



संहती कार्यसाधिका । शिलं परं भूषणम्

Shetkari Shikshan Prasarak Mandal's

**KRISHNA MAHAVIDYALAYA, RETHARE BK.**

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NAAC "B+" Grade (CGPA 2.65)



Founder : Hon. Jaywantrao Bhosale

President : Dr. Suresh Jaywantrao Bhosale

Principal : Dr. Salunkhe C. B., M.Sc; Ph.D.

## Criterion II : Teaching, Learning and Evaluation

### 2.6 Student Performance and Learning Outcomes

**Metric No. 2.6.2 Attainment of Programme outcomes and course outcomes are evaluated by the institution (2019-2020)**

Sr.No	College/Department
1.	Chemistry
2.	Physics
3.	Mathematics
4.	Zoology
5.	Marathi
6.	Hindi
7.	Geography
8.	History
9.	Economics
10.	Commerce



Principal

Krishna Mahavidyalaya, Rethare Bk,  
Tal. Karad : 415 108 (M.S)



Shetkari Shikshan Prasarak Mandal's

**KRISHNA MAHAVIDYALAYA, RETHARE BK**

**DEPARTMENT OF Chemistry**

**Chemistry OBE PROCESS**

**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, **“to which POs his/her course in contributing?”**. So that one can design the learning experiences, select teaching methods and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of **courses contributing to the development of respective Pos.**

The Template is provided in the table below

Sr. No	Course Title	PSO-A	PSO-B	PSO-C	PSO-D	PSO-E	PSO-F	PSO-G	PSO-H
1.	Paper IX:DSE-E5: Inorganic Chemistry	✓	✓		✓	✓	✓	✓	✓
2.	Paper X: DSE- E6 Organic Chemistry	✓	✓	✓	✓	✓	✓	✓	✓
3.	Paper No. XI: DSE-E7 Physical Chemistry	✓	✓	✓	✓	✓	✓	✓	✓
4.	Paper XII : DSE-E8 Analytical Chemistry	✓	✓	✓	✓	✓	✓	✓	✓
5.	Paper XIII: DSE-F5 Inorganic chemistry	✓	✓		✓	✓	✓	✓	✓
6.	Paper XIV: DSE-F6 Organic Chemistry	✓	✓	✓	✓	✓	✓	✓	✓
7.	Paper XV: DSE-F7 Physical	✓	✓	✓	✓	✓	✓	✓	✓



	Chemistry								
8.	Paper XIV: DSE-F8 Industrial Chemistry	✓	✓		✓	✓	✓	✓	✓
9.	Chemistry Practical	✓	✓	✓	✓	✓	✓	✓	✓

## 2. Course Outcomes (for all courses):

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of course (subject) teaching. The focus is on development of abilities rather than mere content. There can be 5 to 7 course outcomes of any course. These are to be written in the specific terms and not in general. The list of Course Outcomes is the part of **Annexure-C** attached herewith.

## 3. Set Target levels for Attainment of Course Outcomes:

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess students' performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment are measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

## 4. Set Target level for Attainment of Program Outcomes:

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment and program outcome attainment is measured/calculated. The program outcome attainment is governed by curricular, co-curricular and extra-curricular activities including the stakeholders' participation. The direct method and indirect method is adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. And indirect method is the satisfaction/feed-back survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set



benchmark to ensure continuous improvements in the learners/ graduates' performance.

### 5. Course Attainment Levels:

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order
  - i. e.g. For end term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% students scored more than class average
<b>2.</b>	<b>Level-2:</b>	<b>40% students score more than class average</b>
3.	Level-3	50% students score more than class average

. The target level is set (e.g. Level-2). It indicates that, **the current target is level-2; 40% of students score more than class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, the corrective measures/remedial action are taken.

e. CO Attainment= 80% (Attainment level in end term examination) + 20% (Attainment level in internal examination)

### 6. Program attainment Level:

- a. PO attainment is defined at five levels in ascending order;
- b. **The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feed-back survey (Indirect method);**
- c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1)
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5



5.	Level-5	Excellent: 2.5 to 3.0
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d. The PO attainment target level is set/defined (say, Level-4). It implies that, the department is aiming at minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

FOR EXAMPLE COURSE CODE/TITLE: Paper IX: DSE- E5 Inorganic Chemistry

e.g. For end-term and internal examination;

- i. Level-1: 30% students scored more than class average
- ii. Level-2: 40% students score more than class average;
- iii. Level-3: 50% students score more than class average

Paper IX: DSE- E5 Inorganic Chemistry		
Average Marks in External examination:	24	
% Students score more than 24 is =29	55%	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =42	79%	Level: 3
A(CO) Paper IX: DSE-E5 Inorganic Chemistry		
=	80% (3) +20 % (3)	
=	2.4+0.6	
=	3	

Paper X: DSE- E6 Organic Chemistry		
Average Marks in External examination:	34	
% Students score more than 34 is = 43	81%	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is = 39	74%	Level: 3
A(CO) DSE- E6 Organic Chemistry		
=	80% (3) +20% (3)	
=	2.4+0.6	
=	3	



Paper No. XI: DSE-E7 Physical Chemistry		
Average Marks in External examination:	26	
% Students score more than 26 is =33	62%	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =38	72%	Level: 3
A(CO) Paper No. XI: DSE-E7 Physical Chemistry		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3

Paper XII : DSE-E8 Analytical Chemistry		
Average Marks in External examination:	28	
% Students score more than 28 is =30	57%	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is = 38	72%	Level: 3
A(CO) DSE-E8 Analytical Chemistry		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3

Paper XIII: DSE-F5 Inorganic chemistry		
Average Marks in External examination:	28	
% Students score more than 28 is =30	57%	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =32	60%	Level: 3
A(CO) Paper XIII: DSE-F5 Inorganic chemistry		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3

Paper XIV: DSE-F6 Organic Chemistry		
Average Marks in External examination:	31	
% Students score more than 31 is = 30	57%	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is = 32	60%	Level: 3
A(CO) Paper XIV: DSE-F6 Organic Chemistry		
	=	80% (3) +20% (3)
	=	2.4+0.6



= 3

Paper XV: DSE-F7 Physical Chemistry		
Average Marks in External examination:	33	
% Students score more than 33 is =25	47%	Level: 2
Average Marks in Internal examination	9	
% Students score more than 9 is =35	64%	Level: 3
A(CO) Paper XV: DSE-F7 Physical Chemistry		
	= 80% (2) +20% (3)	
	= 1.6+0.6	
	= 2.2	

Paper XVI : DSE-F8 Industrial Chemistry		
Average Marks in External examination:	35	
% Students score more than 35 is =32	60%	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is = 35	66%	Level: 3
A(CO) Paper XIV: DSE-F8 Industrial Chemistry		
	= 80% (3) +20% (3)	
	= 2.4+0.6	
	= 3	

Chemistry Practical		
Average Marks in External examination:	166	
% Students score more than 166 is = 36	68%	Level: 3
A(CO) Paper : Chemistry Practical		
	= 100%(3)	
	= 3	
	= 3	

Hence, the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is Fully attained.



**Table No. 1.0: CO Attainment Level**

Course Title	Target Attainment Level	Course Attainment Value	Fully Attained/ Not Attained	Remedial Measures
DSE- E5 Inorganic Chemistry	2	3	Fully Attained	
DSE- E6 Organic Chemistry	2	3	Fully Attained	
DSE-E7 Physical Chemistry	2	3	Fully Attained	
DSE-E8 Analytical Chemistry	2	3	Fully Attained	
DSE-F5 Inorganic chemistry	2	3	Fully Attained	
DSE-F6 Organic Chemistry	2	3	Fully Attained	
DSE-F7 Physical Chemistry	2	2.2	Fully Attained	
DSE-F8 Industrial Chemistry	2	3	Fully Attained	
Chemistry Practical	2	3	Fully Attained	

**8. The Results of PO Attainment:**

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

$$(PSO-A) = 80\% (3+3+3+3+3+3+2+3+3)/09 + 20\% (3+3+3+3+3+3+3)/8=80\% (2.89) + 20\% (3) = 2.312 + 0.6 = 2.912 \text{ i.e. Level-5. The Target Level is Level-3.}$$

Hence, PO is attained

$$(PSO-B) = 80\% (3+3+3+3+3+3+2+3+3)/09 + 20\% (3+3+3+3+3+3+3)/8=80\% (2.89) + 20\% (3) = 2.312 + 0.6 = 2.912 \text{ i.e. Level-5. The Target Level is Level-3.}$$

$$(PSO-C) = 80\% (3+3+3+3+2+3)/06 + 20\% (3+3+3+3+3+3)/6=80\% (2.83) + 20\% (3) = 2.264 + 0.6 = 2.864 \text{ i.e. Level-5. The Target Level is Level-3.}$$





(PSO-D) = 80% (3+3+3+3+3+3+2+3+3)/09 + 20% (3+3+3+3+3+3+3+3)/8=80% (2.89) + 20% (3) =2.312 + 0.6 =2.912 i.e. Level-5. The Target Level is Level-3.

(PSO-E) = 80% (3+3+3+3+3+3+2+3+3)/09 + 20% (3+3+3+3+3+3+3+3)/8=80% (2.89) + 20% (3) =2.312 + 0.6 =2.912 i.e. Level-5. The Target Level is Level-3.

(PSO-F) = 80% (3+3+3+3+3+3+2+3+3)/09 + 20% (3+3+3+3+3+3+3+3)/8=80% (2.89) + 20% (3) =2.312 + 0.6 =2.912 i.e. Level-5. The Target Level is Level-3.

(PSO-G) = 80% (3+3+3+3+3+3+2+3+3)/09 + 20% (3+3+3+3+3+3+3+3)/8=80% (2.89) + 20% (3) =2.312 + 0.6 =2.912 i.e. Level-5. The Target Level is Level-3.

(PSO-H) = 80% (3+3+3+3+3+3+2+3+3)/09 + 20% (3+3+3+3+3+3+3+3)/8=80% (2.89) + 20% (3) =2.312 + 0.6 =2.912 i.e. Level-5. The Target Level is Level-3.

Table No. 2.0 PO Attainment Level

PO/PSO Number	Target Attainment Level	PO/PSOs Attainment		Fully Attained/ Not Attained	Remedial Measures
		Level	Value		
PSO-A	3	5	2.912	Fully Attained	
PSO-B	3	5	2.912	Fully Attained	
PSO-C	3	5	2.864	Fully Attained	
PSO-D	3	5	2.912	Fully Attained	
PSO-E	3	5	2.912	Fully Attained	
PSO-F	3	5	2.912	Fully Attained	
PSO-G	3	5	2.912	Fully Attained	
PSO-H	3	5	2.912	Fully Attained	



### 9. Planned Actions for Course Attainment:


The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.

### 10.Planned Actions for Program Outcome Attainment:


Not Applicable.

#### ANNEXURE-B RESULTS OF CO-PO ATTAINMENT

Sr. No	Course Title	PSO-A	PSO-B	PSO-C	PSO-D	PSO-E	PSO-F	PSO-G	PSO-H
1.	DSE- E5 Inorganic Chemistry	3	3		3	3	3	3	3
2.	DSE- E6 Organic Chemistry	3	3	3	3	3	3	3	3
3.	DSE-E7 Physical Chemistry	3	3	3	3	3	3	3	3
4.	DSE-E8 Analytical Chemistry	3	3	3	3	3	3	3	3
5.	DSE-F5 Inorganic chemistry	3	3		3	3	3	3	3
6.	DSE-F6 Organic Chemistry	3	3	3	3	3	3	3	3
7.	DSE-F7 Physical Chemistry	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
8.	DSE-F8 Industrial Chemistry	3	3		3	3	3	3	3
9.	Chemistry Practical	3	3	3	3	3	3	3	3
<b>Average</b>		2.91	2.91	2.86	2.91	2.91	2.91	2.91	2.91

  
HEAD  
The Department of Chemistry  
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Shetkari Shikshan Prasarak Mandal's  
**KRISHNA MAHAVIDYALAYA, RETHARE BK**

**DEPARTMENT OF PHYSICS**

**PHYSICS OBE PROCESS**

**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, **“to which POs is his/her course contributing?”**. So that one can design the learning experiences, select teaching methods, and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of **courses contributing to the development of respective Pos**.

The Template is provided in the table below

Sr. No	Course Title	PSO -A	PSO -B	PSO -C	PSO -D	PSO -E	PSO -F	PSO -G	PSO -H
1.	DSE-E1 Mathematical Physics	√	√	√				√	√
2.	DSE-E2 Quantum Mechanics	√	√	√	√	√		√	√
3.	DSE-E3 Classical Mechanics and Classical Electrodynamics	√		√	√	√		√	√
4.	DSE-E4 Digital and Analog Circuits and Instrumentation	√	√	√			√	√	√
5.	DSE-F1 Nuclear and Particle Physics	√		√		√	√	√	√
6.	DSE-F2 Solid State Physics	√	√	√		√	√	√	√
7.	DSE-F3 Atomic and Molecular Physics and Astrophysics	√	√	√	√	√	√	√	√
8.	DSE-F4 Energy Studies and Materials Science	√	√	√	√	√	√	√	√
9.	Physics Practical	√	√	√	√	√	√	√	√

2. Course Outcomes (for all courses):

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of the course (subject) teaching. The focus is on the development of abilities rather than mere content. There can be 5 to 7-course outcomes of any course. These are to be written in specific terms and not in general. The list of Course Outcomes is **Annexure-C** attached herewith.

### **3. Set Target levels for Attainment of Course Outcomes:**

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of the program) the course outcome attainment is measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

### **4. Set Target level for Attainment of Program Outcomes:**

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of the program) the course outcome attainment and program outcome attainment are measured/calculated. The program outcome attainment is governed by curricular, co-curricular, and extra-curricular activities including the stakeholders' participation. The direct method and indirect method are adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. An indirect method is the satisfaction/feedback survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners'/ graduates' performance.

### **5. Course Attainment Levels:**

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end-term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order
  - i. e.g. For end-term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% of students scored more than the class average
<b>2.</b>	<b>Level-2:</b>	<b>40% of students score more than the class average</b>
3.	Level-3	50% of students score more than the class average

The target level is set (e.g. Level-2). It indicates that **the current target is level-2; 40% of students score more than the class average**. The CO attainment is measured and the results are obtained. Based on the results of attainment, corrective measures/remedial action is taken.

e. CO Attainment= 80% (Attainment level in end-term examination) + 20% (Attainment level in internal examination)

#### 6. Program attainment Level:

a. PO attainment is defined at five levels in ascending order;

**The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feedback survey (Indirect method);**

c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that the department is aiming at a minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

FOR EXAMPLE, COURSE CODE/TITLE: **Paper IX: DSE-E1 Mathematical Physics**

e.g., For end-term and internal examination;

- i. Level-1: 30% of students scored more than the class average**
- ii. Level-2: 40% of students score more than the class average**
- iii. Level-3: 50% of students score more than the class average**

<b>Paper IX: DSE-E1 Mathematical Physics</b>		
<b>Average Marks in External examination:</b>	<b>26</b>	
<b>% Students score more than 26 is =5</b>	<b>100</b>	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	<b>9</b>	
<b>% Students score more than 9 is =4</b>	<b>80</b>	<b>Level: 3</b>
<b>A(CO) Paper IX: DSE-E1 Mathematical Physics</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper IX: DSE-E2 Quantum Mechanics</b>		
<b>Average Marks in External examination:</b>	<b>38</b>	
<b>% Students score more than 38 is = 3</b>	<b>75</b>	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	<b>9</b>	
<b>% Students score more than 9 is =4</b>	<b>100</b>	<b>Level: 3</b>
<b>A(CO) DSE-E2 Quantum Mechanics</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper No. XI: DSE-E3 Classical Mechanics and Classical Electrodynamics</b>		
<b>Average Marks in External examination:</b>	<b>35</b>	
<b>% Students score more than 35 is =4</b>	<b>80</b>	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	<b>9</b>	
<b>% Students score more than 9 is =4</b>	<b>80</b>	<b>Level: 3</b>
<b>A(CO) Paper No. XI: DSE-E3 Classical Mechanics and Classical Electrodynamics</b>		
	=	<b>80% (3) +20%(3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper XII : DSE-E4 Digital and Analog Circuits and Instrumentation</b>		
Average Marks in External examination:	28	
% Students score more than 28 is = 03	60	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =4	80	Level: 3
<b>A(CO) DSE-E4 Digital and Analog Circuits and Instrumentation</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XIII: DSE-F1 Nuclear and Particle Physics</b>		
Average Marks in External examination:	31	
% Students score more than 31 is =2	50	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =2	50	Level: 3
<b>A(CO) Paper XIII: DSE-F1 Nuclear and Particle Physics</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XIV: DSE-F2 Solid State Physics</b>		
Average Marks in External examination:	36	
% Students score more than 36 is = 03	75	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =2	50	Level: 3
<b>A(CO) Paper XIV: DSE-F2 Solid State Physics</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XV: DSE-F3 Atomic and Molecular Physics and Astrophysics</b>		
Average Marks in External examination:	31	
% Students score more than 31 is =3	75	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =2	50	Level: 3
<b>A(CO) Paper XV: DSE-F3 Atomic and Molecular Physics and Astrophysics</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XVI: DSE-F4 Energy Studies and Materials Science</b>		
<b>Average Marks in External examination:</b>	<b>39</b>	
<b>% Students score more than 39 is=3</b>	75	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	9	
<b>% Students score more than 9 is 2</b>	50	<b>Level: 3</b>
<b>A(CO) Paper XVI: DSE-F4 Energy Studies and Materials Science</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Physics Practical</b>		
<b>Average Marks in External examination:</b>	181	
<b>% Students score more than 181 is =2</b>	50	<b>Level: 3</b>

**Hence**, the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is Fully attained.



**Table No. 1.0: CO Attainment Level**

Course Title	Target Attainment	Course Attainment		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	level		
DSE-E1 Mathematical Physics	2	3	3	Fully Attained	
DSE-E2 Quantum Mechanics	2	3	3	Fully Attained	
DSE-E3 Classical Mechanics and Classical Electrodynamics	2	3	3	Fully Attained	
DSE-E4 Digital and Analog Circuits and Instrumentation	2	3	3	Fully Attained	
DSE-F1 Nuclear and Particle Physics	2	3	3	Fully Attained	
DSE-F2 Solid State Physics	2	3	3	Fully Attained	
DSE-F3 Atomic and Molecular Physics and Astrophysics	2	3	3	Fully Attained	
DSE-F4 Energy Studies and Materials Science	2	3	3	Fully Attained	
Physics Practical	2	3	3	Fully Attained	

### **8. The Results of PO Attainment:**

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

(PSO -A) = 80% (3+3+3+3+3+3+3+3+3)/09 + 20% (3+3+3+3+3+3+3+3+3)/8 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

Hence, PO is attained

(PSO -B) = 80% (3+3+3+3+3+3+3)/07 + 20% (3+3+3+3+3+3+3+3+3)/9 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

(PSO -C) = 80% (3+3+3+3+3+3+3+3+3)/09 + 20% (3+3+3+3+3+3+3+3+3)/8 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

(PSO -D) = 80% (3+3+3+3+3)/05 + 20% (3+3+3+3+3)/5 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

(PSO -E) = 80% (3+3+3+3+3+3+3)/07 + 20% (3+3+3+3+3+3+3)/7 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

(PSO -F) = 80% (3+3+3+3+3+3+3)/06 + 20% (3+3+3+3+3+3)/6 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

(PSO -G) = 80% (3+3+3+3+3+3+3+3+3)/09 + 20% (3+3+3+3+3+3+3+3+3)/8 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

(PSO -H) = 80% (3+3+3+3+3+3+3+3+3)/09 + 20% (3+3+3+3+3+3+3+3+3)/8 = 80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

Table No. 2.0 PO Attainment Level

PO/PSO Number	Target Attainment	PO/PSOs Attainment		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
PSO -A	3	3	5	Fully Attained	
PSO -B	3	3	5	Fully Attained	
PSO -C	3	3	5	Fully Attained	
PSO -D	3	3	5	Fully Attained	
PSO -E	3	3	5	Fully Attained	
PSO -F	3	3	5	Fully Attained	
PSO -G	3	3	5	Fully Attained	
PSO -H	3	3	5	Fully Attained	

## 9. Planned Actions for Course Attainment:

The courses for which the level attained is less than Level-2, the remedial measures will be taken in a plan way that includes, tutorials, assignments, field work, and remedial coaching.

## 10. Planned Actions for Program Outcome Attainment: Not Applicable.

### ANNEXURE-B RESULTS OF CO-PO ATTAINMENT

Sr. No	Course Title	PSO - A	PSO - B	PSO - C	PSO - D	PSO - E	PSO - F	PSO - G	PSO - H
1.	DSE-E1 Mathematical Physics	3	3	3				3	3
2.	DSE-E2 Quantum Mechanics	3	3	3	3	3		3	3
3.	DSE-E3 Classical Mechanics and Classical Electrodynamics	3		3	3	3		3	3
4.	DSE-E4 Digital and Analog Circuits and Instrumentation	3	3	3			3	3	3
5.	DSE-F1 Nuclear and Particle Physics	3		3		3	3	3	3
6.	DSE-F2 Solid State Physics	3	3	3		3	3	3	3
7.	DSE-F3 Atomic and Molecular Physics and Astrophysics	3	3	3	3	3	3	3	3
8.	DSE-F4 Energy Studies and Materials Science	3	3	3	3	3	3	3	3
9.	Physics Practical	3	3	3	3	3	3	3	3
Average		3	3	3	3	3	3	3	3

*Balan*

HEAD

DEPARTMENT OF PHYSICS  
KRISHNA MAHAVIDYALAYA,  
Rethare Bk; Shivnagar - 415108



*P. P. Kulkarni*  
Principal  
Krishna Mahavidyalaya, Rethare Bk,  
Tal. Karad : 415 108 (M.S.)





## 2. Course Outcomes (for all courses):

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of course (subject) teaching. The focus is on development of abilities rather than mere content. There can be 5 to 7 course outcomes of any course. These are to be written in the specific terms and not in general. The list of Course Outcomes is the part of **Annexure-C** attached herewith.

## 3. Set Target levels for Attainment of Course Outcomes:

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess students' performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment are measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

## 4. Set Target level for Attainment of Program Outcomes:

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment and program outcome attainment is measured/calculated. The program outcome attainment is governed by curricular, co-curricular and extra-curricular activities including the stakeholders' participation. The direct method and indirect method is adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. And indirect method is the satisfaction/feed-back survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners/ graduates' performance.

## 5. Course Attainment Levels:

- a. CO attainment is defined/set at three levels;
- b. The CO attainment is based on end term examination assessment and internal assessment;
- c. The Co attainment is defined at three levels in ascending order
  - i. e.g. For end term and internal examination;



Sr. No	Level	CO Attainments
	Level-1:	30% students scored more than class average
	<b>Level-2:</b>	<b>40% students score more than class average</b>
	Level-3	50% students score more than class average

. The target level is set (e.g. Level-2). It indicates that, **the current target is level-2; 40% of students score more than class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, the corrective measures/remedial action are taken.

e. CO Attainment= 80% (Attainment level in end term examination) + 20% (Attainment level in internal examination)

### 6. Program attainment Level:

a. PO attainment is defined at five levels in ascending order;

b. **The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feed-back survey (Indirect method);**

c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1)
	Level-2:	Average: 1.0 to 1.5
	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
	Level-4	Very Good: 2.0 to 2.5
	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that, the department is aiming at minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

### 7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B

FOR EXAMPLE COURSE CODE/TITLE: **Paper IX: DSE-E9 Mathematical Analysis**

e.g. For end-term and internal examination;

- i. Level-1: 30% students scored more than class average**
- ii. Level-2: 40% students score more than class average;**
- iii. Level-3: 50% students score more than class average**



<b>Paper IX: DSE-E9 Mathematical Analysis</b>		
Average Marks in External examination:	19	
% Students score more than 19 is =1	50%	Level: 3
Average Marks in Internal examination	5.5	
% Students score more than 5.5 is =1	50%	Level: 3
<b>A(CO) Paper No.Paper IX: DSE-E9 Mathematical Analysis</b>		
	80% (3) +20%	
	= (3)	
	= 2.4+0.6	
	= 3	

<b>Paper X: DSE-E10 Abstract Algebra</b>		
Average Marks in External examination:	32	
% Students score more than 32 is =1	100%	Level: 3
Average Marks in Internal examination	6	
% Students score more than 6 is = 2	100%	Level: 3
<b>A(CO) Paper No.Paper IX: DSE-E10 Abstract Algebra</b>		
	80% (3) +20%	
	= (3)	
	= 2.4+0.6	
	= 3	

<b>Paper XI: DSE-E11 Optimization Techniques</b>		
Average Marks in External examination:	18	
% Students score more than 18 is =2	100%	Level: 3
Average Marks in Internal examination	7	
% Students score more than 7 is =2	100%	Level: 3
<b>A(CO) Paper No.Paper IX: DSE-E11 Optimization Techniques</b>		
	80% (3) +20%	
	= (3)	
	= 2.4+0.6	
	= 3	

<b>Paper XII : DSE-E12 Integral Transforms</b>		
Average Marks in External examination:	10	
% Students score more than 10 is= 1	50%	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is = 1	50%	Level: 3
<b>A(CO) Paper No.Paper IX: DSE-E12 Integral Transforms</b>		
	80% (3) +20%	
	= (3)	



	=	2.4+0.6
	=	3

Hence, the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is fully attained.

**Table No. 1.0: CO Attainment Level**

Course Title	Course Attainment Value	Attainment Level	Target Attainment Level	Fully Attained/ Not Attained	Remedial Measures
DSE-E9 Mathematical Analysis	3	3	2	Fully Attained	
DSE-E10 Abstract Algebra	3	3	2	Fully Attained	
DSE-E11 Optimization Techniques	3	3	2	Fully Attained	
DSE-E12 Integral transforms	3	3	2	Fully Attained	

### 8.The Results of PO Attainment:

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

(PSO-A) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.

Hence, PSO is attained

(PSO-B) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.

(PSO-C) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.





(PSO-D) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.

(PSO-E) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.

(PSO-F) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.

(PSO-G)  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.

(PSO-H) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-2.

Table No. 2.0 PO Attainment Level

PO/PSO Number	PO/PSOs Attainment Value	Attainment Level	Target Attainment Level	Fully Attained/ Not Attained	Remedial Measures
PSO-A	3	5	3	Fully Attained	
PSO-B	3	5	3	Fully Attained	
PSO-C	3	5	3	Fully Attained	
PSO-D	3	5	3	Fully Attained	
PSO-E	3	5	3	Fully Attained	
PSO-F	3	5	3	Fully Attained	
PSO-G	3	5	3	Fully Attained	
PSO-H	3	5	3	Fully Attained	

#### 9. Planned Actions for Course Attainment:

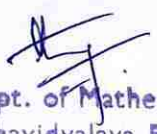
The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.

#### 10. Planned Actions for Program Outcome Attainment:

**Not Applicable.**

**ANNEXURE-B RESULTS OF CO-PO ATTAINMENT**

Sr. No	Course Title	PSO-A	PSO-B	PSO-C	PSO-D	PSO-E	PSO-F	PSO-G	PSO-H
	<b>DSE-E9 Mathematical Analysis</b>	3	3	3	3	3	3	3	3
	<b>DSE-E10 Abstract Algebra</b>	3	3	3	3	3	3	3	3
	<b>DSE-E11 Optimization Techniques</b>	3	3	3	3	3	3		3
	<b>DSE-E12 Integral transforms</b>	3	3	3	3	3	3		3
	<b>Average</b>	3	3	3	3	3	3	3	3

  
 Head of Dept. of Mathematics  
 Krishna Mahavidyalaya Rethare BK



  
 PRINCIPAL  
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## KRISHNA MAHAVIDYALAYA, RETHARE BK

## DEPARTMENT OF ZOOLOGY

ZOOLOGY OBE PROCESSAcademic Year 2021-2022

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, "to which POs his/her course is contributing?". So that one can design the learning experiences, select teaching methods and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of courses contributing to the development of respective Pos.

The Template is provided in the table below

Sr. No	Course Title	PSO-A	PSO-B	PSO C	PSO D	PSO E	PSO F	PSO G
1.	DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)		√		√		√	
2.	DSE-F29 (Molecular Cell Biology and Animal Biotechnology)		√	√	√	√	√	√
3.	DSE-F30 (Biotechniques and Biostatistics)		√	√	√	√	√	√
4.	DSE-F31 (AQUATIC BIOLOGY)	√					√	√
5.	DSE-E30 (DEVELOPMENTAL BIOLOGY OF VERTEBRATES)	√	√	√			√	
6.	DSE-E32 (IMMUNOLOGY)		√	√		√	√	√
7.	DSE-E31 (Applied Zoology - II)	√	√		√		√	√
8.	DSE-F32 (Insect Vectors and Histology)	√	√	√			√	√
9.	Zoology Practical	√	√	√	√	√	√	√

## **2. Course Outcomes (for all courses):**

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of course (subject) teaching. The focus is on development of abilities rather than mere content. There can be 5 to 7 course outcomes of any course. These are to be written in the specific terms and not in general. The list of Course Outcomes is the part of **Annexure-C** attached herewith.

## **3. Set Target levels for Attainment of Course Outcomes:**

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess students' performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment are measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

## **4. Set Target level for Attainment of Program Outcomes:**

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment and program outcome attainment is measured/calculated. The program outcome attainment is governed by curricular, co-curricular and extra-curricular activities including the stakeholders' participation. The direct method and indirect method is adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. And indirect method is the satisfaction/feed-back survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners/ graduates' performance.

### 5. Course Attainment Levels:

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order

i. e.g. For end term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% students scored more than class average
<b>2.</b>	<b>Level-2:</b>	<b>40% students score more than class average</b>
3.	Level-3	50% students score more than class average

. The target level is set (e.g. Level-2). It indicates that, **the current target is level-2; 40% of students score more than class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, the corrective measures/remedial action are taken.

e. CO Attainment= 80% (Attainment level in end term examination) + 20% (Attainment level in internal examination)

### 6. Program attainment Level:

- a. PO attainment is defined at five levels in ascending order;
- b. **The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feed-back survey (Indirect method);**
- c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1)
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that, the department is aiming at minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

**FOR EXAMPLE COURSE CODE/TITLE: Paper IX: DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)**

e.g. For end-term and internal examination;

**i. Level-1: 30% students scored more than class average**

**ii. Level-2: 40% students score more than class average;**

**iii. Level-3: 50% students score more than class average**

<b>Zoology Paper IX: DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)</b>		
Average Marks in External examination:	37	
% Students score more than 37 is =4	100%	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is =4	100%	Level: 3
<b>A(CO) Zoology Paper IX: DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Zoology Paper X: DSE-F29 (Molecular Cell Biology and Animal Biotechnology)</b>		
Average Marks in External examination:	34	
% Students score more than 34 is=4	100%	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is =4	100%	Level: 3
<b>A(CO) Zoology Paper X: DSE-F29 (Molecular Cell Biology and Anima Biotechnology)</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Zoology Paper XI: DSE-F29 (Molecular Cell Biology and Animal Biotechnology)</b>		
Average Marks in External examination:	34	
% Students score more than 34 is =02	50%	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is =4	90%	Level: 3
<b>A(CO) Zoology Paper XI: DSE-F29 (Molecular Cell Biology and Animal Biotechnology)</b>		

	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Zoology Paper XII : DSE-F31 (AQUATIC BIOLOGY)</b>		
Average Marks in External examination:	33	
% Students score more than 33 is 1	25%	Level: 1
Average Marks in Internal examination	10	
% Students score more than 9 is	90%	Level: 3
<b>A(CO) Zoology Paper XII : DSE-F31 (AQUATIC BIOLOGY)</b>		
	=	80% (1) +20 (3)
	=	0.8+0.6
	=	1.4

<b>Zoology Paper XIII: DSE-E30(DEVELOPMENTAL BIOLOGY OF VERTEBRATES)</b>		
Average Marks in External examination:	19	
% Students score more than 19 is =3	75%	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is =04	100%	Level: 3
<b>A(CO) Zoology Paper XIII: DSE-E30(DEVELOPMENTAL BIOLOGY OF VERTEBRATES)</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Zoology Paper XIV: DSE-E32 (IMMUNOLOGY)</b>		
Average Marks in External examination:	19	
% Students score more than 19 is 3	75%	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is=4	100%	Level: 3
<b>A(CO) Zoology Paper XIV: DSE-E32 (IMMUNOLOGY)</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Zoology Paper XV: DSE-E31 (Applied Zoology - II)</b>		
Average Marks in External examination:	18	
% Students score more than 18 is =3	75%	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is =04	100%	Level: 3

<b>A(CO) Zoology Paper XV: DSE-E31 (Applied Zoology - II)</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Zoology Paper XVI: DSE-F32 (Insect Vectors and Histology)</b>		
Average Marks in External examination:	32	
% Students score more than 32 is =3	75%	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is	100%	Level: 3
<b>A(CO) Zoology Paper XVI: DSE-F32 (Insect Vectors and Histology)</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Zoology Practical</b>		
Average Marks in External examination:	169	
% Students score more than 169 is =2	50%	Level: 3

Hence, the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is Fully attained.



**Table No. 1.0: CO Attainment Level**

Course Title	Course Attainment Value	Target Attainment Level	Fully Attained/ Not Attained	Remedial Measures
DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)	3	2	Fully Attained	
DSE-F29 (Molecular Cell Biology and Animal Biotechnology)	3	2	Fully Attained	
DSE-F30(Biotechniques and Biostatistics)	3	2	Fully Attained	
DSE-F31 (AQUATIC BIOLOGY)	1.4	2	Not Fully Attained	Extra lectures taken
DSE-E30(DEVELOPMENTAL BIOLOGY OF VERTEBRATES)	3	2	Fully Attained	
DSE-E32 (IMMUNOLOGY)	3	2	Fully Attained	
DSE-E31 (Applied Zoology - II)	3	2	Fully Attained	
DSE-F32 (Insect Vectors and Histology)	3	2	Fully Attained	
Zoology Practical	3	2	Fully Attained	

### 8. The Results of PO Attainment:

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

(PSO-A) = 80% (1+3+3+3)/04 + 20% (3+3+3+3)/4 = 80% (2.5) + 20% (3) = 2.6 i.e. Level-5. The Target Level is Level-3.

Hence, PO is attained

(PSO-B) =  $80\% (3+3+3+3+3+3+3)/07 + 20\% (3+3+3+3+3+3+3)/7 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3.

(PSO-C) =  $80\% (3+3+3+3+3)/05 + 20\% (3+3+3+3+3)/5 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3.

(PSO-D) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3.

(PSO-E) =  $80\% (3+3+3+3)/04 + 20\% (3+3+3+3)/4 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3.

(PSO-F) =  $80\% (3+3+3+3+3+3+3+3+3)/08 + 20\% (3+3+3+3+3+3+3+3+3)/8 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3.

(PSO-G) =  $80\% (3+3+3+3+3)/05 + 20\% (3+3+3+3+3)/5 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3.

Table No. 2.0 PO Attainment Level

PO/PSO Number	Target Attainment	PO/PSOs Attainment		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
PSO-A	3	2.6	5	Fully Attained	
PSO-B	3	3	5	Fully Attained	
PSO-C	3	3	5	Fully Attained	
PSO-D	3	3	5	Fully Attained	
PSO-E	3	3	5	Fully Attained	
PSO-F	3	3	5	Fully Attained	
PSO-G	3	3	5	Fully Attained	

### 9. Planned Actions for Course Attainment:

The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.


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**10. Planned Actions for Program Outcome Attainment:**

**Not Applicable.**

**ANNEXURE-B RESULTS OF CO-PO ATTAINMENT**

Sr. No	Course Title	PO1-A	PO2-B	PO3-C	PO4-D	PO5-E	PO6-F	PO7-G
1.	DSE-E29 (COMPARATIVE ANATOMY OF VERTEBRATES)		3		3		3	
2.	DSE-F29 (Molecular Cell Biology and Animal Biotechnology)		3	3	3	3	3	3
3.	DSE-F30(Biotechniques and Biostatistics)		3	3	3	3	3	3
4.	DSE-F31 (AQUATIC BIOLOGY)	1					3	
5.	DSE-E30(DEVELOPMENTAL BIOLOGY OF VERTEBRATES)	3	3	3			3	
6.	DSE-E32 (IMMUNOLOGY)		3	3		3	3	3
7.	DSE-E31 (Applied Zoology - II)	3	3		3		3	3
8.	DSE-F32 (Insect Vectors and Histology)	3	3	3			3	3
9.	Zoology Practical	3	3	3	3	3	3	3
Average		2.6	3	3	3	3	3	3

For   
**Head**  
 Department of Zoology  
 K. M. Rethare (Bk.)



  
**Principal**  
 Krishna Mahavidyalaya, Rethare Bk,  
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Shetkari Shikshan Prasarak Mandal's  
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**DEPARTMENT OF MARATHI**  
**MARATHI OBE PROCESS**  
**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, **“to which POs his/her course in contributing?”**. So that one can design the learning experiences, select teaching methods and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of **courses contributing to the development of respective Pos.**

The Template is provided in the table below

Sr. No	Course Title	A	B	C	D	E	F
1.	Marathi Paper VII (DSE-E1): साहित्यविचार	√				√	√
2.	Marathi Paper VIII(DSE-E2) मराठी भाषा आणि भाषाविज्ञान	√	√	√	√		√
3.	Marathi Paper IX (DSE-E3) : मध्ययुगीन मराठी वाङ्मयाचा इतिहास	√		√		√	√
4.	Marathi Paper X : (DSE -E 4) मराठी भाषा व अर्थाजनांच्या संधी	√	√	√	√	√	√
5.	Marathi Paper XI (DSE -E 5) वाङ्मय प्रवाहाचे अध्ययन : मध्ययुगीन	√				√	√
6.	Marathi Paper XII (DSE-E126):साहित्यविचार	√				√	√
7.	Marathi Paper XIII (DSE-E127):मराठी भाषा आणि भाषाविज्ञान	√	√	√	√	√	√

8.	<b>Marathi (DSE-E 128) Paper XIV :</b> मध्ययुगीन मराठी वाङ्मयाचा इतिहास	√		√		√	√
9.	<b>(DSE -E 129) Paper XV :</b> मराठी भाषा व अर्थाजनांच्या संधी	√	√	√	√		√
10.	<b>Marathi (DSE -E 130) Paper XVI</b> वाङ्मय प्रवाहाचे अध्ययन : ललितगद्य	√	√			√	√

## 2. Course Outcomes (for all courses):

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of course (subject) teaching. The focus is on development of abilities rather than mere content. There can be 5 to 7 course outcomes of any course. These are to be written in the specific terms and not in general. The list of Course Outcomes is the part of **Annexure-C** attached herewith.

## 3. Set Target levels for Attainment of Course Outcomes:

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess students' performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment are measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

## 4. Set Target level for Attainment of Program Outcomes:

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment and program outcome attainment is measured/calculated. The program outcome attainment is governed by curricular, co-curricular and extra-curricular activities including the stakeholders' participation. The direct method and indirect method is adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. And indirect method is the satisfaction/feed-back survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the

course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners/ graduates' performance.

### 5. Course Attainment Levels:

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order
  - i. e.g. For end term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% students scored more than class average
<b>2.</b>	<b>Level-2:</b>	<b>40% students score more than class average</b>
3.	Level-3	50% students score more than class average

. The target level is set (e.g. Level-2). It indicates that, **the current target is level-2; 40% of students score more than class average**. The CO attainment is measured and the results are obtained. Based on the results of attainment, the corrective measures/remedial action are taken.

e. CO Attainment= 80% (Attainment level in end term examination) + 20% (Attainment level in internal examination)

### 6. Program attainment Level:

- a. PO attainment is defined at five levels in ascending order;
- b. **The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feed-back survey (Indirect method);**
- c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PSO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that, the department is aiming at minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

### 7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B

FOR EXAMPLE COURSE CODE/TITLE: Marathi **Paper VII (DSE-E1):साहित्यविचार**

e.g. For end-term and internal examination;

**i. Level-1: 30% students scored more than class average**

**ii. Level-2: 40% students score more than class average;**

**iii. Level-3: 50% students score more than class average**

<b>Paper VII:साहित्यविचार</b>		
Average Marks in External examination:	<b>26</b>	
% Students score more than 26 is	<b>60</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>9</b>	
% Students score more than 9 is	<b>90</b>	<b>Level 3</b>
<b>A(CO) Paper VII (DSE-E1):साहित्यविचार</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper VIII: मराठी भाषा आणि भाषाविज्ञान</b>		
Average Marks in External examination:	<b>22</b>	
% Students score more than 22 is	<b>50</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 10 is	<b>100</b>	<b>Level 3</b>
<b>A(CO) Paper VIII (DSE-E2):मराठी भाषा आणि भाषाविज्ञान</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper IX : मध्ययुगीन मराठी वाङ्मयाचा इतिहास</b>		
Average Marks in External examination:	<b>25</b>	
% Students score more than 25 is	<b>70</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 9 is	<b>90</b>	<b>Level 3</b>
<b>A(CO) Paper No IX: (DSE-E3) Paper IX : मध्ययुगीन मराठी वाङ्मयाचा इतिहास</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper X : मराठी भाषा व अर्थाजनांच्या संधी</b>		
Average Marks in External examination:	<b>21</b>	
% Students score more than 21 is	<b>50</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 10 is	<b>100</b>	<b>Level 3</b>
<b>A(CO) (DSE -E 4) Paper X : मराठी भाषा व अर्थाजनांच्या संधी</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XI वाङ्मय प्रवाहाचे अध्ययन : मध्ययुगीन</b>		
Average Marks in External examination:	<b>16</b>	
% Students score more than 16 is	<b>50</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 9 is	<b>100</b>	<b>Level 3</b>
<b>A(CO) (DSE -E 5) Paper XI वाङ्मय प्रवाहाचे अध्ययन : मध्ययुगीन</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XII:साहित्यविचार</b>		
Average Marks in External examination:	<b>28</b>	
% Students score more than 28 is	<b>50</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 10 is	<b>100</b>	<b>Level 3</b>
<b>A(CO) Paper XII (DSE-E126):साहित्यविचार</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XIII: मराठी भाषा आणि भाषाविज्ञान</b>		
Average Marks in External examination:	<b>27</b>	
% Students score more than 27 is	<b>90</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 9 is	<b>90</b>	<b>Level 3</b>
<b>A(CO) Paper XIII (DSE-E127):मराठी भाषा आणि भाषाविज्ञान</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3



<b>Paper XIV : मध्ययुगीन मराठी वाङ्मयाचा इतिहास</b>		
Average Marks in External examination:	<b>32</b>	
% Students score more than 32 is	<b>70</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 9 is	<b>90</b>	<b>Level 3</b>
<b>A(CO) Paper No IX: (DSE-E 128) Paper XIV : मध्ययुगीन मराठी वाङ्मयाचा इतिहास</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper XV : मराठी भाषा व अर्थाजनांच्या संधी</b>		
Average Marks in External examination:	<b>33</b>	
% Students score more than 33 is	<b>50</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>9</b>	
% Students score more than 9 is	<b>90</b>	<b>Level 3</b>
<b>A(CO) (DSE -E 129) Paper XV : मराठी भाषा व अर्थाजनांच्या संधी</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper XVI वाङ्मय प्रवाहाचे अध्ययन : ललितगद्य</b>		
Average Marks in External examination:	<b>27</b>	
% Students score more than 27 is	<b>70</b>	<b>Level 3</b>
Average Marks in Internal examination	<b>10</b>	
% Students score more than 10 is	<b>100</b>	<b>Level 3</b>
<b>A(CO) (DSE -E 130) Paper XVI वाङ्मय प्रवाहाचे अध्ययन : ललितगद्य</b>		
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

**Hence**, the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is Fully attained.

**Table No. 1.0: CO Attainment Level**

Course Title	Course Attainment Value	Target Attainment Level	Fully Attained/ Not Attained	Remedial Measures
Marathi Paper VII (DSE-E1): साहित्यविचार	3	2	Fully Attained	
Marathi Paper VIII(DSE-E2) मराठी भाषा आणि भाषाविज्ञान	3	2	Fully Attained	
Marathi Paper IX (DSE-E3) : मध्ययुगीन मराठी वाङ्मयाचा इतिहास	3	2	Fully Attained	
Marathi Paper X : (DSE -E 4) मराठी भाषा व अर्थाजनांच्या संधी	3	2	Fully Attained	
Marathi Paper XI (DSE -E 5) वाङ्मय प्रवाहाचे अध्ययन : मध्ययुगीन	3	2	Fully Attained	
Marathi Paper XII (DSE-E126):साहित्यविचार	3	2	Fully Attained	
Marathi Paper XIII (DSE-E127):मराठी भाषा आणि भाषाविज्ञान	3	2	Fully Attained	
Marathi (DSE-E 128) Paper XIV : मध्ययुगीन मराठी वाङ्मयाचा इतिहास	3	2	Fully Attained	
(DSE -E 129) Paper XV : मराठी भाषा व अर्थाजनांच्या संधी	3	2	Fully Attained	
Marathi (DSE -E 130) Paper XVI वाङ्मय प्रवाहाचे अध्ययन : ललितगद्य	3	3	Fully Attained	

**8. The Results of PSO Attainment:**

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

$$(PSO-A) = 80\% (3+3+3+3+3+3+3+3+3+3)/10 = 3 + 20\%$$

$$(3+3+3+3+3+3+3+3+3+3)/10 = 3,$$

80% (3) + 20% (3) = 3, i.e. Level-5. The Target Level is Level-3. (3:1.5 to 2.0)

Hence, PO is attained

$$\text{(PSO-B)} = 80\% (3+3+3+3+3)/05=3 + 20\% (3+3+3+3+3)/5 =3,$$

80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.(3:1.5 to 2.0)

Hence, PO is attained

$$\text{(PSO-C)} = 80\% (3+3+3+3+3+3)/06=3 + 20\% (3+3+3+3+3+3)/6=3,$$

80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

Hence, PO is attained

$$\text{(PSO-D)} = 80\% (3+3+3+3)/04=3 + 20\% (3+3+3+3)/4 = 3,$$

80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

Hence, PO is attained

$$\text{(PSO-E)} = 80\% (3+3+3+3+3+3+3+3+3)/08 =3+ 20\% (3+3+3+3+3+3+3+3+3)/8 = 3,$$

80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

Hence, PO is attained

$$\text{(PSO-F)}=80\%(3+3+3+3+3+3+3+3+3+3+3)/10=3+20\%$$

$$(3+3+3+3+3+3+3+3+3+3)/10 = 3$$

80% (3) + 20% (3) = 3 i.e. Level-5. The Target Level is Level-3.

Hence, PO is attained

**Table No. 2. PSO Attainment Level**

PO/PSO Number	Target Attainment Level -3 Very Good .3:1.5 to2.0)	PO/PSOs Attainment Value Excellent (2.5 to 3)		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
PSO-A	3	3	5	Fully Attained	
PSO-B	3	3	5	Fully Attained	
PSO-C	3	3	5	Fully Attained	
PSO-D	3	3	5	Fully Attained	
PSO-E	3	3	5	Fully Attained	
PSO-F	3	3	5	Fully Attained	

#### **9. Planned Actions for Course Attainment:**

The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.

#### **10. Planned Actions for Program Outcome Attainment:**

**Not Applicable.**

## ANNEXURE-B RESULTS OF CO-PO ATTAINMENT

Sr. No	Course Title	PSO-A	PSO-B	PSO-C	PSO-D	PSO-E	PSO-F
1.	<b>Marathi Paper VII (DSE-E1): साहित्यविचार</b>	3				3	3
2.	<b>Marathi Paper VIII(DSE-E2) मराठी भाषा आणि भाषाविज्ञान</b>	3	3	3	3		3
3.	<b>Marathi Paper IX (DSE-E3) : मध्ययुगीन मराठी वाङ्मयाचा इतिहास</b>	3		3		3	3
4.	<b>Marathi Paper X : (DSE -E 4) मराठी भाषा व अर्थाजनांच्या संधी</b>	3	3	3	3	3	3
5.	<b>Marathi Paper XI (DSE -E 5) वाङ्मय प्रवाहाचे अध्ययन : मध्ययुगीन</b>	3				3	3
6.	<b>Marathi Paper XII (DSE-E126):साहित्यविचार</b>	3				3	3
7.	<b>Marathi Paper XIII (DSE-E127):मराठी भाषा आणि भाषाविज्ञान</b>	3	3	3	3	3	3
8.	<b>Marathi (DSE-E 128) Paper XIV : मध्ययुगीन मराठी वाङ्मयाचा इतिहास</b>	3		3		3	3
9.	<b>(DSE -E 129) Paper XV : मराठी भाषा व अर्थाजनांच्या संधी</b>	3	3	3	3		3
10.	<b>Marathi (DSE -E 130) Paper XVI वाङ्मय प्रवाहाचे अध्ययन : ललितगद्य</b>	3	3			3	3
<b>Average</b>		3	3	3	3	3	3



*[Signature]*  
Principal  
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**Shetkari Shikshan Prasarak Mandal's**  
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**DEPARTMENT OF HINDI**  
**HINDI OBE PROCESS**  
**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, "to which POs is his/her course contributing?". So that one can design the learning experiences, select teaching methods, and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of courses contributing to the development of respective Pos.

The Template is provided in the table below

Sr. No	Course Title	PSO -A	PSO- B	PSO -C	PSO- D	PSO -E	PSO- F	PSO -G	PSO- H	PSO -I
1.	B. A. III Paper No. VII विधा विशेष का अध्ययन D.S.E-E 6	√	√		√					
2.	B. A. III Paper No. VIII साहित्यशास्त्र D.S.E-E-7			√				√		√
3	B. A. III Paper No. IX हिंदी साहित्य का इतिहास D.S.E.-E-8						√		√	
4	B.A. III Paper No. X प्रयोजनमूलक हिंदी DSE-E-9	√	√	√	√	√	√	√	√	√
5	B. A. III Paper No. XI भाषाविज्ञान आणि हिंदी भाषा DSE-E-10	√	√	√	√	√	√	√	√	√
6	B. A. III Paper No. XII विधा विशेष का अध्ययन DSE.-E-131	√	√	√						
7	B. A. III Paper No. XIII साहित्यशास्त्र D.S.E-E-132			√				√		√
8	B. A. III Paper No. XIV हिंदी साहित्य का इतिहास D.S.E.-E-133						√		√	
9	B.A. III Paper No. XV प्रयोजनमूलक हिंदी DSE-E-134	√	√	√	√	√	√	√	√	√
10	B. A. III Paper No. XVI भाषाविज्ञान और हिंदी भाषा DSE-E-135	√	√	√	√	√	√	√	√	√

**2. Course Outcomes (for all courses):**

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of the course (subject) teaching. The focus is on the development of abilities rather than mere content. There can be 5 to 7-course outcomes of any course. These are to be written in specific terms and not in general. The list of Course Outcomes is

Annexure-C attached herewith.

### 3. Set Target levels for Attainment of Course Outcomes:

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of the program) the course outcome attainment is measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

### 4. Set Target level for Attainment of Program Outcomes:

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of the program) the course outcome attainment and program outcome attainment are measured/calculated. The program outcome attainment is governed by curricular, co-curricular, and extra-curricular activities including the stakeholders' participation. The direct method and indirect method are adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. An indirect method is the satisfaction/feedback survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners'/ graduates' performance.

### 5. Course Attainment Levels:

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end-term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order

i. e.g. For end-term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% of students scored more than the class average
<b>2.</b>	<b>Level-2:</b>	<b>40% of students score more than the class average</b>
3.	Level-3	50% of students score more than the class average

The target level is set (e.g. Level-2). It indicates that **the current target is level-2; 40% of students score more than the class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, corrective measures/remedial action is taken.

e. CO Attainment= 80% (Attainment level in end-term examination) + 20% (Attainment level in internal examination)

**6. Program attainment Level:**

a. PO attainment is defined at five levels in ascending order;

The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feedback survey (Indirect method);

c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1)
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that the department is aiming at a minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

FOR EXAMPLE, COURSE CODE/TITLE: **Paper IX: DSE-E1 Mathematical Physics**

e.g., For end-term and internal examination;

**i. Level-1: 30% of students scored more than the class average**

**ii. Level-2: 40% of students score more than the class average**

**iii. Level-3: 50% of students score more than the class average**

Paper No. -VII विधा विशेष का अध्ययन		
Average Marks in External examination:	22.81	6
% Students score more than 22.81 is =6	54.54	Level: 3
Average Marks in Internal examination	9.09	
% Students score more than 9.09 is =11	100	Level: 3
A(CO) DSE 6- Paper VII विधा विशेष का अध्ययन		
=	80% (3) +20 (1)	
=	2.4+0.2	
=	2.6	

Paper No. -VIII -साहित्य शास्त्र और समालोचना		
Average Marks in External examination:	24	6
% Students score more than 24 is =6	54.54	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =11	100	Level: 3
A(CO) DSE 7 Paper No. -VIII -साहित्य शास्त्र और समालोचना		
=	80% (3) +20 (3)	
=	2.4+0.6	
=	3	

Paper IX: हिंदी साहित्य का इतिहास		
Average Marks in External examination:	27	8
% Students score more than 27 is =8	72.72	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =11	100	Level: 3
A(CO) DSE 8 Paper IX: हिंदी साहित्य का इतिहास		
=	80% (3) +20 (3)	
=	2.4+0.6	
=	3	



Paper -X प्रयोजन मूलक हिंदी		
Average Marks in External examination:	28	7
% Students score more than 27 is =7	63.63	Level: 3
Average Marks in Internal examination	9	
% Students score more than 9 is =11	100	Level: 3
A(CO) DSE 9 Paper -X प्रयोजन मूलक हिंदी		
=	80% (3) +20 (3)	
=	2.4+0.6	
=	3	

Paper -XI भाषा विज्ञान और हिंदी भाषा		
Average Marks in External examination:	17	4
% Students score more than 17 is =4	36.36	Level: 1
Average Marks in Internal examination	9	
% Students score more than 9 is =11	100	Level: 3
A(CO) DSE 10 Paper -XI भाषा विज्ञान और हिंदी भाषा		
=	80% (1) +20 (3)	
=	0.8+0.6	

Paper No. -XII विधा विशेष का अध्ययन		
Average Marks in External examination:	22	4
% Students score more than 22 is =4	36.36	Level: 1
Average Marks in Internal examination	8	
% Students score more than 8 is=6	54.54	Level: 3
A(CO) DSE 131 Paper No. -XII विधा विशेष का अध्ययन		
=	80% (1) +20 (3)	
=	0.8+0.6	
=	1.4	

Paper No. XIII -साहित्य शास्त्र और समालोचना		
Average Marks in External examination:	34	9
% Students score more than 34 is=9	81.81	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =6	54.54	Level: 3
A(CO) DSE 132 Paper No. -XIII -साहित्य शास्त्र और समालोचना		
=	80% (3) +20 (3)	
=	2.4+0.6	
=	3	

Paper XIV: हिंदी साहित्य का इतिहास		
Average Marks in External examination:	22	6
% Students score more than 22 is =6	54.54	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =8	72.72	Level: 3
A(CO) DSE 133 Paper XIV: हिंदी साहित्य का इतिहास		
=	80% (3) +20 (3)	
=	2.4+0.6	
=	3	

Paper -XV प्रयोजन मूलक हिंदी		
Average Marks in External examination:	29.18	7
% Students score more than 29.18 is =7	63.63	Level : 3
Average Marks in Internal examination	8	
% Students score more than 8 is=5	45.45	Level: 2
A(CO) DSE 134 Paper -XV प्रयोजन मूलक हिंदी		
=	80% (3) +20 (2)	
=	2.4+0.4	
=	2.8	

Paper -XVI भाषा विज्ञान और हिंदी भाषा		
Average Marks in External examination:	30	8
% Students score more than 30 is = 8	72.72	Level :3
Average Marks in Internal examination	8	
% Students score more than 8 is=5	45.45	Level: 2
A(CO) DSE 135 Paper -XVI भाषा विज्ञान और हिंदी भाषा		
=	80% (3) +20 (2)	
=	2.4+0.4	
=	2.8	

**Table No. 1.0: CO Attainment Level**

Course Title	Target Attainment Level	Course Attainment Value	Fully Attained/ Not Attained	Remedial Measures
B. A. III Paper No. VII विद्या विशेष का अध्ययन D.S.E-E 6	2	77.27	3	Fully Attained
B. A. III Paper No. VIII साहित्यशास्त्र D.S.E-E-7	2	77.27	3	Fully Attained
B. A. III Paper No. IX हिंदी साहित्य का इतिहास D.S.E.-E-8	2	86.36	3	Fully Attained
B.A. III Paper No. X प्रयोजनमूलक हिंदी DSE-E-9	2	81.81	3	Fully Attained
B. A. III Paper No. XI भाषाविज्ञान आणि हिंदी भाषा DSE-E-10	2	68.18	3	Fully Attained
B. A. III Paper No. XII विद्या विशेष का अध्ययन DSE.-E-131	2	68.18	3	Fully Attained
B. A. III Paper No. XIII साहित्यशास्त्र D.S.E-E-132	2	90.90	3	Fully Attained
B. A. III Paper No. XIV हिंदी साहित्य का इतिहास D.S.E.-E-133	2	77.27	3	Fully Attained
B.A. III Paper No. XV प्रयोजनमूलक हिंदी DSE-E-134	2	81.81	3	Fully Attained
B. A. III Paper No. XVI भाषाविज्ञान आणि हिंदी भाषा DSE-E-135	2	86.36	3	Fully Attained

**8. The Results of PO Attainment:**

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

(PSO -A) = 80% (3+3+1+1+3+3)/06 + 20% (3+3+3+3+2+2)/6 = 80% (3) + 20% (3) = 2.49 i.e. Level-5. The Target Level is Level-3.

Hence, PO is attained

(PSO -B) = 80% (3+3+1+1+3+3)/06 + 20% (3+3+3+3+2+2)/6 = 80% (3) + 20% (3) = 2.49 i.e. Level-5. The Target Level is Level-3.

Level-5. The Target Level is Level-3.

(PSO -E) =  $80\% (3+1+3+3)/04 + 20\% (3+3+2+2)/4 = 80\% (3) + 20\% (3) = 2.5$  i.e. Level-5. The Target Level is Level-3.

(PSO -F) =  $80\% (3+3+1+3+3+3)/06 + 20\% (3+3+3+3+2+2)/6 = 80\% (3) + 20\% (3) = 2.66$  i.e. Level-5. The Target Level is Level-3.

(PSO -G) =  $80\% (3+3+1+3+3+3)/06 + 20\% (3+3+3+3+2+2)/6 = 80\% (3) + 20\% 6(3) = 2.66$  i.e. Level-5. The Target Level is Level-3.

(PSO -H) =  $80\% (3+3+1+3+3+3)/06 + 20\% (3+3+3+3+2+2)/6 = 80\% (3) + 20\% (3) = 2.66$  i.e. Level-5. The Target Level is Level-3.

(PSO -I) =  $80\% (3+3+1+3+3+3)/06 + 20\% (3+3+3+3+2+2)/6 = 80\% (3) + 20\% (3) = 2.66$  i.e. Level-5. The Target Level is Level-3.

Table No. 2.0 PO Attainment Level

PO/PSO Number	Target Attainment	PO/PSOs Attainment		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
PSO -A	3	2.49	5	Fully Attained	
PSO -B	3	2.49	5	Fully Attained	
PSO -C	3	2.56	5	Fully Attained	
PSO -D	3	2.5	5	Fully Attained	
PSO -E	3	2.5	5	Fully Attained	
PSO -F	3	2.66	5	Fully Attained	
PSO -G	3	2.66	5	Fully Attained	
PSO -H	3	2.66	5	Fully Attained	
PSO -I	3	2.66	5	Fully Attained	

#### 9. Planned Actions for Course Attainment:

The courses for which the level attained is less than Level-2, the remedial measures will be taken in a plan way that includes, tutorials, assignments, field work, and remedial coaching.

#### 10. Planned Actions for Program Outcome Attainment: Not Applicable.

## ANNEXURE-B RESULTS OF CO-PO ATTAINMENT

Sr. No	Course Title	PSO -A	PSO -B	PSO -C	PSO -D	PSO -E	PSO -F	PSO -G	PSO -H	PSO -I
1.	B. A. III Paper No. VII विधा विशेष का अध्ययन D.S.E-E 6	3	3		3					
2.	B. A. III Paper No. VIII साहित्यशास्त्र D.S.E-E-7			3				3		3
3.	B. A. III Paper No. IX हिंदी साहित्य का इतिहास D.S.E.-E-8						3		3	
4.	B.A. III Paper No. X प्रयोजनमूलक हिंदी DSE-E-9	3	3	3	3	3	3	3	3	3
5.	B. A. III Paper No. XI भाषाविज्ञान आणि हिंदी भाषा DSE-E-10	2	3	3	3	3	3	3	3	3
6.	B. A. III Paper No. XII विधा विशेष का अध्ययन DSE.-E-131	2	2	2						
7.	B. A. III Paper No. XIII साहित्यशास्त्र D.S.E-E-132			3				3		3
8.	B. A. III Paper No. XIV हिंदी साहित्य का इतिहास D.S.E.-E-133						3		3	
9.	B.A. III Paper No. XV प्रयोजनमूलक हिंदी DSE-E-134	3	3	3	3	3	3	3	3	3
10.	B. A. III Paper No. XVI भाषाविज्ञान आणि हिंदी भाषा DSE-E-135	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Average		2.58	2.33	2.78	2.9	2.87	2.91	2.91	2.91	2.91

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Shetkari Shikshan Prasarak Mandal's  
**KRISHNA MAHAVIDYALAYA, RETHARE BK**

**DEPARTMENT OF GEOGRAPHY**

**GEOGRAPHY OBE PROCESS**

**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, **"to which POs his/her course is contributing?"**. So that one can design the learning experiences, select teaching methods and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of **courses contributing to the development of respective Pos.**

The Template is provided in the table below

Sr. No	Course Title	A	B	C	D	E	F	G	H	I
1.	DSE-VII, Paper VII: Development of Geography	√	√			√	√			
2.	DSE-VIII, Paper VIII: Geography of India	√	√	√	√	√	√	√	√	
3.	DSE-IX, Paper IX: Population Geography	√	√	√		√	√	√	√	
4.	DSE-X, Paper X: Economic Geography	√	√	√	√	√	√	√	√	
5.	DSE-XI, Paper XI: Urban Geography	√	√	√	√	√	√	√	√	
6.	DSE-XII Paper XII: Political Geography	√	√			√	√	√	√	
7.	DSE-XIII, Paper XIII: Fundamentals of Map Making	√								√
8.	DSE-IVX, Paper XIV: Advanced Techniques in Geography	√								√

2. Course Outcomes (for all courses):

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of course (subject) teaching. The focus is on development of abilities rather than mere content. There can be 5 to 7 course outcomes of any course. These are to be written in the specific terms and not in general. The list of Course Outcomes is the part of **Annexure-C** attached herewith.

### **3. Set Target levels for Attainment of Course Outcomes:**

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess students' performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment are measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

### **4. Set Target level for Attainment of Program Outcomes:**

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment and program outcome attainment is measured/calculated. The program outcome attainment is governed by curricular, co-curricular and extra-curricular activities including the stakeholders' participation. The direct method and indirect method is adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. And indirect method is the satisfaction/feed-back survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners/ graduates' performance.

### **5. Course Attainment Levels:**

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order
  - i. e.g. For end term and internal examination;



Sr. No	Level	CO Attainments
1.	Level-1:	30% students scored more than class average
3.	Level-3	50% students score more than class average

. The target level is set (e.g. Level-2). It indicates that, **the current target is level-2; 40% of students score more than class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, the corrective measures/remedial action are taken.

e. CO Attainment= 80% (Attainment level in end term examination) + 20% (Attainment level in internal examination)

#### 6. Program attainment Level:

a. PO attainment is defined at five levels in ascending order;

b. [REDACTED]

c. The PO attainment levels are defined/ set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1)
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that, the department is aiming at minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

FOR EXAMPLE COURSE CODE/TITLE: **Paper VII: DSE-E106 Evolution o Geographical Thought**

e.g. For end-term and internal examination;

- i. Level-1: 30% students scored more than class average**
- ii. Level-2: 40% students score more than class average;**
- iii. Level-3: 50% students score more than class average**

<b>Paper VII: Development of Geography</b>		
Average Marks in External examination:	19	
% Students score more than 19 is	55	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is	100	Level: 3
<b>A(CO) Paper VII: Development of Geography</b>		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3

<b>Paper VIII: Geography of India</b>		
Average Marks in External examination:	22	
% Students score more than 22 is	73	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is	100	Level: 3
<b>A(CO) Paper VIII: Geography of India</b>		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3

<b>Paper IX: Population Geography</b>		
Average Marks in External examination:	24	
% Students score more than 24 is	55	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is	100	Level: 3
<b>A(CO) Paper IX: Population Geography</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper X: Economic Geography</b>		
Average Marks in External examination:	17	

% Students score more than 17 is	45	Level: 2
Average Marks in Internal examination	10	
% Students score more than 10 is	100	Level: 3
<b>A(CO) Paper X: Economic Geography</b>		
	=	80% (2) +20 (3)
	=	1.6+0.6
	=	2.2

<b>Paper XI: Urban Geography</b>		
Average Marks in External examination:	23	
% Students score more than 23 is	45	Level: 2
Average Marks in Internal examination	10	
% Students score more than 10 is	100	Level: 3
<b>A(CO) Paper XI: Urban Geography</b>		
	=	80% (2) +20 (3)
	=	1.6+0.6
	=	2.2

<b>Paper XII: Political Geography</b>		
Average Marks in External examination:	19	
% Students score more than 19 is	45	Level: 2
Average Marks in Internal examination	10	
% Students score more than 10 is	100	Level: 3
<b>A(CO) Paper XII: Political Geography</b>		
	=	80% (2) +20 (3)
	=	1.6+0.6
	=	2.2

<b>Paper XIII: Fundamentals of Map Making</b>		
Average Marks in External examination:	81	
% Students score more than 81 is	64	Level: 3
Average Marks in Internal examination	NA	NA
% Students score more than 00 is	NA	NA
<b>A(CO) Paper XIV: Fundamentals of Map Making</b>		
	=	100%(3)
	=	3

<b>Paper XIV: Advanced Techniques in Geography</b>		
Average Marks in External examination:	81	
% Students score more than 81 is	64	Level: 3
Average Marks in Internal examination	NA	NA
% Students score more than 00 is	NA	NA
<b>A(CO) Paper XIV: Advanced Techniques in Geography</b>		

	=	100%(3)
	=	3

Hence, the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is fully attained.

**Table No. 1.0: CO Attainment Level**

Course Title	Target Attainment	Course Attainment		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
DSE- Paper VII: Development of Geography	2	3	3	Fully Attained	
DSE- Paper VIII: Geography of India	2	3	3	Fully Attained	
DSE- Paper IX: Population Geography	2	3	3	Fully Attained	
DSE- Paper X: Economic Geography	2	2.2	3	Fully Attained	
DSE- Paper XI: Urban Geography	2	2.2	3	Fully Attained	
DSE- Paper XII: Political Geography	2	2.2	3	Fully Attained	
DSE- Paper XIII: Fundamentals of Map Making	2	3	3	Fully Attained	
DSE- Paper XIV: Advanced Techniques in Geography	2	3	3	Fully Attained	

**8. The Results of PO Attainment:**

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

- **(PSO-A)** =  $80\% (3+3+3+2+2+2+3+3)/8=2.6 + 20\% (3+3+3+3+3+3)/6=3,$

$80\% (2.6) + 20\% (3) = 2.81$ , i.e. Level-5, The Target Level is-3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

- **(PSO-B)** =  $80\% (3+3+3+2+2+2)/6=2.5 + 20\% (3+3+3+3+3+3)/6=3,$

$80\% (2.5) + 20\% (3) = 2.75$ , i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

- **(PSO-C)** =  $80\% (3+3+2+2)/4=2.5 + 20\% (3+3+3+3)/4=3,$

$80\% (2.5) + 20\% (3) = 2.75$ , i.e. Level-5, The Target Level is-3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

- **(PSO-D)** =  $80\% (3+2+2)/3=2.33 + 20\% (3+3+3)/3=3,$

$80\% (2.33) + 20\% (3) = 2.66$ , i.e. Level-5, The Target Level is L-3(3: 1.5 to 2.0), **Hence, PSO is attained.**

- **(PSO-E)** =  $80\% (3+3+3+2+2+2)/6=2.5 + 20\% (3+3+3+3+3+3)/6=3,$

$80\% (2.5) + 20\% (3) = 2.75$ , i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

- **(PSO-F)** =  $80\% (3+3+3+2+2+2)/6=2.5 + 20\% (3+3+3+3+3+3)/6=3,$

$80\% (2.5) + 20\% (3) = 2.75$ , i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

- **(PSO-G)** =  $80\% (3+3+2+2+2)/5=2.4 + 20\% (3+3+3+3+3)/5=3,$

$80\% (2.4) + 20\% (3) = 2.75$ , i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

• **(PSO-H) = 80% (3+3+2+2+2)/5=2.4 + 20% (3+3+3+3+3)/5=3,**  
**80% (2.4) + 20% (3) = 2.75, i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),**

**Hence, PSO is attained.**

• **(PSO-I) = 80% (3+3)/2=3 i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),**

**Hence, PSO is attained.**

Table No. 2.0 PO Attainment Level

PO/PSO Number	Target Attainment Level-3 Very Good (3: 1.5 to 2.0)	PO/PSOs Attainment Level-5 Excellent: (2.5 to 3.0)		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
PSO-A	3	2.81	5	Fully Attained	-
PSO-B	3	2.75	5	Fully Attained	-
PSO-C	3	2.75	5	Fully Attained	-
PSO-D	3	2.66	5	Fully Attained	-
PSO-E	3	2.75	5	Fully Attained	-
PSO-F	3	2.75	5	Fully Attained	-
PSO-G	3	2.75	5	Fully Attained	-
PSO-H	3	2.75	5	Fully Attained	-
PSO-I	3	3.00	5	Fully Attained	-

**9. Planned Actions for Course Attainment:**

The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.

**10. Planned Actions for Program Outcome Attainment:**

**Not Applicable.**

ANNEXURE-B RESULTS OF CO-PO ATTAINMENT

Sr. No	Course Title	PO1-A	PO2-B	PO3-C	PO4-D	PO5-E	PO6-F	PSO-G	PSO-H	PSO-I
1.	DSE- Paper VII: Development of Geography	3	3							
2.	DSE- Paper VIII: Geography of India	3	3	3	3	3		3	3	
3.	DSE- Paper IX: Population Geography	3		3	3	3		3	3	
4.	DSE- Paper X: Economic Geography	3	3	3			3	3	3	
5.	DSE- Paper XI: Urban Geography	3		3		3	3	3	3	
6.	DSE- Paper XII: Political Geography	3	3	3		3	3	3	3	
7.	DSE- Paper XIII: Fundamentals of Map Making	3	3	3	3	3	3	3	3	
8.	DSE- Paper XIV: Advanced Techniques in Geography	3	3	3	3	3	3	3	3	
Average		3	3	3	3	3	3	3	3	

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**DEPARTMENT OF HISTORY**

**HISTORY OBE PROCESS**

**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, **"to which POs his/her course is contributing?"**. So that one can design the learning experiences, select teaching methods and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of **courses contributing to the development of respective Pos.**

The Template is provided in the table below

Sr. No	Course Title	A	B	C	D	E	F
1.	Paper No. Paper VII: DSE- E- 61 Early India (from beginning to 4th c. BC)	√	√	√	√	√	√
2.	Paper No. Paper VIII: DSE-E- 62 History of Medieval India (1206-1526 AD)	√		√	√	√	√
3.	Paper No. Paper XI: DSE-E- 63 Age of Revolution		√	√	√	√	√
4.	Paper No. Paper X: DSE-E- 64 Political History of the Marathas	√		√	√	√	√
5.	Paper No. Paper XI: DSE-E- 65 History: Its Theory	√		√	√	√	√
6.	Paper No. Paper XII: DSE-E- 186 Ancient India (From 4th c BC to 7th c. AD)	√		√	√	√	√
7.	Paper XIII: DSE- E- 187 History of Medieval India (1526-1707 AD)	√		√	√	√	√
8.	Paper XIV: DSE- E- 188 Making of the Modern World (16 to 19 Century)		√	√	√	√	√
9.	Paper No. Paper XV: DSE-E-189 Polity, Economy and Society under the Marathas	√		√	√	√	√
10.	Paper No. Paper XVI: DSE-E- 190 Methods and Applications of History	√		√	√	√	√



## **2. Course Outcomes (for all courses):**

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of course (subject) teaching. The focus is on development of abilities rather than mere content. There can be 5 to 7 course outcomes of any course. These are to be written in the specific terms and not in general. The list of Course Outcomes is the part of **Annexure-C** attached herewith.

## **3. Set Target levels for Attainment of Course Outcomes:**

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess students' performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment are measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

## **4. Set Target level for Attainment of Program Outcomes:**

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment and program outcome attainment is measured/calculated. The program outcome attainment is governed by curricular, co-curricular and extra-curricular activities including the stakeholders' participation. The direct method and indirect method is adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. And indirect method is the satisfaction/feed-back survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners/ graduates' performance.

## **5. Course Attainment Levels:**

- a) CO attainment is defined/set at three levels;

- b) The CO attainment is based on end term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order
- i. e.g. For end term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% students scored more than class average
3.	Level-3	50% students score more than class average

. The target level is set (e. g. Level-2). It indicates that, **the current target is level-2; 40% of students score more than class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, the corrective measures/remedial action are taken.

e. CO Attainment= 80% (Attainment level in end term examination) + 20% (Attainment level in internal examination)

#### 6. Program attainment Level:

a. PO attainment is defined at five levels in ascending order;

b. [REDACTED]

c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that, the department is aiming at minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

FOR EXAMPLE COURSE CODE/TITLE: **Paper VII: Early India (from beginning to 4th c. BC)**

e.g. For end-term and internal examination;

i. Level-1: 30% students scored more than class average

ii. Level-2: 40% students score more than class average;

iii. Level-3: 50% students score more than class average

<b>Paper VII: Early India (from beginning to 4th c. BC)</b>		
<b>Average Marks in External examination:</b>	18	
<b>% Students score more than 18 is =4</b>	40%	<b>Level: 2</b>
<b>Average Marks in Internal examination</b>	10	
<b>% Students score more than 10 is =11</b>	100%	<b>Level: 3</b>
<b>Paper No. Paper VII : DSE- E- 61 Early India (from beginning to 4th c. BC)</b>		
	=	<b>80% (2) +20% (3)</b>
	=	<b>1.6+0.6</b>
	=	<b>2.2</b>
<b>Paper VIII: History of Medieval India (1206-1526 AD)</b>		
<b>Average Marks in External examination:</b>	23	
<b>% Students score more than 23 is =4</b>	40%	<b>Level: 2</b>
<b>Average Marks in Internal examination</b>	10	
<b>% Students score more than 10 is =11</b>	100%	<b>Level: 3</b>
<b>Paper No. Paper VIII: DSE-E- 62 History of Medieval India (1206-1526 AD)</b>		
	=	<b>80% (2) +20 % (3)</b>
	=	<b>1.6+0.6</b>
	=	<b>2.2</b>

<b>Paper IX: Age of Revolution</b>		
<b>Average Marks in External examination:</b>	27	
<b>% Students score more than 27 is =6</b>	60%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	10	
<b>% Students score more than 10 is =11</b>	100%	<b>Level: 3</b>

<b>Paper No. Paper XI: DSE-E- 63 Age of Revolution</b>		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3
<b>Paper X: Political History of the Marathas</b>		
Average Marks in External examination:		19
% Students score more than 19 is 5		50% Level: 3
Average Marks in Internal examination		10
% Students score more than 10 is 11		100% Level: 3
<b>Paper No. Paper X: DSE-E- 64 Political History of the Marathas</b>		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3
<b>Paper XI: History: Its Theory</b>		
Average Marks in External examination:		22
% Students score more than 22 is =4		40% Level: 2
Average Marks in Internal examination		10
% Students score more than 10 is =11		100% Level: 3
<b>Paper No. Paper XI: DSE-E- 65 History: Its Theory</b>		
	=	80% (2) +20 % (3)
	=	1.6+0.6
	=	2.2
<b>Paper XII : Ancient India (From 4th c BC to 7th c. AD)</b>		
Average Marks in External examination:		27
% Students score more than 16 is 4		40% Level: 2
Average Marks in Internal examination		10
% Students score more than 10 is 11		100% Level: 3
<b>Paper No. Paper XII: DSE-E- 186 Ancient India (From 4th c BC to 7th c. AD)</b>		
	=	80% (3) +20 % (3)
	=	1.6+0.6
	=	2.2
<b>Paper XIII: History of Medieval India (1526-1707 AD)</b>		
Average Marks in External examination:		22
% Students score more than 22 is =6		60% Level: 3
Average Marks in Internal examination		10
% Students score more than 10 is =11		100% Level: 3
<b>Paper XIII: DSE- E- 187 History of Medieval India (1526-1707 AD)</b>		
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Paper XIV: Making of the Modern World (16 to 19 Century)</b>		
<b>Average Marks in External examination:</b>	<b>18</b>	
<b>% Students score more than 18 is = 8</b>	<b>80%</b>	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	<b>10</b>	
<b>% Students score more than 10 is 11</b>	<b>100%</b>	<b>Level: 3</b>
<b>Paper XIV: DSE- E- 188 Making of the Modern World (16 to 19 Century)</b>		
	=	<b>80% (3) +20 %(3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper XVI: Methods and Applications of History</b>		
<b>Average Marks in External examination:</b>	<b>19</b>	
<b>% Students score more than 19 is =9</b>	<b>90%</b>	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	<b>10</b>	
<b>% Students score more than 10 is 11</b>	<b>100%</b>	<b>Level: 3</b>
<b>Paper No.Paper XVI: DSE-E- 190 Methods and Applications of History</b>		
	=	<b>80% (3) +20% (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

**Hence,** the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is Fully attained.

**Table No. 1.0: CO Attainment Level**

Course Title	Target Attainment	Course Attainment		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
Paper No. Paper VII: DSE- E-61 Early India (from beginning to 4th c. BC)	3	3	5	Fully Attained	
Paper No. Paper VIII: DSE-E-62 History of Medieval India (1206-1526 AD)	3	3	5	Fully Attained	
Paper No. Paper XI: DSE-E-63 Age of Revolution	3	3	5	Fully Attained	
Paper No. Paper X: DSE-E- 64 Political History of the Marathas	3	3	5	Fully Attained	
Paper No. Paper XI: DSE-E-65 History: Its Theory	3	3	5	Fully Attained	
Paper No. Paper XII: DSE-E-186 Ancient India (From 4th c BC to 7th c. AD)	3	3	5	Fully Attained	
Paper XIII: DSE- E- 187 History of Medieval India (1526-1707 AD)	3	3	5	Fully Attained	
Paper XIV: DSE- E- 188 Making of the Modern World (16 to 19 Century)	3	3	5	Fully Attained	
Paper No. Paper XV: DSE-E-189 Polity, Economy and Society under the Marathas	3	3	5	Fully Attained	
Paper No. Paper XVI: DSE-E-190 Methods and Applications of History	3	3	5	Fully Attained	

#### **8. The Results of PO Attainment:**

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

(PSO-A) = 80% (2+2+3+2+3+3+3+3)/08=2.6 + 20% (3+3+3+3+3+3+3+3)/8 = 3  
80% (2.6) + 20% (3) = 2.8 i.e. Level-5. The Target Level is -3, Hence, PO is attained

(PSO-B) =  $80\% (2+3+3+3)/03 = 3 + 20\% (3+2+3)3 \ 3+2.6 = 2.8 \ 80\% (3) + 20\% (8) =$   
 i.e. Level-5. The Target Level is -3, Hence, PO is attained

(PSO-C)=80%

$(2+2+3+3+2+2+3+3+3+3)/10=2.6+20\%(3+3+3+3+3+3+3+3+3+3)/10 = 3 \ 80\%$   
 $(2.6) + 20\% (3) = 2.8$  i.e. Level-5. The Target Level is -3, Hence, PO is attained

(PSO-D)=80%(2+2+3+3+2+2+3+3+3+3)/10=2.6 + 20%

$(3+3+3+3+3+3+3+3+3+3)/10 = 80\% (2.6) + 20\% (3) = 2.8$  i.e. Level-5. The Target Level is Level-3.

(PSO-E)=80% (2+2+3+3+2+2+3+3+3+3)/10 = 2.6 + 20%

$(3+3+3+3+3+3+3+3+3+3)/10 = 3, 80\% (3) + 20\% (3) = 2.8$  i.e. Level-5. The Target Level is Level-3.

(PSO-F)=80% (2+2+3+3+2+2+3+3+3+3)/10 = 2.6 + 20%

$(3+3+3+3+3+3+3+3+3+3)/10 = 80\% (2.6) + 20\% (3) = 2.8$  i.e. Level-5. The Target Level is -3.

Table No. 2.0 PO Attainment Level

PO/PSO Number	Target Attainment	PO/PSOs Attainment		Fully Attained/ Not Attained	Remedial Measures
	Level	Value	Level		
POS-A	3	2.8	5	Fully Attained	
POS-B	3	2.8	5	Fully Attained	
POS-C	3	2.8	5	Fully Attained	
POS-D	3	2.8	5	Fully Attained	
POS-E	3	2.8	5	Fully Attained	
POS-F	3	2.8	5	Fully Attained	

### 9. Planned Actions for Course Attainment:

The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.

### 10. Planned Actions for Program Outcome Attainment:

**Not Applicable.**

**ANNEXURE-B RESULTS OF CO-PO ATTAINMENT**

Sr. No	Course Title	PSO-A	PSO-B	PSO-C	PSO-D	PSO-E	PSO-F
1.	Paper No. Paper VII: DSE- E- 61 Early India (from beginning to 4th c. BC)	3	3	3	3	3	3
2.	Paper No. Paper VIII: DSE-E- 62 History of Medieval India (1206-1526 AD)	3	--	3	3	3	3
3.	Paper No. Paper XI: DSE-E- 63 Age of Revolution	3	3	3	3	3	3
4.	Paper No. Paper X: DSE-E- 64 Political History of the Marathas	3		3	3	3	3
5.	Paper No. Paper XI: DSE-E- 65 History: Its Theory	3		3	3	3	3
6.	Paper No. Paper XII: DSE-E- 186 Ancient India (From 4th c BC to 7th c. AD)	3		3	3	3	3
7.	Paper XIII: DSE- E- 187 History of Medieval India (1526-1707 AD)	3		3	3	3	3
8.	Paper XIV: DSE- E- 188 Making of the Modern World (16 to 19 Century)	3	3	3	3	3	3
9.	Paper No. Paper XV: DSE-E-189 Polity, Economy and Society under the Marathas	3		3	3	3	3
10.	Paper No. Paper XVI: DSE-E- 190 Methods and Applications of History	3		3	3	3	3
<b>Average</b>		3	3	3	3	3	3

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**KRISHNA MAHAVIDYALAYA, RETHARE BK**

**DEPARTMENT OF ECONOMICS**

**ECONOMICS OBE PROCESS**

**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, "to which POs is his/her course contributing?". So that one can design the learning experiences, select teaching methods, and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of courses contributing to the development of respective Pos.

The Template is provided in the table below

Sr. No	Course Title	PO1 -A	PO2 -B	PO 3-C	PO4- D	PO5 -E	PO 6-F	PO7 -G
1.	DSE E-71 Principles of Economics-I	√				√		
2.	DSE-E-72 Economics of Development	√			√		√	
3.	DSE-E73 International Economics	√		√	√		√	
4.	DSE-E74 Research Methodology in Economics-I	√		√				√
5.	DSE-E75 History of Economic Thoughts-I	√			√			√
6.	DSE-E196 Principles of Micro Economics-II	√				√		
7.	DSE-E197 Economics of planing	√	√		√		√	
8.	DSE-E198 International Economics-II	√		√	√		√	
9.	DSE-E-199 Research Methodology in Economics-II	√		√				√
10.	DSE-E-200 History of Economic Thoughts-II	√			√			√

## **2: Course Outcomes (for all courses):**

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of the course (subject) teaching. The focus is on the development of abilities rather than mere content. There can be 5 to 7-course outcomes of any course. These are to be written in specific terms and not in general. The list of Course Outcomes is **Annexure-C** attached herewith.

## **3. Set Target levels for Attainment of Course Outcomes:**

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of the program) the course outcome attainment is measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

## **4.Set Target level for Attainment of Program Outcomes:**

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of the program) the course outcome attainment and program outcome attainment are measured/calculated. The program outcome attainment is governed by curricular, co-curricular, and extra-curricular activities including the stakeholders' participation. The direct method and indirect method are adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. An indirect method is the satisfaction/feedback survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners'/ graduates' performance.

## 5. Course Attainment Levels:

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end-term examination assessment and internal assessment;
- c) The Co attainment is defined at three levels in ascending order
  - i. e.g. For end-term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% of students scored more than the class average
2.	Level-2:	40% of students score more than the class average
3.	Level-3	50% of students score more than the class average

. The target level is set (e.g. Level-2). It indicates that the **current target is level-2; 40% of students score more than the class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, corrective measures/remedial action is taken.

e. CO Attainment= 80% (Attainment level in end-term examination) + 20% (Attainment level in internal examination)

## 6. Program attainment Level:

- a. PO attainment is defined at five levels in ascending order;
- b. **The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feedback survey (Indirect method);**
- c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1
2.	Level-2:	Average: 1.0 to 1.5
3.	Level-3	Good: 3: 1.5 to 2.0
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that the department is aiming at a minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

FOR EXAMPLE, COURSE CODE/TITLE: Paper IX: DSE-E1 Mathematical Physics

e.g., For end-term and internal examination;

i. Level-1: 30% of students scored more than the class average

ii. Level-2: 40% of students score more than the class average

iii. Level-3: 50% of students score more than the class average

<b>Paper No.VII.DSE -E-71 -Principles of Micro Economics - I</b>		
<b>Average Marks in External examination:</b>	<b>25</b>	
<b>% Students score more than 25 is =8</b>	<b>80%</b>	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	<b>9</b>	
<b>% Students score more than 8 is =10</b>	<b>100%</b>	<b>Level: 3</b>
<b>A(CO) Paper No.VII.DSE -E-71 -Principles of Micro Economics - I</b>		
	=	<b>80% (3) +20% (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper No.VIII.DSE-E-72 Economics of Development</b>		
<b>Average Marks in External examination:</b>	<b>26</b>	
<b>% Students score more than 26 is = 5</b>	<b>50%</b>	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	<b>8</b>	
<b>% Students score more than 8 is =10</b>	<b>100%</b>	<b>Level: 3</b>
<b>A(CO) Paper No.VIII.DSE-E-72 Economics of Development</b>		
	=	<b>80% (3) +20 % (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper No.IX.DSE-E-73 International Economics-I</b>		
<b>Average Marks in External examination:</b>	26	
<b>% Students score more than 26 is =7</b>	70%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	8	
<b>% Students score more than 8 is =10</b>	100%	<b>Level: 3</b>
<b>A(CO) Paper No.IX.DSE-E-73 International Economics-I</b>		
	=	80% (3) 20%(3)
	=	2.4+0.6
	=	3

<b>Paper NO. X. : DSE-E- 74 ,Research Methodology in Economics -I</b>		
<b>Average Marks in External examination:</b>	27	
<b>% Students score more than 27 is = 07</b>	70%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	9	
<b>% Students score more than 8 is =10</b>	100%	<b>Level: 3</b>
<b>A(CO) Paper NO. X. : DSE-E- 74 ,Research Methodology in Economics -I</b>		
	=	80% (3) +20 %(3)
	=	2.4+0.6
	=	3

<b>Paper No. XI: DSE-E ,75 History of Economic Thoughts -I</b>		
<b>Average Marks in External examination:</b>	26	
<b>% Students score more than 26 is =7</b>	70%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	8	
<b>% Students score more than 8 is =10</b>	80%	<b>Level: 3</b>
<b>A(CO) Paper No. XI: DSE-E ,75 History of Economic Thoughts -I</b>		
	=	80% (3) +20 %(3)
	=	2.4+0.6
	=	3

<b>Paper XII: DSE-E-196 Principles of Micro Economics -II</b>		
<b>Average Marks in External examination:</b>	25	
<b>% Students score more than 25 is = 8</b>	80%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	9	
<b>% Students score more than 8 is =10</b>	100%	<b>Level: 3</b>
<b>A(CO) Paper XII: DSE-E-196 Principles of Micro Economics -II</b>		
	=	80% (3) +20% (3)
	=	2.4+0.6
	=	3

<b>Paper No. XIII: DSE-E- 197 Economics of Planning</b>		
<b>Average Marks in External examination:</b>	29	
<b>% Students score more than 29 is =9</b>	90%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	9	
<b>% Students score more than 8 is =10</b>	100%	<b>Level: 3</b>
<b>A(CO) Paper No. XIII: DSE-E- 197 Economics of Planning</b>		
	=	<b>80% (3) +20%(3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper .NO. XIV: DSE-E-198 International Economics-II</b>		
<b>Average Marks in External examination:</b>	29	
<b>% Students score more than 29 is=10</b>	100%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	8	
<b>% Students score more than 8 is 10</b>	100%	<b>Level: 3</b>
<b>A(CO) Paper .NO. XIV: DSE-E-198 International Economics-II</b>		
	=	<b>80% (3) +20(3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper No. XV DSE- E-199 Research Methodology-II</b>		
<b>Average Marks in External examination:</b>	29	
<b>% Students score more than 29 is=10</b>	100%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	8	
<b>% Students score more than 8 is 10</b>	100%	<b>Level: 3</b>
<b>A(CO) Paper No. XV DSE- E-199 Research Methodology-II</b>		
	=	<b>80% (3) +20(3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Paper No. XVI DSE- E-200 History of Economic Thought-II</b>		
<b>Average Marks in External examination:</b>	28	
<b>% Students score more than 28 is=10</b>	100%	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	8	
<b>% Students score more than 8 is 10</b>	100%	<b>Level: 3</b>
<b>A(CO) Paper No. XVI DSE- E-200 History of Economic Thought-II</b>		
	=	<b>80% (3) +20(3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

**Table No. 1.0: CO Attainment Level**

Course Title	Target Attainment	Course Attainment		Fully Attained/ Not Attained	Remedial Measures
		Level	Value %		
DSE E-71 Principles of Economics-I	2	90	3	Fully Attained	
DSE-E-72 Economics of Development	2	75	3	Fully Attained	
DSE-E73 International Economics	2	85	3	Fully Attained	
DSE-E74 Research Methodology in Economics-I	2	85	3	Fully Attained	
DSE-E75 History of Economic Thoughts-I	2	75	3	Fully Attained	
DSE-E196 Principles of Micro Economics-II	2	90	3	Fully Attained	
DSE-E197 Economics of planning	2	95	3	Fully Attained	
DSE-E198 International Economics-II	2	90	3	Fully Attained	

*Hence, the attainment level is Level-3 and the set target level is Level-2 , therefore the CO is fully attained.*

#### **8. The Results of PO Attainment:**

***The Results of PO attainment are provided in Annexure-B.***

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

## 8. The Results of PO Attainment:

*The Results of PO attainment are provided in Annexure-B.*

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

$$\bullet \text{ (PSO-A)} = 80\% \frac{(3+3+3+3+3+3+3+3+3+3)}{10}=3.00 + 20\% \frac{(3+3+3+3+3+3+3+3+3+3)}{10}=3,$$

80% (3.00) + 20% (3) = 6.00/2 = 3.00, i.e. Level-5, The Target Level is-3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

$$\bullet \text{ (PSO-B)} = 80\% (3)/1=3.00 + 20\% (3)/1=3,$$

80% (3.00) + 20% (3) = 6.00/2 = 3.00, i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

$$\bullet \text{ (PSO-C)} = 80\% (3+3+3+3)/4=3.00 + 20\% (3+3+3+3)/4=3,$$

80% (3.00) + 20%(3) = 6.00/2 = 3.00, i.e. Level-5, The Target Level is-3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

$$\bullet \text{ (PSO-D)} = 80\% (3+3+3+3+3+3)/6=3.00 + 20\% (3+3+3+3+3+3)/6=3.00$$

80% (3.00) + 20% (3) = 6.00/2 = 3.00, i.e. Level-5, The Target Level is L-3(3: 1.5 to 2.0), **Hence, PSO is attained.**

$$\bullet \text{ (PSO-E)} = 80\% (3+3)/2=3.00 + 20\% (3+3)/2=3,$$

80% (3) + 20% (3) = 3.00/2 = 3.00, i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

$$\bullet \text{ (PSO-F)} = 80\% (3+3+3+3)/4=3.00 + 20\% (3+3+3+3)/4=3,$$

80% (3) + 20% (3) = 6.00/2 = 3.00, i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),

**Hence, PSO is attained.**

$$\bullet \text{ (PSO-G)} = 80\% (3+3+3+3)/4=3.00 + 20\% (3+3+3+3)/4=3, 80\% (3.00) + 20\% (3) = 6.00/2=3.00, i.e. Level-5, The Target Level- 3(3: 1.5 to 2.0),$$

**Hence, PSO is attained.**





9. Planned Actions for Course Attainment:

The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.

10. Planned Actions for Program Outcome Attainment: - Not Applicable.

**ANNEXURE-B RESULTS OF CO-PO ATTAINMENT**

Sr. No	Course Title	PSO-A	PSO-B	PSO-C	PSO-D	PSO-E	PSO-F	PSO-G
1.	DSE E-71 Principles of Economics-I	3				3		
2.	DSE-E-72 Economics of Development	3			3		3	
3.	DSE-E73 International Economics	3		3	3		3	
4.	DSE-E74 Research Methodology in Economics-I	3		3				3
5.	DSE-E75 History of Economic Thoughts-I	3			3			3
6.	DSE-E196 Principles of Micro Economics-II	3				3		
7.	DSE-E197 Economics of planning	3	3		3		3	
8.	DSE-E198 International Economics-II	3		3	3		3	
9.	DSE E-71 Principles of Economics-I	3		3				3
10.	DSE-E-72 Economics of Development	3			3			3
<b>Average</b>		<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>

**Conclusion- Hence, on considering the set target levels and the attainment levels we can conclude that, the CO, PO & PSO is fully attained.**

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**KRISHNA MAHAVIDYALAYA, RETHARE BK**

**DEPARTMENT OF COMMERCE**

**COMMERCE OBE PROCESS**

**Academic Year 2021-2022**

1. Course- Program outcome Matrix: The Program Outcomes are developed through the curriculum (curricular/co-curricular extra-curricular activities). The program outcomes are attained through course implementation. As an educator, one must know, **"to which POs his/her course is contributing?"**. So that one can design the learning experiences, select teaching methods and design the tool for assessment. Hence, establishing the Course-PO matrix is an essential step in the OBE. The course-program outcomes matrix indicates the correlation between the courses and program outcomes. The CO-PO matrix is the map of the list of **courses contributing to the development of respective Pos.**

**The Template is provided in the table below**

Sr. No	Course Title	A	B	C	D	E	F	G
1.	<b>Business Environment</b>	√		√	√	√		
2.	<b>Business Regulatory Framework</b>	√	√	√	√	√	√	√
3.	<b>Modern Management Practices</b>	√		√	√	√		√
4.	<b>Co-operative Development</b>	√			√	√		
5.	<b>Advanced Accountancy I</b>	√	√		√		√	
6.	<b>Advanced Accountancy II</b>	√	√		√		√	√
7.	<b>Business Environment</b>	√		√	√	√		
8.	<b>Business Regulatory Framework</b>	√	√	√	√	√	√	√
9.	<b>Modern Management Practices</b>	√		√	√	√		√
10.	<b>Co-operative Development</b>	√			√	√		
11.	<b>Advanced Accountancy III</b>	√	√		√		√	
12.	<b>Advanced Accountancy IV</b>	√	√		√		√	√

## 2. Course Outcomes (for all courses):

The course outcomes are the statement that describes the knowledge & abilities developed in the student by the end of course (subject) teaching. The focus is on development of abilities rather than mere content. There can be 5 to 7 course outcomes of any course. These are to be written in the specific terms and not in general. The list of Course Outcomes is the part of **Annexure-C** attached herewith.

## 3. Set Target levels for Attainment of Course Outcomes:

The course outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess students' performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment are measured/calculated. In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done.

## 4. Set Target level for Attainment of Program Outcomes:

The program outcome attainment is assessed in order to track the graduates' performance w.r.t target level of performance. The CO-PO attainment is the tool used for continuous improvement in the graduates' abilities through appropriate learning & teaching strategies. In order to assess student's performance with respect to abilities (at the end of course teaching/by the end of program) the course outcome attainment and program outcome attainment is measured/calculated. The program outcome attainment is governed by curricular, co-curricular and extra-curricular activities including the stakeholders' participation. The direct method and indirect method is adopted to calculate the PO attainment. **The direct method implies the attainment by course outcomes contributing to respective program outcomes. And indirect method is the satisfaction/feed-back survey of stakeholders.** In order to calculate the program outcome attainment, the course outcome attainment is calculated. Prior to that, the course-program outcome mapping is done. The set target level is the set benchmark to ensure continuous improvements in the learners/ graduates' performance.

## 5. Course Attainment Levels:

- a) CO attainment is defined/set at three levels;
- b) The CO attainment is based on end term examination assessment and internal assessment;

c) The Co attainment is defined at three levels in ascending order

i. e.g. For end term and internal examination;

Sr. No	Level	CO Attainments
1.	Level-1:	30% students scored more than class average
<b>2.</b>	<b>Level-2:</b>	<b>40% students score more than class average</b>
3.	Level-3	50% students score more than class average

. The target level is set (e.g. Level-2). It indicates that, **the current target is level-2; 40% of students score more than class average.** The CO attainment is measured and the results are obtained. Based on the results of attainment, the corrective measures/remedial action are taken.

e. CO Attainment= 80% (Attainment level in end term examination) + 20% (Attainment level in internal examination)

#### 6. Program attainment Level:

a. PO attainment is defined at five levels in ascending order;

b. **The PO attainment is based on the average attainment level of corresponding courses (Direct Method) and feed-back survey (Indirect method);**

c. The PO attainment levels are defined/set as stated below;

Sr. No	Level	PO Attainments
1.	Level-1:	Poor: Greater than 0.5 and less than 1.0 (0.5>1
2.	Level-2:	Average: 1.0 to 1.5
3.	<b>Level-3</b>	<b>Good: 3: 1.5 to 2.0</b>
4.	Level-4	Very Good: 2.0 to 2.5
5.	Level-5	Excellent: 2.5 to 3.0

d. The PO attainment target level is set/defined (say, Level-4). It implies that, the department is aiming at minimum level-4 (very good) in the performance of abilities by the graduates. Based upon the results of attainment, the remedial measures are taken;

e. PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

**7. The Results of CO Attainment: The Results of CO Attainment is provided in Annexure-B**

FOR EXAMPLE COURSE CODE/TITLE: **Business Environment**

e.g. For end-term and internal examination;

- i. Level-1: 30% students scored more than class average
- ii. Level-2: 40% students score more than class average;
- iii. Level-3: 50% students score more than class average

<b>Business Environment</b>		
Average Marks in External examination:	27	
% Students score more than 27 is = 27	62.79	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =36	81.82	Level: 3
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Business Regulatory Framework</b>		
Average Marks in External examination:	25	
% Students score more than 25 is = 27	62.791	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =20	45.455	Level: 3
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Modern Management Practices</b>		
Average Marks in External examination:	23	
% Students score more than 23 is =29	67.44	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =23	52.27	Level: 3
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Co-operative Development</b>		
Average Marks in External examination:	29	
% Students score more than 29 is = 29	67.442	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is = 36	81.818	Level: 3
	=	80% (3) +20 (3)

	=	2.4+0.6
	=	3

Advanced Accountancy I		
Average Marks in External examination:	31	
% Students score more than 31 is =31	72.09	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =18	40.91	Level: 3
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

Advanced Accountancy II		
Average Marks in External examination:	29	
% Students score more than 29 is =29	67.442	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =18	40.909	Level: 3
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

Business Environment		
Average Marks in External examination:	27	
% Students score more than 27 is =27	62.79	Level: 3
Average Marks in Internal examination	8	
% Students score more than 8 is =36	81.82	Level: 3
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

Business Regulatory Framework		
Average Marks in External examination:	20	
% Students score more than 20 is = 22	51.163	Level: 3
Average Marks in Internal examination	10	
% Students score more than 10 is = 13	29.545	Level: 3
	=	80% (3) +20 (3)
	=	2.4+0.6
	=	3

<b>Modern Management Practices</b>		
<b>Average Marks in External examination:</b>	25	
<b>% Students score more than 25 is =24</b>	55.81	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	9	
<b>% Students score more than 9 is = 44</b>	100	<b>Level: 3</b>
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Co-operative Development</b>		
<b>Average Marks in External examination:</b>	22	
<b>% Students score more than 22 is = 26</b>	60.465	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	8	
<b>% Students score more than 8 is = 44</b>	100	<b>Level: 3</b>
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Advanced Accountancy III</b>		
<b>Average Marks in External examination:</b>	21	
<b>% Students score more than 21 is = 28</b>	65	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	9	
<b>% Students score more than 9 is = 44</b>	100	<b>Level: 3</b>
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

<b>Advanced Accountancy IV</b>		
<b>Average Marks in External examination:</b>	22	
<b>% Students score more than 22 is = 23</b>	53.488	<b>Level: 3</b>
<b>Average Marks in Internal examination</b>	8	
<b>% Students score more than 8 is = 44</b>	100	<b>Level: 3</b>
	=	<b>80% (3) +20 (3)</b>
	=	<b>2.4+0.6</b>
	=	<b>3</b>

Hence, the attainment level is Level-3 and the set target level is Level-2 and therefore the CO is Fully attained.

**Table No. 1.0: CO Attainment Level**

Course Title	Course Attainment Value	Target Attainment Level	Fully Attained/ Not Attained	Remedial Measures
Business Environment	3	2	Fully Attained	
Business Regulatory Framework	3	2	Fully Attained	
Modern Management Practices	3	2	Fully Attained	
Co-operative Development	3	2	Fully Attained	
Advanced Accountancy I	3	2	Fully Attained	
Advanced Accountancy II	3	2	Fully Attained	
Business Environment	3	2	Fully Attained	
Business Regulatory Framework	3	2	Fully Attained	
Modern Management Practices	3	2	Fully Attained	
Co-operative Development	3	2	Fully Attained	
Advanced Accountancy III	3	2	Fully Attained	
Advanced Accountancy IV	3	2	Fully Attained	

**8.The Results of PO Attainment:**

The Results of PO attainment are provided in Annexure-B

FOR EXAMPLE: PO NO.: a (Note: Refer to point No. 11 above which describes the attainment level and set target attainment level).

PO Attainment= 80% (Average attainment level by direct method) + 20% (Average attainment level by indirect method).

(PSOs-A) =  $80\% (3+3+3+3+3+3+3+3+3+3+3+3)/12 + 20\% (3+3+3+3+3+3+3+3+3+3+3+3)/12 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. . The Target Level is Level-5.  
Hence the course level is attained

(PSOs-B) =  $80\% (3+3+3+3+3+3)/06 + 20\% (3+3+3+3+3+3)/06 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3.



(PSOs-C) =  $80\% (3+3+3+3+3+3)/06 + 20\% (3+3+3+3+3+3)/06 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3. Hence the course level is attained

(PSOs-D) =  $80\% (3+3+3+3+3+3+3+3+3+3+3+3)/12 + 20\% (3+3+3+3+3+3+3+3+3+3+3+3)/12 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. . The Target Level is Level-3. Hence the course level is attained

(PSOs-E) =  $80\% (3+3+3+3+3+3+3+3)/08 + 20\% (3+3+3+3+3+3+3+3)/08 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. . The Target Level is Level-3 Hence the course level is attained.

(PSOs-F) =  $80\% (3+3+3+3+3+3)/06 + 20\% (3+3+3+3+3+3)/06 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3. Hence the course level is attained

(PSOs-G) =  $80\% (3+3+3+3+3+3)/06 + 20\% (3+3+3+3+3+3)/06 = 80\% (3) + 20\% (3) = 3$  i.e. Level-5. The Target Level is Level-3. Hence the course level is attained

Table No. 2.0 PSO Attainment Level

PO/PSO Number	PO/PSOs Attainment Value	Target Attainment		Fully Attained/ Not Attained	Remedial Measures
		Level	Value		
POs-A	3	5	3	Fully Attained	
POs-B	3	5	3	Fully Attained	
POs-C	3	5	3	Fully Attained	
POs-D	3	5	3	Fully Attained	
POs-E	3	5	3	Fully Attained	
POs-F	3	5	3	Fully Attained	
POs-G	3	5	3	Fully Attained	

#### 9. Planned Actions for Course Attainment:

The courses for which the level attained is less than Level-2, the remedial measures will be taken in plan way that includes, tutorial, assignments, field work and remedial coaching.

#### 10. Planned Actions for Program Outcome Attainment:

**Not Applicable.**

## ANNEXURE-B RESULTS OF CO-PO ATTAINMENT

Sr. No	Course Title	PSO-A	PSO-B	PSO-C	PSO-D	PSO-E	PSO-F	PSO-G
1.	<b>Business Environment</b>	3		3	3	3		
2.	<b>Business Regulatory Framework</b>	3	3	3	3	3	3	3
3.	<b>Modern Management Practices</b>	3		3	3	3		3
4.	<b>Co-operative Development</b>	3			3	3		
5.	<b>Advanced Accountancy I</b>	3	3		3		3	
6.	<b>Advanced Accountancy II</b>	3	3		3		3	3
7.	<b>Business Environment</b>	3		3	3	3		
8.	<b>Business Regulatory Framework</b>	3	3	3	3	3	3	3
9.	<b>Modern Management Practices</b>	3		3	3	3		3
10.	<b>Co-operative Development</b>	3			3	3		
11.	<b>Advanced Accountancy III</b>	3	3		3		3	
12.	<b>Advanced Accountancy IV</b>	3	3		3		3	3
<b>Average</b>		3	3	3	3	3	3	3

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