

Department of Sciences

SUBJECT: Basic Statistics – I

Class: I Semester (2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Organization and presentation of data	Understand, Evaluate	Procedural, Conceptual	8	PO1,PSO2
CO2	Computational Univariate data analysis	Understand, Evaluate, Analyse	Procedural, Conceptual	16	PO1,PSO2
CO3	Computational Bivariate data analysis	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1,PSO2
CO4	Describes Multivariate data analysis	Understand, Evaluate, Analyse	Conceptual, Procedural	6	PO1,PSO2
CO5	Computational Elements of probability	Analyse, Evaluate Understand	Conceptual, Procedural	12	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (20)	Preparatory Examination Class Average (20)	CIE Class Average (%)
CO1	1.70/2	4.5/5	1.25/2	83
CO2	1.72/2	2.5/3	1.70/2	84
CO3	1.68/2	1.68/2	1.50/2	81
CO4	1.60/2	0	1.80/2	85
CO5	1.64/2	0	1.60/2	81

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45
CO3	45

CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course $C_{xxx} = Wt. \text{ of CIE} \times \text{Attainment of CO as percentage in CIE} + Wt. \text{ of SEE} \times \text{Class Average Marks}$

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment $0.3 * \text{CIE Class Average}$ $+0.7* \text{SEE Class Average}$
CO1	83	45	56.4
CO2	84	45	56.7
CO3	81	45	55.8
CO4	85	45	57
CO5	81	45	55.8



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	60
CO3	62
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	56.4	55	1.4
CO2	56.7	54	2.7
CO3	55.8	58	(-2.2)
CO4	57	53	4.0
CO5	55.8	50	5.8



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	1.4		57
CO2	54	2.7		62
CO3	58	-2.2	More Assignment and Previous Question paper solving	
CO4	53	4.0		55
CO5	50	5.8		55

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	8
CO2	PO1,PSO2	16
CO3	PO1,PSO2	10



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NURTURING VALUES AND EXCELLENCE

CO4	PO1,PSO2	6
CO5	PO1,PSO2	12
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics – I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	56.4
CO2	PO1,PSO2	56.7
CO3	PO1,PSO2	55.8
CO4	PO1,PSO2	57
CO5	PO1,PSO2	55.8

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (56.4+56.7+55.8+57+55.8)/5=56.34$
PSO2	$(3/3) \times (59.8+60.1+59.5+58.3+58.9)/5=56.34$



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NURTURING VALUES AND EXCELLENCE

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.56	0	0	0	0	0	0	0	.56	0	0	0	0

Department of Sciences

SUBJECT: B.Sc. Mathematics – IV

Class : I Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Groups	Understand, Evaluate	Procedural, Conceptual	9	PO1,PSO2
CO2	Computational Fourier Series	Understand, Evaluate, Analyse	Procedural, Conceptual	12	PO1,PSO2
CO3	Computational Differential Calculus	Understand, Evaluate, Analyse	Procedural, Conceptual	16	PO1,PSO2
CO4	Computational Continuity and differentiability	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains DIFFERENTIAL EQUATIONS –II	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	46
CO2	46
CO3	46
CO4	46
CO5	46

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	46	58.3
CO2	88	46	58.6



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NURTURING VALUES AND EXCELLENCE

CO3	85	46	57.7
CO4	90	46	59.2
CO5	85	46	57.

CO	Target (Class Average)
CO1	55
CO2	53
CO3	60
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	58.3	55	3.3
CO2	58.6	53	5.6
CO3	57.7	60	-2.3



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NURTURING VALUES AND EXCELLENCE

CO4	59.2	53	6.2
CO5	57	50	7

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	3.3		57
CO2	53	5.6		62
CO3	60	-2.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7		55



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NURTURING VALUES AND EXCELLENCE

CO-PO/PSO Mappings

	Pos	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9
CO5	PO1,PSO2	6
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3



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NURTURING VALUES AND EXCELLENCE

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Mathematics - IV	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	58.3
CO2	PO1,PSO2	58.6
CO3	PO1,PSO2	57.7
CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	57



PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$
PSO2	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$

Attainment of POs and PSOs

Course	POs							PSOs						
	1	2	3	4	5	6	7	1	2	3	4	5	6	
DM	3	0	0	0	0	0	0	0	3	0	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.58	0	0	0	0	0

Department of Sciences

SUBJECT: Mathematics – I

Class : I Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Matrix and its Application	Understand, Evaluate	Procedural, Conceptual	9	PO1,PSO2
CO2	Computational Group Theory	Understand, Evaluate, Analyse	Procedural, Conceptual	12	PO1,PSO2
CO3	Computational Differential Equation	Understand, Evaluate, Analyse	Procedural, Conceptual	16	PO1,PSO2
CO4	Computational Calculus	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains Differential Calculus	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	46
CO2	46

CO3	46
CO4	46
CO5	46

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	46	58.3
CO2	88	46	58.6
CO3	85	46	57.7
CO4	90	46	59.2
CO5	85	46	57.



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	60
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	58.3	55	3.3
CO2	58.6	53	5.6
CO3	57.7	60	-2.3
CO4	59.2	53	6.2
CO5	57	50	7



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	3.3		57
CO2	53	5.6		62
CO3	60	-2.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7		55

CO-PO/PSO Mappings

	Pos	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9
CO5	PO1,PSO2	6



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NURTURING VALUES AND EXCELLENCE

52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1

Mapping Strength is 3

60 OF 60 (100%) Sessions are devoted to PSO2

Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Mathematics - I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	58.3
CO2	PO1,PSO2	58.6



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NURTURING VALUES AND EXCELLENCE

CO3	PO1,PSO2	57.7
CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	57

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$
PSO2	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.58	0	0	0	0

Department of Sciences

SUBJECT: Mathematics – II

Class : II Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Group Theory	Understand, Evaluate	Procedural, Conceptual	9	PO1,PSO2
CO2	Computational Differential Calculus	Understand, Evaluate, Analyse	Procedural, Conceptual	12	PO1,PSO2
CO3	Computational Integral Calculus	Understand, Evaluate, Analyse	Procedural, Conceptual	16	PO1,PSO2
CO4	Computational Linear equations, Bernoulli's equation.	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains Exact equations	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45

CO3	45
CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	45	57.3
CO2	88	45	57.6
CO3	85	45	56.7
CO4	90	45	58.2
CO5	85	45	56



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	60
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	57.3	55	2.3
CO2	57.6	53	4.6
CO3	56.7	60	-3.3
CO4	58.2	53	5.2
CO5	56	50	6



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	2.3		57
CO2	53	4.6		62
CO3	60	-3.3	More Assignment and Previous Question paper solving	
CO4	53	5.2		55
CO5	50	6		55

CO-PO/PSO Mappings

COs	Pos	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9
CO5	PO1,PSO2	6



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NURTURING VALUES AND EXCELLENCE

52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1

Mapping Strength is 3

60 OF 60 (100%) Sessions are devoted to PSO2

Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Mathematics - II	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	57.3
CO2	PO1,PSO2	57.6
CO3	PO1,PSO2	56.7



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NURTURING VALUES AND EXCELLENCE

CO4	PO1,PSO2	58.2
CO5	PO1,PSO2	56

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (57.3+57.6+56.7+58.2+56)/5=57.16$
PSO2	$(3/3) \times (57.3+57.6+56.7+58.2+56)/5=57.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.56	0	0	0	0	0	0	0	.56	0	0	0	0

Department of Sciences

SUBJECT: Basic Statistics – II

Class : II Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Random variables and expectation (Univariate)	Understand, Evaluate	Procedural, Conceptual	9	PO1,PSO2
CO2	Computational Discrete probability distributions	Understand, Evaluate, Analyse	Procedural, Conceptual	12	PO1,PSO2
CO3	Computational Continuous probability distributions	Understand, Evaluate, Analyse	Procedural, Conceptual	16	PO1,PSO2
CO4	Computational Random variables and expectation (Bivariate)	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains Limit theorems	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	46
CO2	46

CO3	46
CO4	46
CO5	46

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	46	58.3
CO2	88	46	58.6
CO3	85	46	57.7
CO4	90	46	59.2
CO5	85	46	57.



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	62
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	58.3	55	3.3
CO2	58.6	53	5.6
CO3	57.7	62	(-4.3)
CO4	59.2	53	6.2
CO5	57	50	7



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	3.3		57
CO2	53	5.6		62
CO3	62	-4.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7		55

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9

CO5	PO1,PSO2	6
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics - I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	58.3
CO2	PO1,PSO2	58.6



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NURTURING VALUES AND EXCELLENCE

CO3	PO1,PSO2	57.7
CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	57

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$
PSO2	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.58	0	0	0	0

Department of Sciences

SUBJECT: Mathematics – III

Class : III Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Matrix and its Application	Understand, Evaluate	Procedural, Conceptual	9	PO1,PSO2
CO2	Computational Group Theory	Understand, Evaluate, Analyse	Procedural, Conceptual	12	PO1,PSO2
CO3	Computational Differential Equation	Understand, Evaluate, Analyse	Procedural, Conceptual	16	PO1,PSO2
CO4	Computational Calculus	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains Differential Calculus	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	46
CO2	46
CO3	46
CO4	46
CO5	46

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	46	58.3
CO2	88	46	58.6



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NURTURING VALUES AND EXCELLENCE

C03	85	46	57.7
C04	90	46	59.2
C05	85	46	57.

CO	Target (Class Average)
C01	55
C02	53
C03	60
C04	53
C05	50



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NURTURING VALUES AND EXCELLENCE

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	58.3	55	3.3
CO2	58.6	53	5.6
CO3	57.7	60	-2.3
CO4	59.2	53	6.2
CO5	57	50	7

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	3.3		57
CO2	53	5.6		62
CO3	60	-2.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7		55



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NURTURING VALUES AND EXCELLENCE

CO-PO/PSO Mappings

	Pos	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9
CO5	PO1,PSO2	6
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3



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NURTURING VALUES AND EXCELLENCE

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Mathematics- III	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	58.3
CO2	PO1,PSO2	58.6
CO3	PO1,PSO2	57.7
CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	57



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NURTURING VALUES AND EXCELLENCE

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$
PSO2	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.58	0	0	0	0

Department of Sciences

SUBJECT: Statistical Inference -I

Class : III Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Sampling distributions	Understand, Evaluate	Procedural, Conceptual	10	PO1,PSO2
CO2	Describes Point estimation	Understand, Evaluate, Analyse	Procedural, Conceptual	20	PO1,PSO2
CO3	Computational Methods of point estimation	Understand, Evaluate, Analyse	Procedural, Conceptual	6	PO1,PSO2
CO4	Computational Interval estimation	Understand, Evaluate, Analyse	Conceptual, Procedural	8	PO1,PSO2
CO5	Explains Simulation	Analyse, Evaluate Understand	Conceptual, Procedural	8	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45

CO3	45
CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	45	57.6
CO2	88	45	57.9
CO3	85	45	57
CO4	90	45	59.2
CO5	85	45	58.5



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	59
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	57.6	55	2.6
CO2	57.9	53	4.9
CO3	57	59	(-2)
CO4	59.2	53	6.2
CO5	58.5	50	8.5



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	2.6		57
CO2	53	4.9		62
CO3	59	-2	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	8.5		55

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	10
CO2	PO1,PSO2	20
CO3	PO1,PSO2	6



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NURTURING VALUES AND EXCELLENCE

CO4	PO1,PSO2	8
CO5	PO1,PSO2	8
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics - I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	57.6
CO2	PO1,PSO2	57.9
CO3	PO1,PSO2	57
CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	58.5

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (57.6+57.9+57+59.2+58.5)/5=58.04$
PSO2	$(3/3) \times (57.6+57.9+57+59.2+58.5)/5=58.04$



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NURTURING VALUES AND EXCELLENCE

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.58	0	0	0	0

Department of Sciences

SUBJECT: Statistical Inference – II

Class : IV Semester BSc(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Introduction to tests of hypotheses	Understand, Evaluate	Procedural, Conceptual	9	PO1,PSO2
CO2	Computational: Tests of significance I	Understand, Evaluate, Analyse	Procedural, Conceptual	12	PO1,PSO2
CO3	Computational: Tests of significance II	Understand, Evaluate, Analyse	Procedural, Conceptual	16	PO1,PSO2
CO4	Computational: Nonparametric tests	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains: Sequential tests	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	88
CO2	88

CO3	88
CO4	88
CO5	88

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	88	87.7
CO2	88	88	88
CO3	85	88	87.1
CO4	90	88	88.6
CO5	85	88	87.1

CO	Target (Class Average)
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NURTURING VALUES AND EXCELLENCE

CO1	87
CO2	88
CO3	87
CO4	88.7
CO5	87

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	87.7	87	0.7
CO2	88	88	0
CO3	87.1	87	0.1
CO4	88.6	88.7	(-0.1)
CO5	87.1	87	0.1



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	87	0.7		87
CO2	88	0		88
CO3	87	0.1		87
CO4	88.7	(-0.1)	More Assignment and Previous Question paper solving	
CO5	87	0.1		87

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9

CO5	PO1,PSO2	6
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics - I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	87.7
CO2	PO1,PSO2	88

CO3	PO1,PSO2	87.1
CO4	PO1,PSO2	88.6
CO5	PO1,PSO2	87.1

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (87.7+88+87.1+88.6+87.1)/5=87.7$
PSO2	$(3/3) \times (87.7+88+87.1+88.6+87.1)/5=87.7$

Attainment of POs and PSOs

Course	POs							PSOs						
	1	2	3	4	5	6	7	1	2	3	4	5	6	
DM	3	0	0	0	0	0	0	0	3	0	0	0	0	0
Attainment	.88	0	0	0	0	0	0	0	.88	0	0	0	0	0

Department of Sciences

SUBJECT: STATISTICS FOR ECONOMISTS (Elective Paper) – Economics VI

Class: V Semester (2018-21)

Credits: 4 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Concept of statistics, collection, classification, tabulation and presentation of data	Understand, Evaluate	Procedural, Conceptual	10	PO1,PSO2
CO2	Computational Measures of central tendency	Understand, Evaluate, Analyse	Procedural, Conceptual	8	PO1,PSO2
CO3	Computational Measures of dispersion	Understand, Evaluate, Analyse	Procedural, Conceptual	8	PO1,PSO2
CO4	Computational Time Series analysis and Index Numbers	Understand, Evaluate, Analyse	Conceptual, Procedural	12	PO1,PSO2
CO5	Computational Statistical Inference	Analyse, Evaluate Understand	Conceptual, Procedural	5	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Mathematics for Economist

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (20)	Preparatory Examination Class Average (20)	CIE Class Average (%)
CO1	1.70/2	4.5/5	1.25/2	83
CO2	1.72/2	2.5/3	1.70/2	84
CO3	1.68/2	1.68/2	1.50/2	81
CO4	1.60/2	0	1.80/2	85
CO5	1.64/2	0	1.60/2	81

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	100
CO2	100

CO3	100
CO4	100
CO5	100

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	83	100	94.9
CO2	84	100	95.2
CO3	81	100	94.3
CO4	85	100	95.5
CO5	81	100	94.3



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	94
CO2	95
CO3	94
CO4	92
CO5	92

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	94.9	94	0.9
CO2	95.2	95	0.2
CO3	94.3	94	0.3
CO4	95.5	92	3.5
CO5	94.3	92	2.3



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	94	0.9		94
CO2	95	0.2		95
CO3	94	0.3		94
CO4	92	3.5		92
CO5	92	2.3		92

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	8
CO2	PO1,PSO2	16
CO3	PO1,PSO2	10
CO4	PO1,PSO2	6



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NURTURING VALUES AND EXCELLENCE

CO5	PO1,PSO2	12
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics – I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	94.9
CO2	PO1,PSO2	95.2



CO3	PO1,PSO2	94.3
CO4	PO1,PSO2	95.5
CO5	PO1,PSO2	94.3

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (94.9+95.2+94.3+95.5+94.3)/5=94.84$
PSO2	$(3/3) \times (94.9+95.2+94.3+95.5+94.3)/5=94.84$



Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	0.95	0	0	0	0	0	0	0	0.95	0	0	0	0

Department of Sciences

SUBJECT: SAMPLING THEORY AND STATISTICAL QUALITY CONTROL

Class: V Semester (2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Introduction to sampling theory	Understand, Evaluate	Procedural, Conceptual	5	PO1,PSO2
CO2	Computational Simple random sampling (SRS)	Understand, Evaluate, Analyse	Procedural, Conceptual	8	PO1,PSO2
CO3	Computational Stratified and systematic sampling	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1,PSO2
CO4	Describes Process control	Understand, Evaluate, Analyse	Conceptual, Procedural	10	PO1,PSO2
CO5	Computational Product control	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2



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NURTURING VALUES AND EXCELLENCE

Attainment of Outcomes

Computation of CO Attainment of SAMPLING THEORY AND STATISTICAL QUALITY CONTROL

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (20)	Preparatory Examination Class Average (20)	CIE Class Average (%)
CO1	1.70/2	4.5/5	1.25/2	83
CO2	1.72/2	2.5/3	1.70/2	84
CO3	1.68/2	1.68/2	1.50/2	81
CO4	1.60/2	0	1.80/2	85
CO5	1.64/2	0	1.60/2	81

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45

CO3	45
CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	83	45	56.4
CO2	84	45	56.7
CO3	81	45	55.8
CO4	85	45	57
CO5	81	45	55.8



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	60
CO3	62
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	56.4	55	1.4
CO2	56.7	54	2.7
CO3	55.8	58	(-2.2)
CO4	57	53	4.0
CO5	55.8	50	5.8



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	1.4		57
CO2	54	2.7		62
CO3	58	-2.2	More Assignment and Previous Question paper solving	
CO4	53	4.0		55
CO5	50	5.8		55

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	8
CO2	PO1,PSO2	16



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NURTURING VALUES AND EXCELLENCE

CO3	PO1,PSO2	10
CO4	PO1,PSO2	6
CO5	PO1,PSO2	12
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics – I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	56.4
CO2	PO1,PSO2	56.7
CO3	PO1,PSO2	55.8
CO4	PO1,PSO2	57
CO5	PO1,PSO2	55.8

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (56.4+56.7+55.8+57+55.8)/5=56.34$
PSO2	$(3/3) \times (59.8+60.1+59.5+58.3+58.9)/5=56.34$



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NURTURING VALUES AND EXCELLENCE

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.56	0	0	0	0	0	0	0	.56	0	0	0	0



Department of Sciences

SUBJECT: DESIGN AND ANALYSIS OF EXPERIMENTS

Class: V Semester (2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Analysis of variance	Understand, Evaluate	Procedural, Conceptual	10	PO1,PSO2
CO2	Computational Experimental designs	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1,PSO2
CO3	Computational Efficiency of a design and missing plot technique	Understand, Evaluate, Analyse	Procedural, Conceptual	5	PO1,PSO2
CO4	Describes Factorial experiment	Understand, Evaluate, Analyse	Conceptual, Procedural	8	PO1,PSO2
CO5	Computational Confounding	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2



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NURTURING VALUES AND EXCELLENCE

Attainment of Outcomes

Computation of CO Attainment of DESIGN AND ANALYSIS OF EXPERIMENTS

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (20)	Preparatory Examination Class Average (20)	CIE Class Average (%)
CO1	1.70/2	4.5/5	1.25/2	83
CO2	1.72/2	2.5/3	1.70/2	84
CO3	1.68/2	1.68/2	1.50/2	81
CO4	1.60/2	0	1.80/2	85
CO5	1.64/2	0	1.60/2	81

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45

CO3	45
CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	83	45	56.4
CO2	84	45	56.7
CO3	81	45	55.8
CO4	85	45	57
CO5	81	45	55.8



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	60
CO3	62
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	56.4	55	1.4
CO2	56.7	54	2.7
CO3	55.8	58	(-2.2)
CO4	57	53	4.0
CO5	55.8	50	5.8



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	1.4		57
CO2	54	2.7		62
CO3	58	-2.2	More Assignment and Previous Question paper solving	
CO4	53	4.0		55
CO5	50	5.8		55

CO-PO/PSO Mappings

COs	POs	Class Sessions
	CO1	PO1,PSO2
CO2	PO1,PSO2	16
CO3	PO1,PSO2	10



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NURTURING VALUES AND EXCELLENCE

CO4	PO1,PSO2	6
CO5	PO1,PSO2	12
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics - I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	56.4



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NURTURING VALUES AND EXCELLENCE

CO2	PO1,PSO2	56.7
CO3	PO1,PSO2	55.8
CO4	PO1,PSO2	57
CO5	PO1,PSO2	55.8

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (56.4+56.7+55.8+57+55.8)/5=56.34$
PSO2	$(3/3) \times (59.8+60.1+59.5+58.3+58.9)/5=56.34$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.56	0	0	0	0	0	0	0	.56	0	0	0	0

Department of Sciences

SUBJECT: Mathematics – V

Class : V Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Rings, Integral Domains, Fields	Understand, Evaluate	Procedural, Conceptual	7	PO1,PSO2
CO2	Computational Calculus of Variation	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1,PSO2
CO3	Computational Differential Equation	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1,PSO2
CO4	Computational nth differences	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains Numerical Integration	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	46
CO2	46

CO3	46
CO4	46
CO5	46

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	46	58.3
CO2	88	46	58.6
CO3	85	46	57.7
CO4	90	46	59.2
CO5	85	46	57.



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	60
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	58.3	55	3.3
CO2	58.6	53	5.6
CO3	57.7	60	-2.3
CO4	59.2	53	6.2
CO5	57	50	7



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	3.3		57
CO2	53	5.6		62
CO3	60	-2.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7		55

CO-PO/PSO Mappings

	Pos	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9
CO5	PO1,PSO2	6



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NURTURING VALUES AND EXCELLENCE

42

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1

Mapping Strength is 3

60 OF 60 (100%) Sessions are devoted to PSO2

Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Mathematics - V	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	58.3
CO2	PO1,PSO2	58.6
CO3	PO1,PSO2	57.7

CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	57

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$
PSO2	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.58	0	0	0	0

Department of Sciences

SUBJECT: Mathematics – VI

Class : VI Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Differential Calculus of Scalar	Understand, Evaluate	Procedural, Conceptual	7	PO1,PSO2
CO2	Computational Differential Calculus of Vector Fields	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1,PSO2
CO3	Computational Line And Multiple Integrals	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1,PSO2
CO4	Computational Integral Theorems	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1,PSO2
CO5	Explains Green's theorem	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	46
CO2	46

CO3	46
CO4	46
CO5	46

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	46	58.3
CO2	88	46	58.6
CO3	85	46	57.7
CO4	90	46	59.2
CO5	85	46	57.



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	60
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	58.3	55	3.3
CO2	58.6	53	5.6
CO3	57.7	60	-2.3
CO4	59.2	53	6.2
CO5	57	50	7



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	3.3		57
CO2	53	5.6		62
CO3	60	-2.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7		55

CO-PO/PSO Mappings

	Pos	Class Sessions
CO1	PO1,PSO2	9
CO2	PO1,PSO2	12
CO3	PO1,PSO2	16
CO4	PO1,PSO2	9
CO5	PO1,PSO2	6



Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Mathematics - VI	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	58.3
CO2	PO1,PSO2	58.6
CO3	PO1,PSO2	57.7

CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	57

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$
PSO2	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.58	0	0	0	0

Department of Sciences

SUBJECT: STATISTICS FOR ECONOMISTS (Elective Paper) – Economics VIII

Class: VI Semester (2018-21)

Credits: 4 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Concept of statistics, collection, classification, tabulation and presentation of data	Understand, Evaluate	Procedural, Conceptual	10	PO1, PSO2
CO2	Computational Measures of central tendency	Understand, Evaluate, Analyse	Procedural, Conceptual	8	PO1, PSO2
CO3	Computational Measures of dispersion	Understand, Evaluate, Analyse	Procedural, Conceptual	8	PO1, PSO2
CO4	Computational Time Series analysis and Index Numbers	Understand, Evaluate, Analyse	Conceptual, Procedural	12	PO1, PSO2
CO5	Computational Statistical Inference	Analyse, Evaluate Understand	Conceptual, Procedural	5	PO1, PSO2

Attainment of Outcomes

Computation of CO Attainment of Mathematics for Economist

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (20)	Preparatory Examination Class Average (20)	CIE Class Average (%)
CO1	1.70/2	4.5/5	1.25/2	83
CO2	1.72/2	2.5/3	1.70/2	84
CO3	1.68/2	1.68/2	1.50/2	81
CO4	1.60/2	0	1.80/2	85
CO5	1.64/2	0	1.60/2	81

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	100
CO2	100

CO3	100
CO4	100
CO5	100

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	83	100	94.9
CO2	84	100	95.2
CO3	81	100	94.3
CO4	85	100	95.5
CO5	81	100	94.3



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	94
CO2	95
CO3	94
CO4	92
CO5	92

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	94.9	94	0.9
CO2	95.2	95	0.2
CO3	94.3	94	0.3
CO4	95.5	92	3.5
CO5	94.3	92	2.3



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	94	0.9		94
CO2	95	0.2		95
CO3	94	0.3		94
CO4	92	3.5		92
CO5	92	2.3		92

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	8
CO2	PO1,PSO2	16
CO3	PO1,PSO2	10



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NURTURING VALUES AND EXCELLENCE

CO4	PO1,PSO2	6
CO5	PO1,PSO2	12
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics - I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	94.9



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NURTURING VALUES AND EXCELLENCE

CO2	PO1,PSO2	95.2
CO3	PO1,PSO2	94.3
CO4	PO1,PSO2	95.5
CO5	PO1,PSO2	94.3

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (94.9+95.2+94.3+95.5+94.3)/5=94.84$
PSO2	$(3/3) \times (94.9+95.2+94.3+95.5+94.3)/5=94.84$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	0.95	0	0	0	0	0	0	0	0.95	0	0	0	0

Department of Sciences

SUBJECT: Applied Statistics

Class: VI Semester (2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Analysis of variance	Understand, Evaluate	Procedural, Conceptual	8	PO1, PSO2
CO2	Computational Experimental designs	Understand, Evaluate, Analyse	Procedural, Conceptual	7	PO1, PSO2
CO3	Computational Efficiency of a design and missing plot technique	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1, PSO2
CO4	Describes Factorial experiment	Understand, Evaluate, Analyse	Conceptual, Procedural	7	PO1, PSO2
CO5	Computational Confounding	Analyse, Evaluate Understand	Conceptual, Procedural	7	PO1, PSO2

Attainment of Outcomes

Computation of CO Attainment of Applied Statistics

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (20)	Preparatory Examination Class Average (20)	CIE Class Average (%)
CO1	1.70/2	4.5/5	1.25/2	83
CO2	1.72/2	2.5/3	1.70/2	84
CO3	1.68/2	1.68/2	1.50/2	81
CO4	1.60/2	0	1.80/2	85
CO5	1.64/2	0	1.60/2	81

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45

CO3	45
CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	83	45	56.4
CO2	84	45	56.7
CO3	81	45	55.8
CO4	85	45	57
CO5	81	45	55.8



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	60
CO3	62
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	56.4	55	1.4
CO2	56.7	54	2.7
CO3	55.8	58	(-2.2)
CO4	57	53	4.0
CO5	55.8	50	5.8



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	1.4		57
CO2	54	2.7		62
CO3	58	-2.2	More Assignment and Previous Question paper solving	
CO4	53	4.0		55
CO5	50	5.8		55

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	8
CO2	PO1,PSO2	16



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NURTURING VALUES AND EXCELLENCE

CO3	PO1,PSO2	10
CO4	PO1,PSO2	6
CO5	PO1,PSO2	12
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics - I	3	0	0	0	0	0	0	0	3	0	0	0	0



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NURTURING VALUES AND EXCELLENCE

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	56.4
CO2	PO1,PSO2	56.7
CO3	PO1,PSO2	55.8
CO4	PO1,PSO2	57
CO5	PO1,PSO2	55.8

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (56.4+56.7+55.8+57+55.8)/5=56.34$
PSO2	$(3/3) \times (59.8+60.1+59.5+58.3+58.9)/5=56.34$



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NURTURING VALUES AND EXCELLENCE

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.56	0	0	0	0	0	0	0	.56	0	0	0	0



Department of Sciences

SUBJECT: OPERATIONS RESEARCH

Class: VI Semester (2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Introduction to OR and LPP	Understand, Evaluate	Procedural, Conceptual	14	PO1,PSO2
CO2	Computational Transportation and assignment problems	Understand, Evaluate, Analyse	Procedural, Conceptual	8	PO1,PSO2
CO3	Computational Game Theory	Understand, Evaluate, Analyse	Procedural, Conceptual	5	PO1,PSO2
CO4	Describes Inventory and replacement theory	Understand, Evaluate, Analyse	Conceptual, Procedural	8	PO1,PSO2
CO5	Computational Queuing theory	Analyse, Evaluate Understand	Conceptual, Procedural	4	PO1,PSO2

Attainment of Outcomes

Computation of CO Attainment of Operation Research

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (20)	Preparatory Examination Class Average (20)	CIE Class Average (%)
CO1	1.70/2	4.5/5	1.25/2	83
CO2	1.72/2	2.5/3	1.70/2	84
CO3	1.68/2	1.68/2	1.50/2	81
CO4	1.60/2	0	1.80/2	85
CO5	1.64/2	0	1.60/2	81

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45

CO3	45
CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	83	45	56.4
CO2	84	45	56.7
CO3	81	45	55.8
CO4	85	45	57
CO5	81	45	55.8



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	60
CO3	62
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	56.4	55	1.4
CO2	56.7	54	2.7
CO3	55.8	58	(-2.2)
CO4	57	53	4.0
CO5	55.8	50	5.8



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	1.4		57
CO2	54	2.7		62
CO3	58	-2.2	More Assignment and Previous Question paper solving	
CO4	53	4.0		55
CO5	50	5.8		55

CO-PO/PSO Mappings

	POs	Class Sessions
CO1	PO1,PSO2	8
CO2	PO1,PSO2	16
CO3	PO1,PSO2	10

CO4	PO1,PSO2	6
CO5	PO1,PSO2	12
		52

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics - I	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	56.4



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NURTURING VALUES AND EXCELLENCE

CO2	PO1,PSO2	56.7
CO3	PO1,PSO2	55.8
CO4	PO1,PSO2	57
CO5	PO1,PSO2	55.8

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (56.4+56.7+55.8+57+55.8)/5=56.34$
PSO2	$(3/3) \times (59.8+60.1+59.5+58.3+58.9)/5=56.34$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.56	0	0	0	0	0	0	0	.56	0	0	0	0

Department of Sciences

SUBJECT: Mathematics – VII

Class : VI Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Linear Algebra	Understand, Evaluate	Procedural, Conceptual	7	PO1, PSO2
CO2	Computational Orthogonal Curvilinear Coordinates	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1, PSO2
CO3	Computational Differential Equation	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1, PSO2
CO4	Computational Partial Differential Equations	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1, PSO2



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NURTURING VALUES AND EXCELLENCE

CO5	Explains Application Problems Differential Calculus	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1, PSO2
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Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	3	2
CO2	2	5	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/3	1.5/2	85
CO2	1.8/2	2.7/5	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	45
CO2	45

CO3	45
CO4	45
CO5	45

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	85	45	56.3
CO2	88	45	56.6
CO3	85	45	58.7
CO4	90	45	59.2
CO5	85	45	57.1



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	60
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	56.3	55	1.3
CO2	56.6	53	3.6
CO3	58.7	60	-1.3
CO4	59.2	53	6.2
CO5	57.1	50	7.1



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	1.3		57
CO2	53	3.6		62
CO3	60	-1.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7.1		55

CO-PO/PSO Mappings

	Pos	Class Sessions
CO1	PO1, PSO2	7
CO2	PO1, PSO2	10
CO3	PO1, PSO2	10
CO4	PO1, PSO2	9
CO5	PO1, PSO2	6
		42



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NURTURING VALUES AND EXCELLENCE

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Mathematics - VII	3	0	0	0	0	0	0	0	3	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1, PSO2	56.3
CO2	PO1, PSO2	56.6
CO3	PO1, PSO2	58.7
CO4	PO1, PSO2	59.2



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NURTURING VALUES AND EXCELLENCE

CO5	PO1, PSO2	57.1
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PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (56.3+58.6+57.7+59.2+57.1)/5=56.16$
PSO2	$(3/3) \times (56.3+58.6+57.7+59.2+57.1)/5=56.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.56	0	0	0	0	0	0	0	.56	0	0	0	0

Department of Sciences

Subject: Mathematics – VIII

Class : VI Semester(2018-21)

Credits: 2 Credits

Course Outcomes Alignment with Instructional and Assessment

CO	Course Outcome	Cognitive Level	Knowledge Category	No. of Hrs.	POs/PSOs
CO1	Explains Complex Analysis	Understand, Evaluate	Procedural, Conceptual	7	PO1, PSO2
CO2	Computational Complex integration	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1, PSO2
CO3	Computational Transformations	Understand, Evaluate, Analyse	Procedural, Conceptual	10	PO1, PSO2
CO4	Computational NUMERICAL METHODS	Understand, Evaluate, Analyse	Conceptual, Procedural	9	PO1, PSO2
CO5	Explains Euler's and Euler's methods	Analyse, Evaluate Understand	Conceptual, Procedural	6	PO1, PSO2

Attainment of Outcomes

Computation of CO Attainment of Basic Statistics - I

CO	A1 Assignment/Presentation (10)	CIA I (10)	Preparatory Examination (10)
CO1	2	5	2
CO2	2	3	2
CO3	2	2	2
CO4	2	0	2
CO5	2	0	2

Attainment of COs from CIE

Class average in CIE

CO	Assignment/Presentation Class Average (10)	CIA I Class Average (10)	Preparatory Examination Class Average (10)	CIE Class Average (%)
CO1	1.9/2	4.5/5	1.5/2	87
CO2	1.8/2	2.7/3	1.7/2	88
CO3	1.72/2	1.8/2	1.6/2	85
CO4	1.82/2	0	1.8/2	90
CO5	1.8/2	0	1.6/2	85

Attainment of COs from SEE

CO	Class Average in Semester End Exam
CO1	46
CO2	46

CO3	46
CO4	46
CO5	46

Computation of CO Direct Attainment in the course

Attainment of CO in a course Cxxx = Wt. of CIE x Attainment of CO as percentage in CIE + Wt. of SEE x Class Average Marks

Percentage in SEE

CO	CIE Class Average	SEE Class Average	Direct CO Attainment 0.3 *CIE Class Average +0.7* SEE Class Average
CO1	87	46	58.3
CO2	88	46	58.6
CO3	85	46	57.7
CO4	90	46	59.2
CO5	85	46	57.



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NURTURING VALUES AND EXCELLENCE

CO	Target (Class Average)
CO1	55
CO2	53
CO3	60
CO4	53
CO5	50

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO attainment Gap
CO1	58.3	55	3.3
CO2	58.6	53	5.6
CO3	57.7	60	-2.3
CO4	59.2	53	6.2
CO5	57	50	7



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NURTURING VALUES AND EXCELLENCE

COs	Target	CO Attainment gap (%)	Action proposed to bridge the gap	Modification of target where achieved
CO1	55	3.3		57
CO2	53	5.6		62
CO3	60	-2.3	More Assignment and Previous Question paper solving	
CO4	53	6.2		55
CO5	50	7		55

CO-PO/PSO Mappings

	Pos	Class Sessions
CO1	PO1, PSO2	9
CO2	PO1, PSO2	12
CO3	PO1, PSO2	16
CO4	PO1, PSO2	9
CO5	PO1, PSO2	6
		52



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NURTURING VALUES AND EXCELLENCE

Course – PO/PSO Mapping Strength

60 OF 60 (100%) Sessions are devoted to PO1	Mapping Strength is 3
60 OF 60 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs							PSOs						
	1	2	3	4	5	6	7	1	2	3	4	5	6	
Mathematics - VIII	3	0	0	0	0	0	0	0	3	0	0	0	0	0

CO Attainment and POs/PSOs

CO	PO/PSOs	CO Attainment (%)
CO1	PO1,PSO2	58.3
CO2	PO1,PSO2	58.6
CO3	PO1,PSO2	57.7
CO4	PO1,PSO2	59.2
CO5	PO1,PSO2	57



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NURTURING VALUES AND EXCELLENCE

PO and PSO Attainment

PO/PSO	Attainment (%)
PO1	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=58.16$
PSO2	$(3/3) \times (58.3+58.6+57.7+59.2+57)/5=56.16$

Attainment of POs and PSOs

Course	POs							PSOs					
	1	2	3	4	5	6	7	1	2	3	4	5	6
DM	3	0	0	0	0	0	0	0	3	0	0	0	0
Attainment	.58	0	0	0	0	0	0	0	.56	0	0	0	0



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NURTURING VALUES AND EXCELLENCE

Department of Sciences
Attainment of Outcomes
Computation of CO Attainment

Business Economics Sem I

CO	Course Outcome	Cognitive Level	Class Session	PSO	POS
CO1	Describe the concepts of Basic Business and the tools used	Understand	10	PSO 2	PO7
CO2	Explain the different demand concepts and its dynamics	Understand	10	PSO 2	PO7
CO3	Explain the method of demand forecasting in markets	Understand and apply	10	PSO 2	PO7
CO4	Explain the various concepts of costs and supply	Understand and apply	10	PSO 2	PO7
CO5	Explain the concepts of Production	Understand and apply	10	PSO 2	PO7



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NURTURING VALUES AND EXCELLENCE

CO Attainment

Direct Attainment of COs

Assessment Plan for CIE

CO	A1 (10)	T1 (20)	T2 (20)
CO1	1	12	4
CO2	1	8	4
CO3	4	0	4
CO4	3	0	4
CO5	1	0	4

Attainment of COs from CIE

Class average in CIE (As Calculated)

CO	A1 (10)	T1 (20)	T2 (20)	CIE Class Average (%)
CO1	0.9	10.8	3.6	90
CO2	0.9	7.2	3.6	90
CO3	3.72	0	3.72	93



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NURTURING VALUES AND EXCELLENCE

CO4	2.85	0	3.8	95
CO5	0.95	0	3.8	95
			CIE %	92.6

Attainment of COs from SEE

CO	Class Average in SEE (%)
CO1	46.25
CO2	46.25
CO3	46.25
CO4	46.25
CO5	46.25

Computation of CO Direct Attainment in the course:

CO	CIE	SEE	Direct CO Attainment
	(Cl. Ave)	(Cl. Ave)	$0.3 \times \text{CIE Cl. Ave} + 0.7 \times \text{SEE Cl. Ave}$
CO1	90	46.25	60.69
CO2	90	46.25	60.69
CO3	93	46.25	61.68
CO4	95	46.25	62.34
CO5	95	46.25	62.34



Targets: Targets are set for each CO of a course separately as

CO	Target
CO1	67
CO2	65
CO3	66
CO4	64
CO5	65

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO Attainment Gap
CO1	60.69	67	6.31
CO2	60.69	65	4.31
CO3	61.68	66	4.32
CO4	62.34	64	1.66
CO5	62.34	65	2.66

Closure of the Quality Loop for COs:

CO	Target	CO Attainment Gap	Action Proposed to Bridge the Gap	Modification of Target to be Achieved
CO1	67	6.31		67
CO2	65	4.31	More Practical example	
CO3	66	4.32		66
CO4	64	1.66	More exposure to diagrams	
CO5	65	2.66		66

CO-PO/PSO Mappings

CO	POs/PSOs	Class Sessions
CO1	PO7, PSO2	10
CO2	PO7, PSO2	10
CO3	PO7, PSO2	10
CO4	PO7, PSO2	10
CO5	PO7, PSO2	10
	Total	50

Course – PO/PSO Mapping Strength

50 OF 50 (100%) Sessions are devoted to P07	Mapping Strength is 3
50 OF 50 (100%) Sessions are devoted to PSO2	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Business	--	--	--	-	--	-	3	--	--	--	--	--	-	3	--	-	--
Economics																	

CO Attainment and POs/PSOs

CO	POs	CO Attainment
CO1	PO7, PSO2	60.69
CO2	PO7, PSO2	60.69
CO3	PO7, PSO2	61.68
CO4	PO7, PSO2	62.34

CO5	PO7, PSO2	62.34
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PO and PSO Attainment

Attainment of PO/PSO = (Average of attainments of relevant COs) x Scale Factor

Scale Factor = (Actual Mapping Strength / Maximum Possible Mapping Strength)

= Actual Mapping Strength / 3

PO/PSO	Attainment (%)
PSO2	$(3/3) * (60.69 + 60.69 + 61.68 + 62.34 + 62.34) / 5 = 61.55\%$
PO7	$(3/3) * (60.69 + 60.69 + 61.68 + 62.34 + 62.34) / 5 = 61.55\%$

Attainment of POs and PSOs

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Business	-	-	-	--	-	--	3	-	-	--	--	--	--	3	-	--	-
Economics																	
Attainment	-	-	-	--	-	--	.61	-	-	--	--	--	--	.61	-	--	-

**Attainment of Outcomes
 Computation of CO Attainment
 Managerial Economics Sem II**

CO	Course Outcome	Cognitive Level	Class Session	PSO	POS
CO1	Describe the concepts of decision making and practice different tools used for managerial decision	Understand and apply	12	PSO 2	PO1 & PO7
CO2	Explain the different methods of price determination in different markets	Understand	12	PSO 2	PO1
CO3	Explain the method of pricing	Understand	12	PSO 2	PO7
CO4	Explain Dynamics of business cycle	Understand	12	PSO 1	PO1 & PO3



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NURTURING VALUES AND EXCELLENCE

CO Attainment

Direct Attainment of COs

Assessment Plan for CIE

CO	A1 (10)	T1 (20)	T2 (20)
CO1	1	10	5
CO2	4	10	6
CO3	3	0	5
CO4	2	0	4

Attainment of COs from CIE

Class average in CIE (As Calculated)

CO	A1 (10)	T1 (20)	T2 (20)	CIE Class Average (%)
CO1	0.74	7.4	3.7	74
CO2	2.96	7.4	4.44	74
CO3	2.16	0	3.6	72
CO4	1.4	0	2.8	70
			CIE %	72.5

Attainment of COs from SEE

CO	Class average in SEE and Unit average
CO1	57
CO2	57
CO3	57
CO4	57

Computation of CO Direct Attainment in the course:

CO	CIE (Cl. Ave)	SEE (Cl. Ave)	Direct CO Attainment (.33xCIE Cl. Ave + .67xSEE Cl.Ave)
CO1	74	57	62.61
CO2	74	57	62.61
CO3	72	57	61.95
CO4	70	57	61.29

Targets: Targets are set for each CO of a course separately as

CO	Target
CO1	64
CO2	64
CO3	63
CO4	64

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO Attainment Gap
CO1	62.61	64	1.39
CO2	62.61	64	1.39
CO3	61.95	63	1.05
CO4	61.29	64	2.71

Closure of the Quality Loop for COs:

CO	Target	CO Attainment Gap	Action Proposed to Bridge the Gap	Modification of Target to be Achieved
CO1	64	1.39		65
CO2	64	1.39		65
CO3	63	1.05		64
CO4	64	2.71		64



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NURTURING VALUES AND EXCELLENCE

CO-PO/PSO Mappings

CO	POs/PSOs	Class Sessions
CO1	PO1 & 7, PSO 2	12
CO2	PO1, PSO2	12
CO3	PO7, PSO2	12
CO4	PO 1 & 3, PSO1	12
	Total	48

Course – PO/PSO Mapping Strength

12 OF 48 (25%) Sessions are devoted to PS01	Mapping Strength is 2
36 OF 48 (75%) Sessions are devoted to PSO2	Mapping Strength is 3
36 OF 48 (75%) Sessions are devoted to PO1	Mapping Strength is 3
12 OF 48 (25%) Sessions are devoted to PO3	Mapping Strength is 2
24 OF 48 (50%) Sessions are devoted to P07	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Mngl economics	3	--	2	-	--	-	3	--	--	--	--	--	2	3	--	-	--

CO Attainment and POs/PSOs

CO	POs/PSOs	CO Attainment (%)
CO1	PSO1,PO7 &PSO2	62.61
CO2	PO1,PSO2	62.61
CO3	PO7, PSO2	61.95
CO4	PO1 & PO3, PSO1	61.29

PO and PSO Attainment

Attainment of PO/PSO = (Average of attainments of relevant COs) x Scale Factor

Scale Factor = (Actual Mapping Strength / Maximum Possible Mapping Strength)

= Actual Mapping Strength / 3

PO/PSO	Attainment (%)
PSO1	$(2/3) * (62.61 + 61.29) / 2 = 41.86\%$
PSO2	$(3/3) * (62.61 + 62.61 + 61.95) / 3 = 62.36\%$
PO1	$(3/3) * (62.61 + 61.29) / 2 = 61.95\%$
PO3	$(2/3) * (61.29) / 1 = 40.86\%$
PO7	$(3/3) * (62.61 + 61.95) / 2 = 62.28\%$

Attainment of POs and PSOs

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Managerial economics	3	-	2	-	-	-	3	-	-	--	--	--	2	3	-	-	-
Attainment	.61		.40				.62						.41	.62			

**Attainment of Outcomes
 Computation of CO Attainment
 Monetary Economics Sem III**

CO	Course Outcome	Cognitive Level	Class Session	PSO	POS
CO1	Describe money its uses functions and role	Understand	12	PSO 2	PO7
CO2	Explain the factors determining supply and demand of money	Understand	12	PSO 2	PO7
CO3	Explain the banking terms technology, and practices	Understand	12	PSO 2	PO7
CO4	Explain about Central bank its policies and its effectiveness	Understand	12	PSO 2	PO 4 & 7



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NURTURING VALUES AND EXCELLENCE

CO Attainment

Direct Attainment of COs

Assessment Plan for CIE

CO	A1 (10)	T1 (20)	T2 (20)
CO1	1	10	5
CO2	4	10	6
CO3	3	0	5
CO4	2	0	4

Attainment of COs from CIE

Class average in CIE (As Calculated)

CO	A1 (10)	T1 (20)	T2 (20)	CIE Class Average (%)
CO1	0.98	9.8	4.9	98
CO2	3.92	9.8	5.88	98
CO3	2.94	0	4.9	98
CO4	1.9	0	3.8	95
			CIE %	97.25

Attainment of COs from SEE

CO	Class Average in SEE (Univ average)
CO1	75
CO2	75
CO3	75
CO4	75

Computation of CO Direct Attainment in the course:

CO	CIE (Cl. Ave)	SEE (Cl. Ave)	Direct CO Attainment (.33xCIE Cl. Ave + .67xSEE Cl.Ave)
CO1	98	75	82.59
CO2	98	75	82.59
CO3	98	75	82.59
CO4	95	75	81.60

Targets: Targets are set for each CO of a course separately as

CO	Target
CO1	65
CO2	66
CO3	65
CO4	66

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO Attainment Gap		
CO1	82.59	65	-	17.59	
CO2	82.59	66	-	16.59	
CO3	82.59	65	-	17.59	
CO4	81.60	66	-	15.60	

Closure of the Quality Loop for COs:

CO	Target	CO Attainment	CO Attainment Gap	Action Proposed to Bridge the Gap	Modification of Target to be Achieved
CO1	65	-	17.59	More Practical example	
CO2	66	-	16.59		67
CO3	65	-	17.59	More exposure to diagrams	
CO4	66	-	15.60		67



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NURTURING VALUES AND EXCELLENCE

CO-PO/PSO Mappings

CO	POs/PSOs	Class Sessions
CO1	PO7, PSO 2	12
CO2	PO7, PSO2	12
CO3	PO7, PSO2	12
CO4	PO 4 & 7, PSO2	12
	Total	48

Course – PO/PSO Mapping Strength

48 OF 48 (100%) Sessions are devoted to PS02	Mapping Strength is 3
12 OF 48 (25%) Sessions are devoted to PO4	Mapping Strength is 2
48 OF 48 (50%) Sessions are devoted to P07	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Monetary Economics	-	-	-	2	-	-	3	-	-	-	-	-	-	3	-	-	-

CO Attainment and POs/PSOs

CO	POs	CO Attainment (%ge)
CO1	PO7, PSO 2	82.59
CO2	PO7, PSO2	82.59
CO3	PO7, PSO2	82.59
CO4	PO 4 & PO7, PSO2	81.60

PO and PSO Attainment

Attainment of PO/PSO = (Average of attainments of relevant COs) x Scale Factor

Scale Factor = (Actual Mapping Strength / Maximum Possible Mapping Strength)

= Actual Mapping Strength / 3

PO/PSO	Attainment (%)
PSO2	$(3/3) * (82.59 + 82.59 + 82.59 + 81.6) / 4 = 82.34\%$
PO7	$(2/3) * (81.6) / 1 = 54.40\%$
PO4	$(3/3) * (82.59 + 52.59 + 82.59 + 81.6) / 4 = 74.84\%$

Attainment of POs and PSOs

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Monetary Economics	-	-	-	2	-	-	3	-	-	-	-	-	-	3	-	-	-
Attainment				.54			.74						--	.82			



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NURTURING VALUES AND EXCELLENCE

**Attainment of Outcomes
Computation of CO Attainment
Public Economics Sem IV**

CO	Course Outcome	Cognitive Level	Class Session	PSO	POS
CO1	Explain importance of public economics and principles governing maximum social advantage	Understand	12	PSO 2	PO7
CO2	Explain the different sources of public revenue, and methods to collect; tax and types	Understand	12	PSO 2	PO7
CO3	Explain Public expenditure and principles followed in public expenditure and contain public expenditure	Understand	12	PSO 2	PO7
CO4	Explain Public debt and causes of increase in public debt, and methods to repay public debt	Understand	12	PSO 2	PO7



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NURTURING VALUES AND EXCELLENCE

CO Attainment

Direct Attainment of COs Assessment Plan for CIE

CO	A1 (10)	T1 (20)	T2 (20)
CO1	1	10	5
CO2	4	10	6
CO3	3	0	5
CO4	2	0	4

Attainment of COs from CIE

Class average in CIE (As Calculated)

CO	A1 (10)	T1 (20)	T2 (20)	CIE Class Average (%)
CO1	0.7	7	3.5	70
CO2	3	7.5	4.5	75
CO3	2.55	0	4.25	85
CO4	1.5	0	3	75
			CIE %	76.25



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from SEE

CO	Class Average in SEE (%)
CO1	68
CO2	68
CO3	68
CO4	68

Computation of CO Direct Attainment in the course:

CO	CIE (Cl. Ave)	SEE (Cl. Ave)	Direct CO Attainment (.33xCIE Cl. Ave + .67xSEE Cl.Ave)
CO1	70	68	68.66
CO2	75	68	70.31
CO3	85	68	73.61
CO4	75	68	70.31

Targets: Targets are set for each CO of a course separately as

CO	Target
CO1	62
CO2	65
CO3	64
CO4	64



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NURTURING VALUES AND EXCELLENCE

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO Attainment Gap	
CO1	68.66	62	-	6.66
CO2	70.31	65	-	5.31
CO3	73.61	64	-	9.61
CO4	70.31	64	-	6.31

Closure of the Quality Loop for COs

CO	Target	CO Attainment	CO Attainment Gap	Action Proposed to Bridge the Gap	Modification of Target to be Achieved
CO1	62	-	6.66	More Practical example	
CO2	65	-	5.31	More Practical example	
CO3	64	-	9.61	More Practical example	
CO4	64	-	6.31	More exposure to diagrams	



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NURTURING VALUES AND EXCELLENCE

CO-PO/PSO Mappings

CO	POs/PSOs	Class Sessions
CO1	PO7, PSO 2	12
CO2	PO7, PSO2	12
CO3	PO7, PSO2	12
CO4	PO7, PSO2	12
	Total	48

Course – PO/PSO Mapping Strength

48 OF 48 (100%) Sessions are devoted to PS02	Mapping Strength is 3
48 OF 48 (50%) Sessions are devoted to P07	Mapping Strength is 3

Course-POs/PSO Mapping

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Public Economics	-	-	-	-	-	-	3	-	-	-	-	-	-	3	-	-	-

CO Attainment and POs/PSOs

CO	POs/PSOs	CO Attainment (%)
CO1	PO7, PSO 2	68.66
CO2	PO7, PSO2	70.31
CO3	PO7, PSO2	73.61
CO4	PO7, PSO2	70.31

PO and PSO Attainment

Attainment of PO/PSO = (Average of attainments of relevant COs) x Scale Factor

Scale Factor = (Actual Mapping Strength / Maximum Possible Mapping Strength)

= Actual Mapping Strength / 3

PO/PSO	Attainment (%)
PSO2	$(3/3) * (68.66 + 70.31 + 73.61 + 70.31) / 4 = 70.72\%$
PO7	$(3/3) * (68.66 + 70.31 + 73.61 + 70.31) / 4 = 70.72\%$



Attainment of POs and PSOs

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Public Economics	-	-	-	-	-	-	3	-	-	-	-	-	-	3	-	-	-
Attainment	-	-	-	-	-	-	.72	-	-	-	-	-	-	.72	-	-	-

**Attainment of Outcomes
 Computation of CO Attainment
 Corporate Economics Sem V Paper 5**

CO	Course Outcome	Cognitive Level	Class Session	PSO	POS
CO1	Explain corporate economics its need and importance of corporate house	Understand	10	PSO 1	PO4
CO2	Explain need and importance of corporate planning	Understand	10	PSO 1	PO1
CO3	Explain HRM and its functions in industry	Understand	10	PSO 1	PO7
CO4	Explain Globalisation MNC, and WTO. Future of corporate sector	Understand	10	PSO 3	PO1 & PO6
CO5	Explain CSR Ethics, law and regulations	Understand	10	PSO 1	PO4 & PO5



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NURTURING VALUES AND EXCELLENCE

CO Attainment

Direct Attainment of COs

Assessment Plan for CIE

CO	A1 (10)	T1 (20)	T2 (20)
CO1	1	8	4
CO2	2	12	4
CO3	3	0	4
CO4	3	0	4
CO5	1	0	4

Attainment of COs from CIE

Class average in CIE (As Calculated)

CO	A1 (10)	T1 (20)	T2 (20)	CIE Class Average (%)
CO1	0.95	7.6	3.8	95
CO2	1.9	11.4	3.8	95
CO3	2.85	0	3.8	95
CO4	2.85	0	3.8	95
CO5	0.95	0	3.8	95
			CIE %	95



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NURTURING VALUES AND EXCELLENCE

Attainment of COs from SEE

CO	Class Average in SEE (%)
CO1	63
CO2	63
CO3	63
CO4	63
CO5	63

Computation of CO Direct Attainment in the course:

CO	CIE (Cl. Ave)	SEE (Cl. Ave)	Direct CO Attainment (.33xCIE Cl. Ave + .67xSEE Cl.Ave)
CO1	90	63	71.91
CO2	90	63	71.91
CO3	93	63	72.90
CO4	95	63	73.56
CO5	95	63	73.56

Targets: Targets are set for each CO of a course separately as

CO	Target (Class Average)
CO1	70
CO2	70
CO3	69
CO4	69
CO5	71

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO Attainment Gap
CO1	71.91	70	- 1.91
CO2	71.91	70	- 1.91
CO3	72.90	69	- 3.90
CO4	73.56	69	- 4.56
CO5	73.56	71	- 2.56

Closure of the Quality Loop for COs:

CO	Target	CO Attainment Gap	Action Proposed to Bridge the Gap	Modification of Target to be Achieved
CO1	71.91	70	More Practical example	
CO2	71.91	70		71
CO3	72.90	69	More exposure to diagrams	
CO4	73.56	69		69
CO5	73.56	71		69

CO-PO/PSO Mappings

CO	POs/PSOs	Class Sessions
CO1	PO4, PSO1	10
CO2	PO1, PSO1	10
CO3	PO7, PSO1	10
CO4	PO1 & 6, PSO3	10



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NURTURING VALUES AND EXCELLENCE

CO5	PO4 & 5 , PSO1	10
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Course – PO/PSO Mapping Strength

40 OF 50 (80%) Sessions are devoted to PS01	Mapping Strength is 3
10 OF 50 (20%) Sessions are devoted to PS03	Mapping Strength is 1
20 OF 50 (40%) Sessions are devoted to P01	Mapping Strength is 3
20 OF 50 (40%) Sessions are devoted to P04	Mapping Strength is 3
10 OF 50 (20%) Sessions are devoted to P05	Mapping Strength is 1
10 OF 50 (20%) Sessions are devoted to P06	Mapping Strength is 1
10 OF 50 (20%) Sessions are devoted to P07	Mapping Strength is 1

Course-POs/PSO Mapping

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Corporate Eco	3	-	-	3	1	1	1	-	-	-	-	-	3	-	1	-	-

CO Attainment and POs/PSOs

CO	POs	CO Attainment (% age)
CO1	PO4, PSO1	71.91
CO2	PO1, PSO1	71.91
CO3	PO7, PSO1	72.90
CO4	PO1 & PO6, PSO3	73.56
CO5	PO4 & PO5 , PSO1	73.56

PO and PSO Attainment

Attainment of PO/PSO = (Average of attainments of relevant COs) x Scale Factor

Scale Factor = (Actual Mapping Strength / Maximum Possible Mapping Strength)

= Actual Mapping Strength / 3

PO/PSO	Attainment (%)
PS01	$(3/3) * (71.91 + 71.91 + 72.9 + 73.56) / 4 = 72.57\%$
PS03	$(1/3) * (73.56) / 1 = 24.52\%$
P01	$(3/3) * (71.91 + 73.56) / 2 = 72.74\%$
P04	$(3/3) * (71.91 + 73.56) / 2 = 72.74\%$
P05	$(1/3) * (73.56) / 1 = 24.52\%$



P06	$(1/3)*(73.56)/1=24.52\%$
P07	$(1/3)*(72.9)/1=24.52\%$

Attainment of POs and PSOs

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
Corporate Eco	3	-	-	3	1	1	1	-	-	-	-	-	3	-	1	-	-
Attainment	.72			.72	.24	.24	.24						.72		.24		

**Attainment of Outcomes
 Computation of CO Attainment
 Economics of HRM Sem V Paper 6**

CO	Course Outcome	Cognitive Level	Class Session	PSO	POS
CO1	Explain Scope and Importance of HRM TQM and Qualities of Good manager corporate house	Understand	10	PSO 3	PO7
CO2	Explain Human resource planning and Job design and evaluation	Understand	10	PSO 2	PO1
CO3	Explain importance of HRM from Recruitment to performance appraisal	Understand	10	PSO 1	PO 3 and 4
CO4	Explain methods of training and wage determination and grievance redressal	Understand	10	PSO 1 & 2	PO1,3 & 4
CO5	Explain Human rights and its importance	Understand	10	PSO 3	PO3,4 & 7



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NURTURING VALUES AND EXCELLENCE

CO Attainment

Direct Attainment of COs

Assessment Plan for CIE

CO	A1 (10)	T1 (20)	T2 (20)
CO1	3	12	4
CO2	2	8	4
CO3	2	0	4
CO4	2	0	4
CO5	1	0	4

Attainment of COs from CIE

Class average in CIE (As Calculated)

CO	A1 (10)	T1 (20)	T2 (20)	CIE Class Average (%)
CO1	2.7	10.8	3.6	90
CO2	1.8	7.2	3.6	90
CO3	1.8	0	3.6	90
CO4	1.8	0	3.6	90
CO5	0.85	0	3.4	85



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NURTURING VALUES AND EXCELLENCE

		CIE %	89
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Attainment of COs from SEE

CO	Class Average in SEE (Univ average)
CO1	56.6
CO2	56.6
CO3	56.6
CO4	56.6
CO5	56.6

Computation of CO Direct Attainment in the course:

CO	CIE (Cl. Ave)	SEE (Cl. Ave)	Direct CO Attainment (.33xCIE Cl. Ave + .67xSEE Cl.Ave)
CO1	90	56.6	67.62
CO2	90	56.6	67.62
CO3	90	56.6	67.62
CO4	90	56.6	67.62
CO5	85	56.6	65.97



Targets: Targets are set for each CO of a course separately as

CO	Target (Class Average)
CO1	74
CO2	75
CO3	74
CO4	74
CO5	74

CO Attainment Gap

CO	CO Attainment	Target (Class Average)	CO Attainment Gap
CO1	67.62	74	6.38
CO2	67.62	75	7.38
CO3	67.62	74	6.38
CO4	67.62	74	6.38
CO5	65.97	74	8.03

Closure of the Quality Loop for COs:

CO	Target	CO Attainment Gap	Action Proposed to Bridge the Gap	Modification of Target to be Achieved
CO1	67.62	74	More Practical example	
CO2	67.62	75		75
CO3	67.62	74		75
CO4	67.62	74		74
CO5	65.97	74		74

CO-PO/PSO Mappings

CO	POs/PSOs	Class Sessions
CO1	PO7, PSO3	10
CO2	PO2, PSO1	10
CO3	PO3 & 4, PSO1	10
CO4	PO1&3&4, PSO1 & 2	10
CO5	PO3& 4 & 7 & PSO3	10

CO Attainment and POs/PSOs

CO	POs	CO Attainment
CO1	PO7, PSO3	71.91
CO2	PO2, PSO1	71.91
CO3	PO3 & PO4, PSO1	72.90
CO4	PO1& PO3&PO4, PSO1 & PSO2	73.56
CO5	PO3& PO4 & PO7 & PSO3	73.56

PO and PSO Attainment

Attainment of PO/PSO = (Average of attainments of relevant COs) x Scale Factor

Scale Factor = (Actual Mapping Strength / Maximum Possible Mapping Strength)

= Actual Mapping Strength / 3

PO/PSO	Attainment (%)
PS01	$(3/3) * (71.91 + 72.9 + 73.56) / 3 = 72.79\%$
PS02	$(1/3) * (73.56) / 1 = 24.52\%$
PS03	$(1/3) * (71.91 + 73.56) / 2 = 24.52\%$
P01	$(1/3) * (73.56) / 1 = 24.52\%$
P02	$(1/3) * (71.91) / 1 = 23.97\%$

P03	$(3/3)*(72.9+73.56+73.56)/3 = 24.45\%$
P04	$(3/3)*(72.9+73.56+73.56)/3=73.34 \%$
P07	$(3/3)*(71.91+73.56)/2=73.56 \%$

Attainment of POs and PSOs

Course	POs												PSOs				
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
HRM economics	1	1	3	3	-	-	3	-	-	-	-	-	3	1	1	-	-
Attainment	.24	.23	.73	.73	-	-	.73						.72	.24	.24		



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NURTURING VALUES AND EXCELLENCE

Department of Sciences

Attainment of CO/PO/PSO for the Batch 2018-21

Subjects	PO's							PSO's					
	1	2	3	4	5	6	7	1	2	3	4	5	6
Basic Statistics – I	0.56	-	-	-	-	-	-	-	0.56	-	-	-	-
B.Sc. Mathematics – IV	0.58	-	-	-	-	-	-	-	0.58	-	-	-	-
Mathematics – I	0.58	-	-	-	-	-	-	-	0.58	-	-	-	-
Mathematics – II	0.56	-	-	-	-	-	-	-	0.56	-	-	-	-
Basic Statistics – II	0.58	-	-	-	-	-	-	-	0.58	-	-	-	-
Mathematics – III	0.58	-	-	-	-	-	-	-	0.58	-	-	-	-
Statistical Inference -I	0.58	-	-	-	-	-	-	-	0.58	-	-	-	-
Statistical Inference – II	0.88	-	-	-	-	-	-	-	0.88	-	-	-	-
Statistics for Economists (Elective Paper) – Economics VI	0.95	-	-	-	-	-	-	-	0.95	-	-	-	-
Sampling Theory and Statistical Quality Control	0.56	-	-	-	-	-	-	-	0.56	-	-	-	-
Design and Analysis of Experiments	0.56	-	-	-	-	-	-	-	0.56	-	-	-	-
Mathematics – V	0.58	-	-	-	-	-	-	-	0.58	-	-	-	-
Mathematics – VI	0.58	-	-	-	-	-	-	-	0.58	-	-	-	-
Statistics for Economists (Elective Paper) – Economics VIII	0.95	-	-	-	-	-	-	-	0.95	-	-	-	-
Applied Statistics	0.56	-	-	-	-	-	-	-	0.56	-	-	-	-



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Operations Research	0.56	-	-	-	-	-	-	-	0.56	-	-	-	-
Mathematics – VII	0.56	-	-	-	-	-	-	-	0.56	-	-	-	-
Mathematics – VIII	0.58	-	-	-	-	-	-	-	0.56	-	-	-	-
Business Economic	-	-	-	-	-	-	0.61	-	0.61	-	-	-	-
Managerial Economics	0.61	-	0.4	-	-	-	0.62	0.41	0.62	-	-	-	-
Monetary Economics	-	-	-	0.54	-	-	0.74	-	0.82	-	-	-	-
Public Economics	-	-	-	-	-	-	0.72	-	0.72	-	-	-	-
Corporate Economics	0.72	-	-	0.72	0.24	0.24	0.24	0.72	-	0.24	-	-	-
Economics Of HRM	0.24	0.23	0.73	0.73	-	-	0.73	0.72	0.24	0.24	-	-	-
Average	0.54	0.01	0.05	0.08	0.01	0.01	0.15	0.08	0.60	0.02	-	-	-