are provided in the following division are provide	of CSO deals with Environmental Statistics? B) Social Statistics Division
A) e^{-2t} B) $2e^{-2t}$ 17.If T is lifetime of component having survival function is A) $e^{-\theta t}$ B) $\theta e^{-\theta t}$ C 18. In 2 out of 3 system number of min A) (3,3) B) (4,3) 19. A state vector \underline{X} is called Cut vector A) B) B C 20. Structure function for Parallel system A) X_1X_2 B) 21. In R programming, the very basic data	both A and B n of 2 independent components is 1 - (1 - X1X2) X ₁ X ₂ X ₃ It types are the R-objects called? Expression operator in R? D) => les into a vector in Re
25. Which function in R is used to display the A) start() B) head() C) 10 C) 10	D) Error ne first few rows of a dataset? D)view()

VIVEKANAND COLLEGE KOLHAPUR (EMPOWERED AUTONOMOUS) Department of Statistics

Bridge Course

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(50)

Date: 9/08/2024	Time: 11.30-12.30	Marks: 50
Name of the Student: Ekal S	iamiksha. P.	Class: B.Sc. III
Which of the following option	is correct for reliability function of	or survival function at time t?
A) D1 T > +1	O(1 - O(1)) O(1 - O(1) < f(1)) P	III the above
The reliability of 2 out of 3 sys	C) 0.5 D) 0.784	mponent si
A)0.88 B)0.62 National income estimation is	C) 0.3 D) 0.70.	
A) CSO (Central Statis		
D) National Sample St	arvey Organization (NSSO	
C) Finance Ministry	ii voy Organization (
D) National Income Co	ommittee	
Which of the following are pr	inciples of Official Statistics?	and II do above
A) Relevance B) Imp	artiality C)Transparency	D) All the above
is used to skip an iteration of	a loop.	D) None
AXMevt	B) Skip	B) None
6. Nodal ministry of Statistical S	System in India is	
is a fit i and f Human	h Recolling Development	on
B) Ministry of Statisti	ics and Programme Implementation nomics and Statistics, Ministry of	Agriculture
D) None of the Above	el system of 2 independent compo	nents is
7. Structure function for Paralle	B) 1 – (1 - X1X2)	
77 77 77	$D \setminus X_1 X_2 X_3$	
$C_1 \times X_1 + X_2 - X_1 \times X_2$	components having 0.6 reliability	each the
8. For a parallel system of two reliability of a system is		
410.16 B)0.6	0.04	
9. An R function is created by	using the keyword?	The part 3 violation and 1st Die 1st
A) fun B) functi	ion C) declare D) extend	ds (DER) distribution if
		rate (DFK) distribution ii
/ TT dueto tunci	inn is fied cashing reme	
	c increasing infliction of the	
(e) Hazard rate funct	ion is increasing function of time	
D) Both A & B	random variable.	
11. Structure function is	ernoulli C) Binomial D) Both	A and B
A) Binary B) Bo	uence of statements multiple time	es and abbreviates the code th
manages the loop variable?		
- and the loop variable		

13. Which among the following is not an activity of CSO?
A) Compilation B) Conducting Economic Census C)Conducting Consumer Expenditure Survey D) Training of Statistical Personnel
14. Which of the following division of CSO deals with Environmental Statistics?
A) National Account Division B) Social Statistics Division
C)Economics Statistics Division D) Price Statistics Division
15. What will be output for the following code? > sqrt(-17)
A) -4.02 B) 4.02 C) 3.67 D) NAN
16. A component has hazard rate 2 then value of distribution function is A) e ^{-2t} B) 2 e ^{-2t} C) 1-e ^{-2t} D) None of these 17. If T is lifetime of component having exponential distribution with parameter θ then value of survival function is A) e ^{-θt} B) θ e ^{-θt} C) 1-e ^{-θt} D) None of these 18. In 2 out of 3 system number of minimal path sets and minimal cut sets are A) (3,3) B) (4,3) C) (3,4) D) (4,4) 19. A state vector X is called Cut vector if Ø(X) = 20. Structure function for Parallel system of 2 independent components is A) X ₁ X ₂ B) 1 - (1 - X ₁ X ₂) 21. In R programming, the very basic data types are the R-objects called? A) Lists B) Matrices C) Vector D) Arrays A) Lists B) Matrices C) Vector D) Arrays A) = B) < D) => A) c() B) vector() C) combine() D) join() 24. What is the output of length (c(2, 4, 6, 8, 10)) in R? C) 10 D) Error 25. Which function in R is used to display the first few rows of a dataset? A) start() B) head() C) top() D)view()

VIVEKANAND COLLEGE KOLHAPUR (EMPOWERED AUTONOMOUS) Department of Statistics Bridge Course



Date: 9/08/2024	Time: 11.30-12.30	Marks: 50
Name of the Student: Po	and va gautami D.	Class: B.Sc. III
A)PT>t	option is correct for reliability function o B) 1- F(t) C) 1-P [T \leq t] D) A	III the above
2. The reliability of 2 out of A)0.88	of 3 system having reliability of each con	nponent 0.3 is
3. National income estimate A) CSO (Centra	tion is the responsible of 1 Statistics Office)	
B) National Sam C) Finance Min	nple Survey Organization (NSSO istry	
A) Relevance I	g are principles of Official Statistics? B) Impartiality C)Transparency	D) All the above
5. is used to skip an iterat	ion of a loop. B) Skip C) Group	D) None
A) Ministry of B) Ministry of C) Directorate	Human Resource Development Statistics and Programme Implementatio of Economics and Statistics, Ministry of Above	
A) X_1X_2	Parallel system of 2 independent compor B) $1 - (1 - X1X2)$ X_1X_2 D) $X_1X_2X_3$ of two components having 0.6 reliability	
reliability of a system A)0.16 An R function is creat	3)0.6 C)0.84 D)0.4 ted by using the keyword?	
A) fun B 10. A lifetime distribution A) Hazard rate B) Ageing fun C) Hazard rate	on of r.v. is said to be decreasing failure refunction is decreasing function of time action is increasing function of time function is increasing function of time	rate (DFR) distribution if
D) Both A & 1 11. Structure function is A) Binary 12. Which loop execute manages the loop va	B) Bernoulli C) Binomial D) Both s a sequence of statements multiple time riable?	s and appreviates the code that
A) for	B) while C) do-while	D) repeat

13. Which among the following is not an activity of CSO? A) Compilation B) Conducting Economic Census C)Conducting Consumer Expenditure Survey D) Training of Statistical Personnel 14. Which of the following division of CSO deals with Environmental Statistics? A) National Account Division
B) Social Statistics Division
15. What will be output for the following code? > sqrt(-17)
A) -4.02 B) 4.02 C) 3.67 D) NAN
16. A component has hazard rate 2 then value of distribution function is A) e ^{-2t} B) 2 e ^{-2t} C) 1-e ^{-2t} D) None of these survival function is 17.If T is lifetime of component having exponential distribution with parameter θ then value of survival function is A) e ^{-θt} B) θ e ^{-θt} , C) 1-e ^{-θt} D) None of these 18. In 2 out of 3 system number of minimal path sets and minimal cut sets are A) (3,3) B) (4,3) C) (3,4) D) (4,4) 19. A state vector X is called Cut vector if Ø(X) = B) 1 C) Both A and B D) Neither A nor B A) X ₁ X ₂ B) 1 - (1 - X1X2) 20. Structure function for Parallel system of 2 independent components is B) 1 - (1 - X1X2) 21. In R programming, the very basic data types are the R-objects called? A) Lists B) Matrices P) Vector D) Arrays A) Lists B) Matrices P) Vector D) Arrays A) = D = A) c() B) vector(P) combine(P) D) join(P) 24. What is the output of length (c(2, 4, 6, 8, 10)) in R? 25. Which function in R is used to display the first few rows of a dataset? A) start(P) B) head(P) C) top(P) D) view(P)
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	VIVEKANAI	ND COLLECT					(1
/		De	KOLH. partme Brid	APUR (EMI ent of Statis	POW.	ERED A	UTONOMOUS)
/	Date: 9/08/2024		Dilu	ge Course			
	Name of the Student:			30-12.30			Marks: 50
/		Salokhe	Ta	nuja	B		Class: B.Sc. III
1.	Which of the following of A) P [T>t] The reliability of 2 and a	option is correct	for reli	ability 6			1.0
∠ 2.	The reliability of 2 out of A)0.88	B) 1- F(t) f 3 system having	C) ng relial	1-P $[T \le t]$	D) A	or surviv Ill the al	oove
×3.	income estimati	on is the		D) 0.78	84	пропен	0.5 15
	B) National Samp	IIV	nızatior	ı (NSSO			
A.	D) National Incom Which of the following as A) Relevance B)	re principles of	Official	Statistics?			
15.	A) Relevance B) is used to skip an iteration		(C)T	ransparenc		LD)AI	I the above
	A) Next Nodal ministry of Statistic	R) Skin		C) Grou	ир	D) No	one
	A) Ministry of Hu	man Resource I	Develon	ment			
	B) Ministry of Sta C) Directorate of I	tistics and Progressional Science and Scie	ramme :	Implementa s. Ministry	of A	ricultur	
7	D) None of the Ab	ove					
7	Structure function for Para A) X ₁ X ₂	B) 1	-(1-)	(1X2)	onen	ts is	
8.	C) $X_1+X_2-X_1X_2$ For a parallel system of two	o components l	1X ₂ X ₃ aving (0.6 reliabilit	v eac	h the	
	reliability of a system is A)0.16 B)0.6	10 10 11					The state of the state of
19.	An R function is created by	C)0.84 y using the keyv	vord?	0)0.4			
	A) fun B) func	ction C) de	clare	D) exten	ds		
× 10.	A lifetime distribution of r A) Hazard rate func B) Ageing function	tion is decreasing	ng func	tion of time	rate (DFR) di	stribution if
	D) Both A & B	tion is increasin	g funct	ion of time			
	Structure function is A) Binary B) Bo	ernoulli C) Ri	nomial	D) Both	A and	R	
12.	Which loop executes a sequent manages the loop variable?	uence of statem	ents mu	ltiple times	and	abbrevia	ites the code that
	A) for	B) while	C) do	-while	D	repeat	
					ale		

A) C '1:	is not an activity of CS		
A) Compilation B) Conducting Econo	omic Census		
(C)Conducting Consu	mer Expenditure Surve	y	
D) Training of Statist			
14. Which of the following di	ivision of CSO deals w	ith Environn	nental Statistics?
A) National Account	Division B) Soc	ial Statistics	Division
C)Economics Statistic	es Division D) Prio	ce Statistics I	Division
15. What will be output for the sqrt(-17)	he following code?		
A) -4.02 B) 4.0	2 C) 3.67	DYNAN	
16. A component has hazard			
	-2t C) 1-e ^{-2t}		
survival function is	ent having exponential	distribution	with parameter θ then value of
A) $e^{-\theta t}$ B) θe	$-\theta t$ C) $1-e^{-\theta t}$	D) None of t	these
18. In 2 out of 3 system num			
A) (3,3)		C) (3,4)	D) (4,4)
19. A state vector \underline{X} is called B)1	Cut vector if $\psi(x) = \dots$ C) Both A and		D) Neither A nor B
20. Structure function for Par			onents is
	B) 1 – (1 - X12	X2)	
$(X_1 + X_2 - X_1X_2)$ 21, In R programming, the ve	D) X ₁ X ₂ X ₃	ha Dahiaata	celled0
A) Lists		e) Vector	D) Arrays
22. Which of the following is	the assignment operator		2) Tillay 5
A) = B < B	()=	D) =>	
23. Which function is used to A) c() B) vectors		D) join()	
	,		
14 What is the output of land	$\sin(c(2, 4, 6, 8, 10))$ in		
24. What is the output of leng A) 4 B) 5	C) 10	D) Error	
A) 4 B) 5 25. Which function in R is use		of the second	dataset?