

# SAMPLE CO ATTAINMENT CALCULATION



Kuriakose Elias College, Mannanam



## SAMPLE COURSE OUTCOME ATTAINMENT

**M.Sc. Chemistry**

**KURIAKOSE ELIAS COLLEGE**

MANNANAM

KOTTAYAM, KERALA PIN 686561, MOB: 8590704501 |EMAIL: kecollegemmm@gmail.com

### CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT

<b>Course Details</b>	
Course Code & Name	CH500301 – STRUCTURAL INORGANIC CHEMISTRY
Teaching Staff	Dr. Litty Joseph
Semester	3
Number of Enrolled Students	13
Programme	M. Sc. ANALYTICAL CHEMISTRY
Syllabus	MSc Analytical Chemistry-syl-revised-2018

<b>Programme Details</b>	
Programme Name	M. Sc. ANALYTICAL CHEMISTRY
Head of the Department	Dr. Jesty Thomas



## Step 1:

### Program Outcome (PO)

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO5: Achieve skills, understandings and personal attribute that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

### Program Specific Outcome (PSO)

### Program Educational Objectives (PEO)

**Step 2:**

## CO-PO Correlation

	Description	PO
CO1	Explain the band structure of solids and determine the optical electrical and magnetic properties of solids	PO4, PO6, PO8, P10, PO1, PO5, PO7, PO9, PO12
CO2	Describe the theory of conductivity and phenomena of super Conductivity	PO1, PO5, PO7, PO9, PO12, PO4, PO6, PO8, P10
CO3	Discuss solid state reactions, of Zinc blende, Wurtzite, Rutile, fluorite, antiferite, Nickel Arsenide, Perovskite:	PO1, PO5, PO7, PO9, PO12, PO4, PO6, PO8, P10
CO4	Analyze structure and properties of inorganic chains and rings	PO4, PO6, PO8, P10, PO1, PO5, PO7, PO9, PO12
CO5	Explain the relevance of Organometallic Polymers	PO4, PO6, PO8, P10, PO1, PO5, PO7, PO9, PO12



<b>CO6</b>	Describe the designing and development of Magnetic Nanoparticles.	PO1, PO5, PO7, PO9, PO12, PO4, PO6, PO8, P10
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CO-PO Mapping

	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
<b>CO1</b>	2	2	1	2	2	2	2	3	1
<b>CO2</b>	2	3	2	2	1	3	3	3	2
<b>CO3</b>	3	2	1	3	3	2	2	2	3
<b>CO4</b>	2	3	2	2	2	2	2	3	2
<b>CO5</b>	2	2	3	3	0	3	3	2	3
<b>CO6</b>	1	3	2	2	0	1	1	3	2
<b>AVERAGE</b>	2	2.5	1.83	2.33	1.33	2.17	2.17	2.67	2.17

CO-PSO Mapping

**Step 3:**

Weightage, Benchmark and Attainment

Weightage		
<b>Direct Assessment</b>	Internal	20
	External	80
<b>Indirect Assessment</b>	Course Evaluation Survey	
		100
		0



Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
Level 1	20% Students got more than target	(20% of Student strength): 3.40	1
Level 2	30% Students got more than target	(30% of Student strength): 5.10	2
Level 3	40% Students got more than target	(40% of Student strength): 6.80	3

#### Step 4

Course Attainment for each CO: Direct Assessment for Various Internal Examination

	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
Internal 1	CO1	5	2.5	9	3
	CO2	10	5	12	3
	CO3	10	5	12	3
	CO4	20	10	12	3
	CO5	20	10	12	3
	CO6	60	30	8	3



Course Attainment for CO: Direct Attainment External

	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
<b>External Examination</b>	CO1	-	-	-	3.00
	CO2				
	CO3				
	CO4				
	CO5				
	CO6				

\*Competency Threshold Mark

**Step 5:**

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

	CO	Average Attainment	Attainment
<b>Indirect Assessment</b>	CO1	-	0.00
	CO2	-	
	CO3	-	
	CO4	-	
	CO5	-	
	CO6	-	

**Step 6:**

Direct Attainment

	CO1	CO2	CO3	CO4	CO5	CO6	Average	Weightage	Attainment
<b>Internal</b>	3.00	3.00	3.00	3.00	3.00	3.00	3.00	20	0.60
<b>External</b>	3	3	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>									3



**Step 7:**

Course Outcome Attainment

	<b>Attainment</b>	<b>Weightage</b>	<b>Final Attainment</b>
<b>Direct Attainment</b>	3.00	100%	3.00
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>3.00</b>
<b>Course Outcome Attainment Percentage</b>			<b>100.00%</b>

Signature of Teacher



Signature of HOD



## KURIAKOSE ELIAS COLLEGE

.MANNANAM

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### CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT

<b>Course Details</b>	
Course Code & Name	CH500203 - Chemical Bonding and Computational Chemistry
Teaching Staff	LINTA MARIA JOSE
Semester	2
Number of Enrolled Students	13
Programme	M. Sc. ANALYTICAL CHEMISTRY
Syllabus	MSc Analytical Chemistry-syl-revised-2018

<b>Programme Details</b>	
Programme Name	M. Sc. ANALYTICAL CHEMISTRY
Head of the Department	Dr. Jollyamma Mathew





## **Step 1:**

### **Program Outcome (PO)**

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO5: Achieve skills, understandings and personal attribute that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

P10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

### **Program Specific Outcome (PSO)**

### **Program Educational Objectives(PEO)**

**Step 2:**

## CO-PO Correlation

	Description	PO
CO1	Apply and evaluate group theoretical concepts in spectroscopy.	PO4, PO8, PO1, PO7, PO12, PO6, P10, PO5, PO9
CO2	Describe quantum mechanics from one electron system to many electron systems and various theories of chemical bonding.	PO5, PO9, PO4, PO8, PO1, PO7, PO12, PO6, P10
CO3	Discuss various approximation methods in quantum mechanics.	PO6, P10, PO5, PO9, PO4, PO8, PO1, PO7, PO12
CO4	Apply MO theory in various molecules like H <sub>2</sub> , H <sub>2</sub> <sup>+</sup> etc.	PO1, PO7, PO12, PO6, P10, PO5, PO9, PO4, PO8
CO5	Describe basic ideas and scope of computational chemistry.	PO4, PO8, PO1, PO7, PO12, PO6, P10, PO5, PO9



<b>CO6</b>	Explain Hartee-Fock method and selfconsistent field (SCF) procedure.	PO5, PO9, PO4, PO8, PO1, PO7, PO12, PO6, P10
<b>CO7</b>	Differentiation of ab initio, semi empirical and DFT methods.	PO6, P10, PO5, PO9, PO4, PO8, PO1, PO7, PO12

## CO-PO Mapping

	<b>P10</b>	<b>PO1</b>	<b>PO12</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>
<b>CO1</b>	2	2	2	2	1	1	1	2	2
<b>CO2</b>	1	3	3	3	2	2	2	1	2
<b>CO3</b>	2	1	2	2	3	1	2	3	3
<b>CO4</b>	3	2	2	2	2	3	3	1	1
<b>CO5</b>	2	1	3	1	1	2	2	2	2
<b>CO6</b>	2	2	2	2	2	2	1	2	2
<b>CO7</b>	3	1	2	3	2	3	2	3	2
<b>AVERAGE</b>	2.14	1.71	2.29	2.14	1.86	2	1.86	2	2

## CO-PSO Mapping



**Step 3:**

Weightage, Benchmark and Attainment

Weightage		
<b>Direct Assessment</b>	Internal	20
	External	80
<b>Indirect Assessment</b>	Course Evaluation Survey	0

Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
<b>Level 1</b>	20% Students got more than target	(20% of Student strength): 3.40	1
<b>Level 2</b>	30% Students got more than target	(30% of Student strength): 5.10	2
<b>Level 3</b>	40% Students got more than target	(40% of Student strength): 6.80	3

**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination



Internal 1	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
	CO1	-	-	-	-
	CO2	10	5	11	3
	CO3	15	7.5	10	3
	CO4	10	5	10	3
	CO5	10	5	10	3
	CO6	40	20	4	1
	CO7	40	20	8	3

Course Attainment for CO: Direct Attainment External

External Examination	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
	CO1	-	-	-	3.00
	CO2				
	CO3				
	CO4				
	CO5				
	CO6				
	CO7				

\*Competency Threshold Mark

### Step 5:

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

Indirect Assessment	CO	Average Attainment	Attainment
	CO1	-	0.00
	CO2	-	
	CO3	-	
	CO4	-	
	CO5	-	
	CO6	-	
	CO7	-	



**Step 6:**

Direct Attainment

	CO1	CO2	CO3	CO4	CO5	CO6	CO7	Average	Weightage	Attainment
<b>Internal</b>	-	3.00	3.00	3.00	3.00	1.00	3.00	2.67	20	0.53
<b>External</b>	3	3	3	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>										2.93

**Step 7:**

Course Outcome Attainment

	Attainment	Weightage	Final Attainment
<b>Direct Attainment</b>	2.93	100%	2.93
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>2.93</b>
<b>Course Outcome Attainment Percentage</b>			<b>97.67%</b>

Signature of Teacher



Signature of HOD



**M.A. Economics**

**KURIAKOSE ELIAS COLLEGE**

MANNANAM

KOTTAYAM, KERALA PIN 686561, MOB: 8590704501 | EMAIL: kecollegemnm@gmail.com

**CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT**

<b>Course Details</b>	
Course Code & Name	EC010202 - Macroeconomics-II
Teaching Staff	GINCY LUKOSE V
Semester	2
Number of Enrolled Students	13
Programme	M. A. ECONOMICS
Syllabus	MA Economics-revised-2018

<b>Programme Details</b>	
Programme Name	M. A. ECONOMICS
Head of the Department	RINU JOSE



## **Step 1:**

### **Program Outcome (PO)**

PO5: Achieve skills, understandings and personal attribute that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

### **Program Specific Outcome (PSO)**

### **Program Educational Objectives(PEO)**





**Step 2:**

CO-PO Correlation

	Description	PO
CO1	Explain the strengths and weakness of the main macro economic tools models used in modern macro economics	PO6, P10, PO5, PO9, PO4, PO8, PO1, PO7, PO12
CO2	Evaluate and critically compare the results in alternative macro economic models	PO1, PO7, PO12, PO6, P10, PO5, PO9, PO4, PO8
CO3	Analyse the importance and limitations of modelling assumptions for macro economic policy	PO4, PO8, PO1, PO7, PO12, PO6, P10, PO5, PO9

CO-PO Mapping

	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
CO1	1	3	3	3	2	1	2	2	1
CO2	1	3	3	3	2	2	2	2	1
CO3	2	3	3	3	1	1	2	2	1
<b>AVERAGE</b>	1.33	3	3	3	1.67	1.33	2	2	1

CO-PSO Mapping

**Step 3:**

Weightage, Benchmark and Attainment

Weightage		
Direct Assessment	Internal	20
	External	80
Indirect Assessment	Course Evaluation Survey	0

Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
Level 1	20% Students got more than target	(20% of Student strength): 3.00	1
Level 2	30% Students got more than target	(30% of Student strength): 4.50	2
Level 3	40% Students got more than target	(40% of Student strength): 6.00	3

**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination

	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
Internal 1	CO1	15	7.5	13	3
	CO2	16	8	12	3
	CO3	27	13.5	13	3



## Course Attainment for CO: Direct Attainment External

External Examination	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
	CO1	-	-	-	3.00
	CO2				
	CO3				

\*Competency Threshold Mark

**Step 5:**

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

Indirect Assessment	CO	Average Attainment	Attainment
	CO1	-	0.00
	CO2	-	
	CO3	-	

**Step 6:**

Direct Attainment

	CO1	CO2	CO3	Average	Weightage	Attainment
Internal	3.00	3.00	3.00	3.00	20	0.60
External	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>						<b>3</b>

**Step 7:**

Course Outcome Attainment

	Attainment	Weightage	Final Attainment
Direct Attainment	3.00	100%	3.00
Indirect Attainment	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>3.00</b>
<b>Course Outcome Attainment Percentage</b>			<b>100.00%</b>

Signature of Teacher



Signature of HOD



## KURIAKOSE ELIAS COLLEGE

MANNANAM

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### CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT

<b>Course Details</b>	
Course Code & Name	EC010201 - Micro Economics II
Teaching Staff	Lenny Elsa Varghese
Semester	2
Number of Enrolled Students	13
Programme	M. A. ECONOMICS
Syllabus	MA Economics-revised-2018

<b>Programme Details</b>	
Programme Name	M. A. ECONOMICS
Head of the Department	RINU JOSE



## Step 1:

### Program Outcome (PO)

PO5: Achieve skills, understandings and personal attributes that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

### Program Specific Outcome (PSO)

### Program Educational Objectives (PEO)

**Step 2:**

## CO-PO Correlation

	Description	PO
<b>CO1</b>	Explain decision-making In the context of Market Interdependence, Complexity, Uncertainty And Informational Asymmetry	PO5, PO9, PO4, PO8, PO1, PO7, PO12, PO6, P10
<b>CO2</b>	Critically examine the Developments In the areas Of General Equilibrium and Welfare Economics	PO6, P10, PO5, PO9, PO4, PO8, PO1, PO7, PO12
<b>CO3</b>	Apply Microeconomic principles in the areas of Industrial Organization, Exchange, and Welfare	PO1, PO7, PO12, PO6, P10, PO5, PO9, PO4, PO8

## CO-PO Mapping

	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
<b>CO1</b>	3	3	3	2	2	3	3	3	3
<b>CO2</b>	3	2	2	2	3	2	2	2	3
<b>CO3</b>	2	3	3	3	2	3	3	3	3
<b>AVERAGE</b>	2.67	2.67	2.67	2.33	2.33	2.67	2.67	2.67	3

## CO-PSO Mapping

**Step 3:**

Weightage, Benchmark and Attainment

Weightage			
<b>Direct Assessment</b>	Internal	20	100
	External	80	
<b>Indirect Assessment</b>	Course Evaluation Survey		0

Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
<b>Level 1</b>	20% Students got more than target	(20% of Student strength): 3.20	1
<b>Level 2</b>	30% Students got more than target	(30% of Student strength): 4.80	2
<b>Level 3</b>	40% Students got more than target	(40% of Student strength): 6.40	3

**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination

<b>Model Exam</b>	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
	<b>CO1</b>	10	5	13	3
	<b>CO2</b>	17	8.5	13	3
	<b>CO3</b>	13	6.5	13	3



## Course Attainment for CO: Direct Attainment External

External Examination	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
	CO1	-	-	-	3.00
	CO2				
	CO3				

\*Competency Threshold Mark

**Step 5:**

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

Indirect Assessment	CO	Average Attainment	Attainment
	CO1	-	0.00
	CO2	-	
	CO3	-	

**Step 6:**

Direct Attainment

	CO1	CO2	CO3	Average	Weightage	Attainment
Internal	3.00	3.00	3.00	3.00	20	0.60
External	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>						<b>3</b>

**Step 7:**

Course Outcome Attainment

	Attainment	Weightage	Final Attainment
Direct Attainment	3.00	100%	3.00
Indirect Attainment	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>3.00</b>
<b>Course Outcome Attainment Percentage</b>			<b>100.00%</b>

Signature of Teacher



Signature of HOD





**M.Sc. Physics**

**KURIAKOSE ELIAS COLLEGE**

MANNANAM

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**CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT**

<b>Course Details</b>	
Course Code & Name	PH010201 - Mathematical Methods in Physics-II
Teaching Staff	Feby Jose
Semester	2
Number of Enrolled Students	13
Programme	M. Sc. PHYSICS
Syllabus	MSc Physics-syl-revised-2018

<b>Programme Details</b>	
Programme Name	M. Sc. PHYSICS
Head of the Department	JINI THOMAS



## Step 1:

### Program Outcome (PO)

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO5: Achieve skills, understandings and personal attribute that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

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PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

### Program Specific Outcome (PSO)

### Program Educational Objectives (PEO)

**Step 2:**

## CO-PO Correlation

	Description	PO
<b>CO1</b>	Analyse the properties of complex variables and its applications	PO4, PO6, PO8, P10, PO1, PO5, PO7, PO9, PO12
<b>CO 2</b>	Recognise the importance of Fourier analysis in physical problems	PO1, PO5, PO7, PO9, PO12, PO4, PO6, PO8, P10
<b>CO 3</b>	Apply integral transforms to different practical situations	PO1, PO5, PO7, PO9, PO12, PO4, PO6, PO8, P10
<b>CO 4</b>	Analyse various special functions, polynomials and their differential equations	PO4, PO6, PO8, P10, PO1, PO5, PO7, PO9, PO12
<b>CO 5</b>	Solve partial differential equations in different coordinate systems	PO4, PO6, PO8, P10, PO1, PO5, PO7, PO9, PO12



<b>CO 6</b>	Construct and evaluate Greens functions	PO1, PO5, PO7, PO9, PO12, PO4, PO6, PO8, P10
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CO-PO Mapping

	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
<b>CO1</b>	1	3	3	3	3	2	1	1	3
<b>CO 2</b>	1	3	3	3	3	2	1	1	3
<b>CO 3</b>	1	3	3	3	3	2	1	1	3
<b>CO 4</b>	1	3	3	3	2	2	1	1	3
<b>CO 5</b>	1	3	3	3	2	2	1	2	3
<b>CO 6</b>	1	3	3	3	3	2	1	2	3
<b>AVERAGE</b>	1	3	3	3	2.67	2	1	1.33	3

CO-PSO Mapping

**Step 3:**

Weightage, Benchmark and Attainment

Weightage		
<b>Direct Assessment</b>	Internal	20
	External	80
<b>Indirect Assessment</b>	Course Evaluation Survey	
		100
		0



Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
Level 1	20% Students got more than target	(20% of Student strength): 2.60	1
Level 2	30% Students got more than target	(30% of Student strength): 3.90	2
Level 3	40% Students got more than target	(40% of Student strength): 5.20	3

**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination

	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
	Internal 1	CO1	6	3	13
CO 2		9	4.5	13	3
CO 3		11	5.5	13	3
CO 4		6	3	13	3
CO 5		6	3	13	3
CO 6		2	1	13	3



Course Attainment for CO: Direct Attainment External

External Examination	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
	CO1	-	-	-	3.00
	CO 2				
	CO 3				
	CO 4				
	CO 5				
	CO 6				

\*Competency Threshold Mark

**Step 5:**

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

Indirect Assessment	CO	Average Attainment	Attainment
	CO1	-	0.00
	CO 2	-	
	CO 3	-	
	CO 4	-	
	CO 5	-	
	CO 6	-	

**Step 6:**

Direct Attainment

	CO1	CO 2	CO 3	CO 4	CO 5	CO 6	Average	Weightage	Attainment
<b>Internal</b>	3.00	3.00	3.00	3.00	3.00	3.00	3.00	20	0.60
<b>External</b>	3	3	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>									<b>3</b>



**Step 7:**

Course Outcome Attainment

	<b>Attainment</b>	<b>Weightage</b>	<b>Final Attainment</b>
<b>Direct Attainment</b>	3.00	100%	3.00
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>3.00</b>
<b>Course Outcome Attainment Percentage</b>			<b>100.00%</b>

Signature of Teacher

Signature of HOD





## KURIAKOSE ELIAS COLLEGE

MANNANAM

KOTTAYAM, KERALA PIN 686561, MOB: 8590704501 |EMAIL: kecollegemnm@gmail.com

### CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT

<b>Course Details</b>	
Course Code & Name	PH810403 - Nanostructures and Materials Characterization
Teaching Staff	Mercy Mathews
Semester	4
Number of Enrolled Students	13
Programme	M. Sc. PHYSICS
Syllabus	MSc Physics-syl-revised-2018

<b>Programme Details</b>	
Programme Name	M. Sc. PHYSICS
Head of the Department	JINI THOMAS





## Step 1:

### Program Outcome (PO)

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO5: Achieve skills, understandings and personal attribute that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

### Program Specific Outcome (PSO)

### Program Educational Objectives (PEO)

**Step 2:**

## CO-PO Correlation

	<b>Description</b>	<b>PO</b>
<b>CO1</b>	Discuss about the synthesis and properties of Nanostructures	PO1, PO4, PO5, PO12, PO6, PO7, PO8, PO9, P10
<b>CO2</b>	Discriminate the types of nanomaterials and identify their applications	PO1, PO4, PO5, PO12, PO6, PO7, PO8, PO9, P10
<b>CO3</b>	Classify various types of optical absorption and emission spectroscopy	PO1, PO4, PO5, PO12, PO6, PO7, PO8, PO9, P10
<b>CO4</b>	Illustrate different chemical, thermal and X ray diffraction methods of characterization	PO1, PO4, PO5, PO12, PO6, PO7, PO8, PO9, P10

## CO-PO Mapping



	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
<b>CO1</b>	0	1	1	2	2	1	1	1	1
<b>CO2</b>	1	2	2	3	1	1	1	2	2
<b>CO3</b>	2	2	3	3	2	1	2	1	1
<b>CO4</b>	1	2	2	2	2	1	1	2	2
<b>AVERAGE</b>	1	1.75	2	2.5	1.75	1	1.25	1.5	1.5

## CO-PSO Mapping

**Step 3:**

Weightage, Benchmark and Attainment

<b>Weightage</b>			
<b>Direct Assessment</b>	Internal	20	100
	External	80	
<b>Indirect Assessment</b>	Course Evaluation Survey		0

<b>Benchmark and Attainment</b>			
<b>Level</b>	<b>Benchmark</b>	<b>Strength</b>	<b>Attainment</b>
<b>Level 1</b>	20% Students got more than target	(20% of Student strength): 2.60	1
<b>Level 2</b>	30% Students got more than target	(30% of Student strength): 3.90	2
<b>Level 3</b>	40% Students got more than target	(40% of Student strength): 5.20	3

**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination

	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
<b>Internal 1</b>	CO1	40	20	0	0
	CO2	30	15	0	0
	CO3	40	20	0	0
	CO4	70	35	0	0

Course Attainment for CO: Direct Attainment External

	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
<b>External Examination</b>	CO1	-	-	-	3.00
	CO2				
	CO3				
	CO4				

\*Competency Threshold Mark

**Step 5:**

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

	CO	Average Attainment	Attainment
<b>Indirect Assessment</b>	CO1	-	0.00
	CO2	-	
	CO3	-	
	CO4	-	

**Step 6:**

Direct Attainment

	CO1	CO2	CO3	CO4	Average	Weightage	Attainment
<b>Internal</b>	-	-	-	-	0.00	20	0.00
<b>External</b>	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>							2.4



**Step 7:**

Course Outcome Attainment

	<b>Attainment</b>	<b>Weightage</b>	<b>Final Attainment</b>
<b>Direct Attainment</b>	2.40	100%	2.40
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>2.40</b>
<b>Course Outcome Attainment Percentage</b>			<b>80.00%</b>

Signature of Teacher



Signature of HOD



**M.Sc. Psychology**

**KURIAKOSE ELIAS COLLEGE**

MANNANAM

KOTTAYAM, KERALA PIN 686561, MOB: 8590704501 |EMAIL: kecollegemnm@gmail.com

**CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT**

<b>Course Details</b>	
Course Code & Name	PY010101 - Cognitive Psychology
Teaching Staff	NIMMY JOHNS
Semester	1
Number of Enrolled Students	12
Programme	M. Sc. PSYCHOLOGY
Syllabus	MSc Psychology-syl-revised- 2018

<b>Programme Details</b>	
Programme Name	M. Sc. PSYCHOLOGY
Head of the Department	FR JOHNSON JOSEPH



## Step 1:

### Program Outcome (PO)

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO5: Achieve skills, understandings and personal attribute that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

### Program Specific Outcome (PSO)

### Program Educational Objectives (PEO)

**Step 2:**

## CO-PO Correlation

	<b>Description</b>	<b>PO</b>
<b>CO 1</b>	Understand the basic concepts of Cognitive Psychology	PO6, P10, PO9, PO5, PO8, PO4, PO7, PO12, PO1
<b>CO 2</b>	Explain theoretical understanding of perception, memory and thinking, including current research trends and their output.	PO7, PO12, PO1, PO6, P10, PO9, PO5, PO8, PO4
<b>CO 3</b>	Understand and ask questions related to the functioning of mind.	PO8, PO4, PO7, PO12, PO1, PO6, P10, PO9, PO5
<b>CO 4</b>	Establish knowledge and understanding of well established theories in Cognitive Psychology as well as an appreciation of the complexities of Cognitive processes	PO9, PO5, PO8, PO4, PO7, PO12, PO1, PO6, P10
<b>CO 5</b>	Describe research methods in Cognitive Psychology and the ability to critically evaluate research in this area.	PO6, P10, PO9, PO5, PO8, PO4, PO7, PO12, PO1





<b>CO 6</b>	Develop skills of applying Cognitive methods to the realm of cognition.	PO7, PO12, PO1, PO6, P10, PO9, PO5, PO8, PO4
<b>CO 7</b>	Develop skills of applying and segmenting basic psychological mechanisms.	PO8, PO4, PO7, PO12, PO1, PO6, P10, PO5, PO9

CO-PO Mapping

	<b>P10</b>	<b>PO1</b>	<b>PO12</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>
<b>CO 1</b>	3	3	2	2	3	2	2	2	2
<b>CO 2</b>	2	2	2	3	2	3	3	3	3
<b>CO 3</b>	3	3	1	2	1	2	2	2	2
<b>CO 4</b>	2	2	3	2	3	3	2	3	3
<b>CO 5</b>	1	2	3	3	2	2	2	2	2
<b>CO 6</b>	2	1	2	2	2	2	3	3	3
<b>CO 7</b>	3	1	3	0	1	1	2	2	1
<b>AVERAGE</b>	2.29	2	2.29	2	2	2.14	2.29	2.43	2.29

CO-PSO Mapping



**Step 3:**

Weightage, Benchmark and Attainment

Weightage			
<b>Direct Assessment</b>	Internal	20	100
	External	80	
<b>Indirect Assessment</b>	Course Evaluation Survey		0

Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
<b>Level 1</b>	20% Students got more than target	(20% of Student strength): 2.40	1
<b>Level 2</b>	30% Students got more than target	(30% of Student strength): 3.60	2
<b>Level 3</b>	40% Students got more than target	(40% of Student strength): 4.80	3

**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination



Internal 1	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
	CO 1	2	1	9	3
	CO 2	7	3.5	8	3
	CO 3	6	3	11	3
	CO 4	6	3	12	3
	CO 5	11	5.5	10	3
	CO 6	14	7	9	3
	CO 7	4	2	12	3

Course Attainment for CO: Direct Attainment External

External Examination	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
	CO 1	-	-	-	0.00
	CO 2				
	CO 3				
	CO 4				
	CO 5				
	CO 6				
	CO 7				

\*Competency Threshold Mark

### Step 5:

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

Indirect Assessment	CO	Average Attainment	Attainment
	CO 1	-	0.00
	CO 2	-	
	CO 3	-	
	CO 4	-	
	CO 5	-	
	CO 6	-	
	CO 7	-	



**Step 6:**

Direct Attainment

	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO 7	Average	Weightage	Attainment
<b>Internal</b>	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	20	0.60
<b>External</b>	3	3	3	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>										<b>3</b>

**Step 7:**

Course Outcome Attainment

	Attainment	Weightage	Final Attainment
<b>Direct Attainment</b>	3.00	100%	3.00
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>3.00</b>
<b>Course Outcome Attainment Percentage</b>			<b>100.00%</b>

Signature of Teacher



Signature of HOD



## KURIAKOSE ELIAS COLLEGE

MANNANAM

KOTTAYAM, KERALA PIN 686561, MOB: 8590704501 | EMAIL: kecollegemnm@gmail.com

### CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT

<b>Course Details</b>	
Course Code & Name	PY010202 - Health Psychology
Teaching Staff	NEHA JIMMY
Semester	2
Number of Enrolled Students	12
Programme	M. Sc. PSYCHOLOGY
Syllabus	MSc Psychology-syl-revised- 2018

<b>Programme Details</b>	
Programme Name	M. Sc. PSYCHOLOGY
Head of the Department	FR JOHNSON JOSEPH



## **Step 1:**

### **Program Outcome (PO)**

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO5: Achieve skills, understandings and personal attribute that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO9: Ability to demonstrate leadership, to take action and to get others involved.

P10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

### **Program Specific Outcome (PSO)**

### **Program Educational Objectives(PEO)**



**Step 2:**

CO-PO Correlation

	Description	PO
<b>CO 1</b>	Familiarize the role of psychology in health and wellbeing.	PO1, PO7, PO12, PO4, PO8, PO5, PO9, PO6, P10
<b>CO 2</b>	Identify stress and coping strategies that prevent illness and promote good health.	PO6, P10, PO1, PO7, PO12, PO4, PO8, PO5, PO9
<b>CO 3</b>	Investigate the biopsychosocial correlates of illness and to take up the role of Health Psychologist.	PO5, PO9, PO6, P10, PO1, PO7, PO12, PO4, PO8
<b>CO 4</b>	Evaluate the importance of new research area of psychoneuroimmunology.	PO4, PO8, PO5, PO9, PO6, P10, PO1, PO7, PO12
<b>CO 5</b>	Assess mind-body relationship, human immune functioning, relevance of healthy life style, role of coping mechanisms and stress management.	PO1, PO7, PO12, PO4, PO8, PO5, PO9, PO6, P10

CO-PO Mapping



	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
<b>CO 1</b>	2	2	2	2	2	3	3	1	3
<b>CO 2</b>	3	3	3	3	3	3	2	2	3
<b>CO 3</b>	2	2	2	1	1	3	1	3	2
<b>CO 4</b>	2	1	3	2	2	2	1	3	2
<b>CO 5</b>	2	2	2	3	2	3	3	2	1
<b>AVERAGE</b>	2.2	2	2.4	2.2	2	2.8	2	2.2	2.2

CO-PSO Mapping

**Step 3:**

Weightage, Benchmark and Attainment

Weightage		
<b>Direct Assessment</b>	Internal	20
	External	80
<b>Indirect Assessment</b>	Course Evaluation Survey	
		100
		0

Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
<b>Level 1</b>	20% Students got more than target	(20% of Student strength): 2.40	1
<b>Level 2</b>	30% Students got more than target	(30% of Student strength): 3.60	2
<b>Level 3</b>	40% Students got more than target	(40% of Student strength): 4.80	3



**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination

Internal 1	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
	CO 1	6	3	11	3
	CO 2	11	5.5	10	3
	CO 3	11	5.5	11	3
	CO 4	11	5.5	10	3
	CO 5	11	5.5	11	3

Course Attainment for CO: Direct Attainment External

External Examination	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
	CO 1	-	-	-	0.00
	CO 2				
	CO 3				
	CO 4				
	CO 5				

\*Competency Threshold Mark

**Step 5:**

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

Indirect Assessment	CO	Average Attainment	Attainment
	CO 1	-	0.00
	CO 2	-	
	CO 3	-	
	CO 4	-	
	CO 5	-	



**Step 6:**

Direct Attainment

	CO 1	CO 2	CO 3	CO 4	CO 5	Average	Weightage	Attainment
<b>Internal</b>	3.00	3.00	3.00	3.00	3.00	3.00	20	0.60
<b>External</b>	3	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>								3

**Step 7:**

Course Outcome Attainment

	Attainment	Weightage	Final Attainment
<b>Direct Attainment</b>	3.00	100%	3.00
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>3.00</b>
<b>Course Outcome Attainment Percentage</b>			<b>100.00%</b>

*Nela*

Signature of Teacher



*Jmll*

Signature of HOD



**M.Sc. Statistics**

**KURIAKOSE ELIAS COLLEGE**

MANNANAM

KOTTAYAM, KERALA PIN 686561, MOB: 8590704501 |EMAIL: kecollegemnm@gmail.com

**CO-PO ATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT**

<b>Course Details</b>	
Course Code & Name	ST030101 - PROBABILITY THEORY
Teaching Staff	SINDHU E S
Semester	1
Number of Enrolled Students	15
Programme	M. Sc. STATISTICS (APPLIED)
Syllabus	MSc Statistics (Applied)-syl-revised-2018

<b>Programme Details</b>	
Programme Name	M. Sc. STATISTICS (APPLIED)
Head of the Department	Smitha S



## Step 1:

### Program Outcome (PO)

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO5: Achieve skills, understandings and personal attributes that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

### Program Specific Outcome (PSO)

### Program Educational Objectives (PEO)

**Step 2:**

## CO-PO Correlation

	Description	PO
<b>CO1</b>	understand the concepts of random variables, borel field, probability and measure	PO1, PO4, PO5, PO6, PO7, PO8, PO9, P10, PO12
<b>CO2</b>	Determine characteristic functions of r. v's and discuss its various properties	PO1, PO4, PO5, PO6, PO7, PO8, PO9, P10, PO12
<b>CO3</b>	Explain four modes of convergences, properties, counter examples and its inter relationships	PO1, PO4, PO5, PO6, PO7, PO8, PO9, P10, PO12
<b>CO4</b>	Understand central limit theorem and its large sample approximations for common statistics	PO1, PO4, PO5, PO6, PO7, PO8, PO9, P10, PO12

## CO-PO Mapping



	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
<b>CO1</b>	3	3	3	3	3	2	3	2	3
<b>CO2</b>	3	3	3	3	3	3	2	2	3
<b>CO3</b>	3	3	3	3	3	3	3	3	3
<b>CO4</b>	3	3	3	3	3	2	2	3	3
<b>AVERAGE</b>	3	3	3	3	3	2.5	2.5	2.5	3

CO-PSO Mapping

**Step 3:**

Weightage, Benchmark and Attainment

Weightage		
<b>Direct Assessment</b>	Internal	20
	External	80
<b>Indirect Assessment</b>	Course Evaluation Survey	0

Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
<b>Level 1</b>	20% Students got more than target	(20% of Student strength): 3.00	1
<b>Level 2</b>	30% Students got more than target	(30% of Student strength): 4.50	2
<b>Level 3</b>	40% Students got more than target	(40% of Student strength): 6.00	3

**Step 4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination

	CO	Total Mark	CTM* (50%)	No. of students above threshold	Attainment
<b>Model Exam</b>	CO1	6	3	15	3
	CO2	17	8.5	15	3
	CO3	16	8	12	3
	CO4	11	5.5	13	3

Course Attainment for CO: Direct Attainment External

	CO	Total Mark	CTM* (50%)	No of Students above threshold	Attainment
<b>External Examination</b>	CO1	-	-	-	3.00
	CO2				
	CO3				
	CO4				

\*Competency Threshold Mark

**Step 5:**

Course Attainment for each CO: Indirect Assessment (Course Exit Survey)

	CO	Average Attainment	Attainment
<b>Indirect Assessment</b>	CO1	-	0.00
	CO2	-	
	CO3	-	
	CO4	-	

**Step 6:**

Direct Attainment

	CO1	CO2	CO3	CO4	Average	Weightage	Attainment
<b>Internal</b>	3.00	3.00	3.00	3.00	3.00	20	0.60
<b>External</b>	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>							3



**Step 7:**

Course Outcome Attainment

	<b>Attainment</b>	<b>Weightage</b>	<b>Final Attainment</b>
<b>Direct Attainment</b>	3.00	100%	3.00
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>3.00</b>
<b>Course Outcome Attainment Percentage</b>			<b>100.00%</b>



*Smith*

Signature of Teacher

*Smith*

Signature of HOD





## KURIAKOSEELIASCOLLEGE

MANNANAM,

KOTTAYAM,KERALA

PIN686561,MOB:8590704501|EMAIL:kecollegemmm@gmail.com

### CO-POATTAINMENT PROCEDURE FOR DIRECT AND INDIRECT ASSESSMENT

<b>Course Details</b>	
Course Code&Name	ST030202-Object Oriented Programming using Java
Teaching Staff	Capt. Jobin Varghese P
Semester	2
Number of Enrolled Students	15
Programme	M.Sc. STATISTICS (APPLIED)
Syllabus	MSc Statistics(Applied)-syl-revised-2018

<b>Programme Details</b>	
Programme Name	M.Sc. STATISTICS(APPLIED)
Head of the Department	Smitha S



## **Step1:**

### **Program Outcome (PO)**

PO12: Ability to seek new knowledge, skills and manage relevant information from various sources.

PO10: Ability to present technical and scientific information and arguments clearly in written and oral presentation.

PO9: Ability to demonstrate leadership, to take action and to get others involved.

PO8: Ability to act with integrity and good ethics in their profession and their obligation to society

PO7: The significance of conserving a clean environment for perpetuation and sustainable development

PO6: Ability to portray good interpersonal skills with high ability to work collaboratively as part of a team undertaking a range of different team roles

PO5: Achieve skills, understandings and personal attributes that makes graduates to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy.

PO4: Possess high awareness of major issues and competent in initiating, developing, and pursuing a scientific research.

PO1: Ability to apply and acquire knowledge as evidenced by research activities to find solutions for complex problems by employing right tools

### **Program Specific Outcome (PSO)**

### **Program Educational Objectives (PEO)**

**Step2:**

## CO-PO Correlation

	Description	PO
<b>CO1</b>	Explain Object Oriented Principles.	PO4,PO8, PO5,PO9, PO6, P10,PO1,PO7, PO12
<b>CO2</b>	Understand the importance of Polymorphism and Inheritance.	PO1,PO7, PO12,PO4, PO8,PO5, PO9, PO6,P10
<b>CO3</b>	Apply the concept of packages using examples.	PO6, P10,PO1,PO7, PO12,PO4, PO8,PO5, PO9
<b>CO4</b>	Compute the concepts of Multithreading with a real world application.	PO5,PO9, PO6, P10, PO1, PO7, PO12,PO4, PO8
<b>CO5</b>	Know the concept of Java Database Connectivity.	PO4,PO8, PO5,PO9, PO6, P10,PO1,PO7, PO12



CO-PO Mapping

	P10	PO1	PO12	PO4	PO5	PO6	PO7	PO8	PO9
<b>CO1</b>	2	3	3	3	3	3	2	3	1
<b>CO2</b>	1	3	3	3	1	1	0	0	0
<b>CO3</b>	0	2	1	2	1	0	0	0	0
<b>CO4</b>	0	3	0	2	1	0	0	3	0
<b>CO5</b>	0	3	0	1	0	0	0	0	0
<b>AVERAGE</b>	0.6	2.8	1.4	2.2	1.2	0.8	0.4	1.2	0.2

CO-PSO Mapping

**Step3:**

Weightage, Benchmark and Attainment

Weightage		
<b>Direct Assessment</b>	Internal	20
	External	80
<b>Indirect Assessment</b>	Course Evaluation Survey	0

Benchmark and Attainment			
Level	Benchmark	Strength	Attainment
<b>Level1</b>	20% Students got more than target	(20% of Student strength): 3.00	1
<b>Level2</b>	30% Students got more than target	(30% of Student strength): 4.50	2
<b>Level3</b>	40% Students got more than target	(40% of Student strength): 6.00	3



**Step4**

Course Attainment for each CO: Direct Assessment for Various Internal Examination

Course Attainment for CO: Direct Attainment External

External Examination	CO	Total Mark	CTM*(50%)	No of Students above threshold	Attainment
	CO1	-	-	-	3.00
	CO2				
	CO3				
	CO4				
	CO5				

\*Competency Threshold Mark

**Step5:**

Course Attainment for each CO: Indirect Assessment (CourseExitSurvey)

Indirect Assessment	CO	Average Attainment	Attainment
	CO1	-	0.00
	CO2	-	
	CO3	-	
	CO4	-	
	CO5	-	

**Step6:**

Direct Attainment

	CO1	CO2	CO3	CO4	CO5	Average	Weightage	Attainment
Internal	-	-	-	-	-	0.00	20	0.00
External	3	3	3	3	3	3.00	80	2.40
<b>Direct Attainment Total</b>								2.4



**Step7:**

Course Outcome Attainment

	<b>Attainment</b>	<b>Weightage</b>	<b>Final Attainment</b>
<b>Direct Attainment</b>	2.40	100%	2.40
<b>Indirect Attainment</b>	0.00	0%	0.00
<b>Course Outcome Attainment</b>			<b>2.40</b>
<b>Course Outcome Attainment Percentage</b>			<b>80.00%</b>

Signature of Teacher



Signature of HOD