

Faculty Name: Dr. Nishita Srivastava Class/Sem: BSc. 6 Academic Year: 2022-23
 Course Name: Analytical techniques and biostatistics Course Code: CBI 601 Program Name: BSc. 7th

CO-PO MAPPING:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	3			2	1			1			
CO2	2		2	2			1	2				
CO3		2	3			2	1				2	
CO4				1	1			1	1	2		
CO5	3		3		2						1	1
CO6		1		3		2	1	1	1	1		2

CO ATTAINMENT:

Dr. Nishita Srivastava		Avg. Load
CO1		3.00
CO2		3.00
CO3		3.00
CO4		2.09
CO5		2.20
CO6		2.71

PO ATTAINMENT :

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Overall PO Attainment	2.6	3.0	2.7	2.7	2.5	2.9	3.0	2.7	2.6	2.5	2.5	2.5

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Faculty Name: Dr. Nidha Siddiqua

Class/Sem: BSC-6

Academic Year: 2022-23

Course Name: Analytical techniques and bio statistics

Course Code: CRT 601

Program Name: BSC /BC

Sl No	Internally Rep. No.	Student Name	Internal Marks Scheme						Theory (30)	Theory (70)	Theory (100)			
			Theory (30)	Theory (30)	Theory (10)	Theory (10)	Theory (30)	Theory (10)				12	12	6
1	HZ/IR 2020001	KANISHKA SINGH	20	16	5	4	20	5	8	8	3	19	28	47
2	HZ/IR 2020001	NANSHI SINGH	21	18	7	5	21	7	9	9	4	22	28	50
3	HZ/IR 2020005	NAHA TILIA	17	10	3	3	13	3	5	5	2	12	37	49
4	HZ/IR 2020008	NANOR AJANBAR	27	18	7	5	23	7	9	9	4	22	32	54
5	HZ/IR 2020009	SHIBSU ZINA	13	10	3	3	13	3	5	5	2	12	37	49
6	HZ/IR 2020014	ABHINAVRAMPINGHI	30	24	8	7	30	8	12	12	5	29	34	61
7	HZ/IR 2020015	DI LAKSHIA	10	24	8	7	30	8	12	12	5	29	34	61
8	HZ/IR 2020017	PRIVANSHU SINGH	13	10	3	3	13	3	5	5	2	12	37	49
9	HZ/IR 2020019	FOJJI	25	20	7	5	25	7	10	9	4	21	40	63
10	HZ/IR 2020025	AJANVIYAS	15	12	5	4	15	5	6	6	3	15	42	57
11	HZ/IR 2021001	PIVAKSHITA	13	10	3	3	13	3	5	5	2	12	40	52
12	HZ/IR 2020011	HINA FATMA	13	10	3	3	13	3	5	5	2	12	28	40
Students appeared for the examination			1	1	1	1	1	1	1	1	1	1	1	1
Target candidate mark set as benchmark			12	4	4	4	12	4	4	5	2	12	28	40
Student scored above the target set			1	0	0	0	1	0	0	1	0	1	1	1
% Students scored above the target set			100%	0%	0%	0%	100%	0%	0%	100%	0%	100%	100%	100%
Attendance Level			3	1	1	1	3	1	3	3	1	3	3	3
Overall														

Exhibit	Level
% Students	1
< 50%	2
50-75%	3
>75%	3

Overall attainment: 2.67

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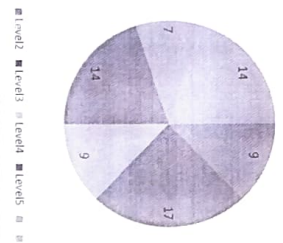
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Q No.	Questions	Marks (70)	CO	BL
1-I	Write the full form of EI/SA	01	CO1	L2
1-II	Write the full form of HPLC	01	CO2	L1
1-III	Action use in lab for.....	01	CO2	L2
1-IV	Write the full form of BOD	01	CO3	L3
1-V	What is chromatography	01	CO2	L1
1-VI	Lab glass made up by borosil why	01	CO1	L1
1-VIII	Write the role of oven in laboratory.	01	CO1	L1
2-I	Write the formula of mean deviation, if frequency present	01	CO1	L1
2-II	Write the formula of standard deviation, if frequency not present	01	CO1	L1
2-III	Write the formula of variance	01	CO1	L1
2-IV	Write the formula of standard error of mean	01	CO1	L2
2-V	How can calculate mean and deviation	01	CO1	L1
2-VI	What do you mean by variables	01	CO1	L3
2-VIII	What is difference between continuous and discrete series	01	CO1	L1
3-I	a) Write the short notes on paper chromatography and lab techniques OR b) Define mean median mode	7	CO2	L2
3-II	a) Define HPLC and TLC OR b) Describe Coelution, centrifuge, and PCR	7	CO3	L2
4-I	a) Give merit and demerit of mean deviation and define also? OR b) What is BOD? How can isolate protein in laboratory, define?	7	CO3	L5
4-II	a) Give the process of preparation of sugar and well labelled diagram of microscope OR b) Students got marks in botany at UG level are 2,1,1,1,2,2,2,8,8,7,9,9,9,10,10,10,10,11,4,5,5,10,2,3,3,6,6 Calculate mean deviation, standard deviation, standard error of mean, variance by discrete series?	7	CO4	L3
5-I	a) Define Chi square and t-test? OR b) In a university block, studied the length of counted 15 euphorbia plant species are 11,15,5,10,1,2,5,10,15,12,11,14,20,20,8. Calculate mean deviation, standard deviation, standard error of mean, variance	7	CO5	L4
5-II	a) Describe Spectrophotometer? OR b) Write the difference between Mean and standard deviation? Write the name of 5 medicinal plants with their 5 medicinal properties	7	CO6	L6

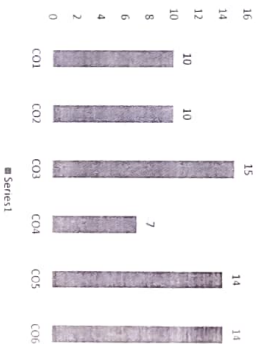
6-I	a) How ion-exchange chromatographic technique is better than other chromatographic technique Describe ion-exchange chromatography and also define protein method studied by you in laboratory OR b) by Give the experimental method of isolation of chlorophyll content from the leaf	7	CO5	1.4
6-II	a) Give the process of tea and coffee preparation? OR b) In a 20 fields of 1m ² area counted no. of earth worm are 16,15,12,11,5,6,20,25,30,11,10,5,6,10,11,14,12,4,5,11 Calculate mean deviation, standard deviation, standard error of mean, variance	7	CO6	1.6

BI – Bloom's Taxonomy Levels (1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating) CO – Course Outcomes PO – Program Outcomes, PI Code – Performance Indicator Code			
Level	Marks	CO	Marks
Level1	9	CO1	10
Level2	17	CO2	10
Level3	9	CO3	15
Level4	14	CO4	7
Level5	7	CO5	14
Level6	14	CO6	14
Total	70	Total	70

Bloom's Level wise Marks Distribution



Course Outcome wise Marks Distribution




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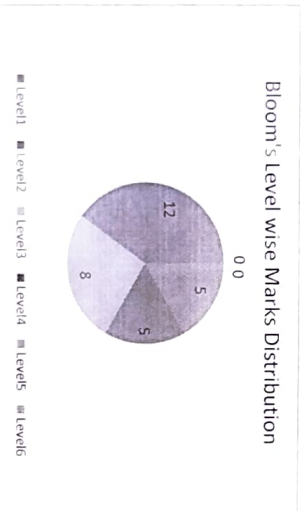

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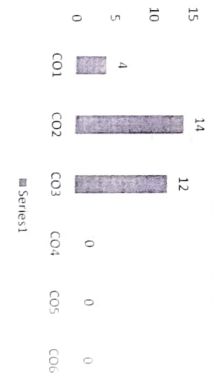
Q.No	Questions	Marks (30)	CO	BL
1-I	Write the full form of IPTC	01	CO1	L1
1-II	What is chromatography	01	CO1	L1
1-III	What is difference between continuous and discrete series	01	CO2	L2
1-IV	Write the full form of ELISA	01	CO1	L2
1-V	Write the formula of mean deviation. If frequency present	01	CO1	L1
2-I	Write the formula of standard deviation. If frequency not present	01	CO2	L2
2-II	Write the formula of variance	01	CO2	L1
2-III	Write the formula of standard error of mean	01	CO2	L2
2-IV	How can calculate mean and deviation	01	CO2	L2
2-V	Write the full form of TLC	01	CO2	L1
3	a) Write the short notes on IPTC and TLC	08	CO2	L3
	b) Explain Co-relation and why the study of bio-stat is necessary			
4-A	a) X 20 25 30 35 40 45 50 55 60 65 f 1 2 1 2 3 2 1 2 3 1	06	CO3	L4
	b) Define Chi square test OR a) Define T- test OR ELISA reader OR b) Define Chi square test			

Level	Marks	CO	Marks
Level1	5	CO1	4
Level2	5	CO2	14
Level3	8	CO3	12
Level4	12	CO4	0
Level5	0	CO5	0
Level6	0	CO6	0
Total	30	Total	30

Bloom's Level wise Marks Distribution



Course Outcome wise Marks Distribution



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Q.No	Questions	Marks (30)	CO	BL
1-I	Write the role of oven in laboratory	01	CO4	L1
1-II	Acetone use in lab for.....	01	CO4	L1
1-III	Write the formula of standard deviation, if frequency present	01	CO4	L2
1-IV	Write the formula of standard error of mean	01	CO4	L1
1-V	How can calculate mean and deviation	01	CO4	L1
2-I	What do you mean by variables	01	CO4	L2
2-II	Write the formula of variance	01	CO5	L2
2-III	Write the full form of BOD	01	CO5	L2
2-IV	Lab class made up by borostil why	01	CO5	L2
2-V	Write the formula of mean deviation, if frequency not present	01	CO5	L2
3	a) Define processing of Tea and sugar	08	CO5	L3
	OR			
4-A	a) Give the experimental method of extraction of chlorophyll content from leaf	06	CO6	L4
	OR			
4-B	a) Define BOD	06	CO6	L4
	OR			
4-B	b) Define Centrifuge	06	CO6	L5
	OR			
4-B	a) Give the processing of Coffee preparation	06	CO6	L4
	OR			
4-B	b) Define the HPLC and laboratory techniques	06	CO6	L5
	OR			

BL – Bloom's Taxonomy Levels

(1- Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating)

Level	CO1	CO2	CO3	CO4	CO5	CO6	Total
Level1	4	0	0	0	0	0	4
Level2	6	0	0	0	0	0	6
Level3	8	0	0	6	0	0	14
Level4	6	0	0	6	0	0	12
Level5	6	0	0	0	0	12	18
Level6	0	0	0	0	0	12	12
Total	30	0	0	12	0	12	60

Bloom's Level wise Marks Distribution



Course Outcome wise Marks Distribution



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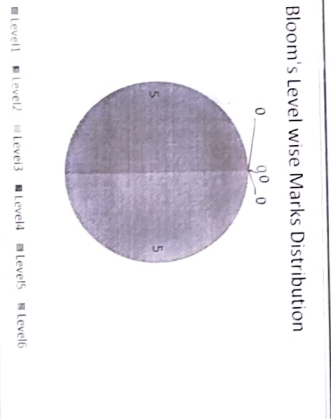
Q.No	Questions	Marks (10)	CO	BI
1	Chi Square test	05	CO4	L2
2	Give the Alter and Element of Standard deviation, and write the formula of Variance and standard deviation (11 frequencies found)	05	CO5	L1

BI – Bloom’s Taxonomy Levels

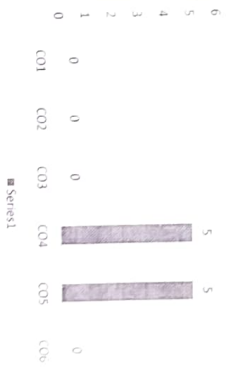
(1 - Remembering, 2- Understanding, 3 – Applying, 4 – Analysing, 5 – Evaluating, 6 - Creating)
 CO – Course Outcomes PO – Program Outcomes; PI Code – Performance Indicator Code

Level	Marks	CO	Marks
Level1	5	CO1	0
Level2	5	CO2	0
Level3	0	CO3	0
Level4	0	CO4	5
Level5	0	CO5	5
Level6	0	CO6	0
Total	10	Total	10

Bloom’s Level wise Marks Distribution



Course Outcome wise Marks Distribution





Q.No	Questions	Marks (10)	CO	BL
1	Paper Chromatography	05	CO4	L1
2	TTC	05	CO5	L2

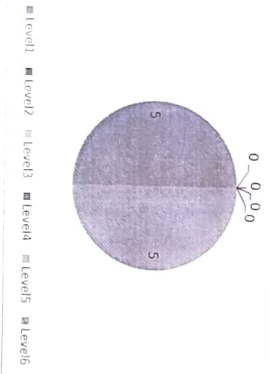
BL – Bloom’s Taxonomy Levels

(1- Remembering; 2- Understanding; 3 – Applying; 4 – Analysing; 5 – Evaluating; 6 - Creating)

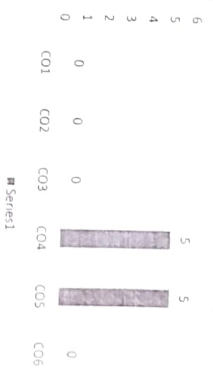
CO – Course Outcomes PO – Program Outcomes; PI Code – Performance Indicator Code

Level	Marks	CO	Marks
Level1	5	CO1	0
Level2	5	CO2	0
Level3	0	CO3	0
Level4	0	CO4	5
Level5	0	CO5	5
Level6	0	CO6	0
Total	10	Total	10

Bloom’s Level wise Marks Distribution



Course Outcome wise Marks Distribution



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