

(Autonomous)

Karakambadi Road, Opposite LIC Training Centre, Tirupati – 517 507. Accredited by NBA (B.Tech - CSE, ECE, EEE, Mech., Civil and IT) & NAAC with 'A' Grade Approved by AICTE, New Delhi permanently affiliated to JNTUA, Ananthapuramu.

#### **CO ATTAINMENT TOOLS:**

#### **Assessment Tools for CO attainment:**

A. Direct assessment tools: 40% Internal Examinations and Assignments

60% End Examinations.

**B.** Indirect assessment tools: Course End Surveys

**CO ATTAINMENT =80%** of Direct Assessment Tools + 20% Indirect Assessment Tools

#### **CO Attainment Process:**

**Direct Assessment Tools**: The description of evaluation process for CO attainment through Direct Assessment Tool is explained below:

#### **Mid Semester Examination Evaluation:**

For theory subjects, during the semester, there shall be two mid semester examinations. The Internal marks shall be evaluated for 40 marks of which 30 marks for mid semester examinations and 10 marks for assignment. The syllabus of the first mid examination covers 40 % of the total course content. The second mid examination is conducted before the end semester examination with the remaining 60% syllabus.

#### **End Examination:**

End examination of theory subjects shall have the following pattern

- There shall be 6 questions and all questions are compulsory.
- Question 1 shall contain 5 compulsory short answer questions for a total of 10 marks, each question carries 2 marks. There shall be 1 short answer question from each unit.
- In each of the questions from 2 to 11, there shall be either or type questions of 10 marks each. Student shall answer any one of them.
- The questions from 2 to 11 shall be set by covering one unit of the syllabus for each question.

Complete syllabus is covered in this examination. Major weightage of marks is given to this component.

#### **Practical Subjects:**

For practical courses, there shall be a continuous evaluation during the semester for 40 marks (Internal) and End examination shall be for 60 marks. Day-to-day work in the laboratory shall be evaluated for 30 marks by the concerned laboratory faculty based on the regularity, viva, observation & record and 10 marks for internal exam.

#### **Summer Internship / Mini Project:**

There shall be one mini project at the end of VI semester. This is to be registered during VI Semester taken up during the summer vacation, for a period of four weeks duration. A report/dissertation certified in the prescribed format by the concerned Supervisor and HOD shall be submitted to the Department. The viva voce shall be conducted by a committee consisting of Head of the Department, project supervisor and a senior faculty member of the department constituted by the Principal/Controller of Examinations and it should be evaluated for 100 marks. There shall be no internal marks for mini project. The mini project shall be evaluated at the end of the VII Semester.

#### **Project Work:**

**Procedure and Evaluation of Project Stage – I:** 



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It shall be evaluated for 50 marks. A student shall acquire 2 credits, when he/she secures 40% or more marks for the total of 50 marks. It will be evaluated at the end of VII semester by PEC.

#### • Procedure and Evaluation of Project Stage – II:

Project work shall start in VII Semester and continue in the VIII Semester. The evaluation of project is as follows.

Out of 200 marks for the Project stage-II, 60 marks for Internal Evaluation and 140 marks for the end semester examination (viva-voce) shall be awarded.

#### • Technical Seminars:

The technical Seminar evaluated for 40 marks, is based on the report and presentation shall be evaluated by the departmental committee consisting of Head of the Department, technical seminar supervisor and a senior faculty member.

#### **Indirect Assessment Tool:** Course End Survey.

• **Process:** At the end of semester feedback is collected through offline and calculate the weighted average as mentioned below:

$$CES = \frac{Gx3 + Ax2 + Sx1}{T}$$

G: Total Number of Students gave GOOD.

A: Total Number of Students gave Moderate.

S: Total Number of Students gave Satisfactory.

T: Total Number of Students.

#### **Step1: Direct Assessment:**

 Measurement of Course attainment levels for Internal Examinations (Mid Semester Examination and Assignments):

$$Assignment\ Level = \ \left(\frac{\text{No. of students secured more than 60\%}}{\text{No.of Students attemped}} * 0.03\right)$$

$$\%\ Assignment = \left(\frac{\text{No. of students secured more than 60\%}}{\text{No.of Students attemped}} * 100\right)$$

$$Course\ Level = \left(\frac{\text{No. of students secured more than 60\%}}{\text{No.of Students attemped}} * 0.03\right)$$

$$\%\ Course = \left(\frac{\text{No. of students secured more than 60\%}}{\text{No.of Students attemped}} * 100\right)$$

• Measurement of Course attainment levels for End Examinations:

Course Level = 
$$\left(\frac{\text{No. of students secured more than 60\%}}{\text{No.of Students attemped}} * 0.03\right)$$
  
% Course =  $\left(\frac{\text{No. of students secured more than 60\%}}{\text{No.of Students attemped}} * 100\right)$ 

Overall Direct Assessment includes both Mid Semester and End Examinations

**Direct Assessment =40%** of Internal Semester Examination + 60% End Examinations.



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**Step2: Indirect Assessment:** 

**Tools:** Course End Survey

**Process:** Collect the feedback and calculate the weighted average as mentioned below

$$CES = \frac{Gx3 + Ax2 + Sx1}{T}$$

G: Total Number of Students gave GOOD.

A: Total Number of Students gave Moderate.

S: Total Number of Students gave Satisfactory.

**T: Total** Number of Students.

Step3: Overall Course Outcome Attainment including Direct and Indirect Survey:

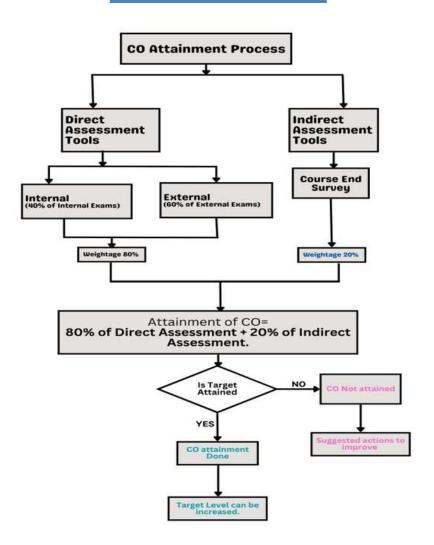
CO ATTAINMENT =80% of Direct Assessment Tools + 20% Indirect Assessment Tools



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#### **CO ATTAINMENT PROCESS**





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### **Sample CO Attainment**

### **Course: Python Programming**

Course Name:	Python Programming	
Course Code:	IT20APC301	C215
L:T:P	3-0-0	
Year/Semester	II-I B.Tech	
Credits:	3	
Batch:	2020-2024	

### CO mapping with Internal Question Paper, External Question Paper and Assignments:

	COURSE OUTCOMES	Mid 1	Mid 2	Assignment	External Examination
C215.1	<b>Apply</b> the features of Python language in various applications.	Q1,Q2,Q3		1	Q1a,Q2,Q3
C215.2	<b>Apply</b> Python programs using functions and modules to increase code readability and maintainability.	Q4,Q5,Q6		2	Q1b,Q4,Q5
C215.3	<b>Illustrate</b> appropriate core data structures such as lists, tuples, dictionaries, and sets.		Q1,Q2	3	Q1c,Q6,Q7
C215.4	Analyze the importance of exception handling for building robust and error-free Python programs.		Q3,Q4	4	Q1d,Q8,Q9
C215.5	<b>Summarize</b> OOP principles such as classes, objects, inheritance, polymorphism, and encapsulation.		Q5,Q6	5	Q1e,Q10,Q11



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### **Question-wise Distribution of marks obtained in Mid Semester Examination and Assignments:**

S.N				Te						Tes	st 2				Ass	ignme	ents	
0.	Reg. No.	Q. 1	Q. 2	Q. 3	Q. 4	Q. 5	Q. 6	Q. 1	Q. 2	Q. 3	Q. 4	Q. 5	Q. 6	A1	A2	A3	A4	A5
Ma	x. Marks	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
	∕₀ Marks	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
1	20BF1A0 501	0	5	0	0	0	9	0	0	0	0	0	0	10	10	10	10	10
2	20BF1A0 502	10		8		7	7	7		8		6		10	10	10	10	10
3	20BF1A0 503	10		7		8	7	6		6		6		10	10	10	10	10
4	20BF1A0 504	8		8			8	6		6			6	10	10	10	10	10
5	20BF1A0 505		9		8		8		9		8		7	10	10	10	10	10
6	20BF1A0 506		8		8		8		7		8			10	10	10	10	10
7	20BF1A0 507	7		6			6	5		4			4	10	10	10	10	10
8	20BF1A0 508	10			9	9	9	6			6	6		10	10	10	10	10
9	20BF1A0 509	10		8		9	8	8		6		8		10	10	10	10	10
10	20BF1A0 510	9			9		9	7			7		6	10	10	10	10	10
11	20BF1A0 511		9		10		10		8		8		9	10	10	10	10	10
12	20BF1A0 512		6	7		6	7		4	3		3		10	10	10	10	10
13	20BF1A0 513	9			9	9	9	9			9			10	10	10	10	10
14	20BF1A0 514	9			9	9	9	3			3	2		10	10	10	10	10
15	20BF1A0 515	10			9	10	9	7			8	7		10	10	10	10	10
16	20BF1A0 516	10			9		9	10			9		9	10	10	10	10	10
17	20BF1A0 517	8			7		7	4					3	10	10	10	10	10
18	20BF1A0 518	8			9		9	7			7		10	10	10	10	10	10
19	20BF1A0 519			7			7		4	4			4	10	10	10	10	10
20	20BF1A0 520		9		9		9		6		5		5	10	10	10	10	10
21	20BF1A0 521		5				6		3				6	10	10	10	10	10
22	20BF1A0 522	0	0	9	0	0	9	0	0	0	0	0	0	10	10	10	10	10
23	20BF1A0 523	6		6		5	6	3		3		3		10	10	10	10	10
24	20BF1A0 524		6		6	5	6		2		3	3		10	10	10	10	10
25	20BF1A0 525	9			8		8	7			7		8	10	10	10	10	10



26	20BF1A0 526	8		9			8	7		6			5	10	10	10	10	10
27	20BF1A0 527	8		8		8	8	3		3		3		10	10	10	10	10
28	20BF1A0 528	10			9		9	7			7		8	10	10	10	10	10
29	20BF1A0 529	10			10		10	10			10		10	10	10	10	10	10
30	20BF1A0 530	10			0		0	10			5			10	10	10	10	10
31	20BF1A0 531		8		8		8		10		10			10	10	10	10	10
32	20BF1A0 532		8		7		7		4					10	10	10	10	10
33	20BF1A0 533	6		6		4	6	8						10	10	10	10	10
34	20BF1A0 534	10			9		8	10					10	10	10	10	10	10
35	20BF1A0 535	0	4	0	8	0	8	0	0	0	0	0	10	10	10	10	10	10
36	20BF1A0 536	9			8		8	10			5			10	10	10	10	10
37	20BF1A0 537		10		10		10		10		10		10	10	10	10	10	10
38	20BF1A0 538		9		8		8		9		8			10	10	10	10	10
39	20BF1A0 539	0	0	0	6	0	7	1			8			10	10	10	10	10
40	20BF1A0 540	0			0		0	10						10	10	10	10	10
41	20BF1A0 541	10		9			8	9		7				10	10	10	10	10
42	20BF1A0 542		6	6			6		9					10	10	10	10	10
43	20BF1A0 543	0	0	0	6	0	7	1			7			10	10	10	10	10
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45	20BF1A0 545		10		9		9		10		9			10	10	10	10	10
46	20BF1A0 546	10		10		10		10		10		10		10	10	10	10	10
47	20BF1A0 547	7			9	8	9	7			9	3		10	10	10	10	10
48	20BF1A0 548	7		6			6	10						10	10	10	10	10
49	20BF1A0 549	3		9			9	10			1			10	10	10	10	10
50	20BF1A0 550		10	10			10		10	10			10	10	10	10	10	10
51	20BF1A0 551	10		10			10	10		10			10	10	10	10	10	10
52	20BF1A0 552		6		8		7		9		3			10	10	10	10	10
53	20BF1A0 553		10		9		8		10		9		10	10	10	10	10	10
54	20BF1A0 554	5					5	9					5	10	10	10	10	10



55	20BF1A0		9		8		8		10		10		5	10	10	10	10	10
56	555 20BF1A0		10	10			10		10	10			3	10	10	10	10	10
57	556 20BF1A0 557	10			10		10	10			10		10	10	10	10	10	10
58	20BF1A0 558		5	5			4		10					10	10	10	10	10
59	20BF1A0 559	10			10		10	10			10		10	10	10	10	10	10
60	20BF1A0 560	5	0	8	0	0	8	2					9	10	10	10	10	10
61	20BF1A0 561		10	6			8		10	5				10	10	10	10	10
62	20BF1A0 562		10	7			7		10	9				10	10	10	10	10
63	20BF1A0 563	10			10		10	10			10		5	10	10	10	10	10
64	20BF1A0 564		10		9		9		10		9			10	10	10	10	10
65	20BF1A0 565	8			8		8	10			1			10	10	10	10	10
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68	20BF1A0 568	10		10			10	10		10			10	10	10	10	10	10
69	20BF1A0 569	10			9		9	10			9		2	10	10	10	10	10
70	20BF1A0 570		6		7		8		9		6			10	10	10	10	10
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72	20BF1A0 572	8				8	7	8						10	10	10	10	10
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74	20BF1A0 574	8		7		7		9		9				10	10	10	10	10
75	20BF1A0 575	4		4			5	8						10	10	10	10	10
76	20BF1A0 576	10			9	10		10			9	10		10	10	10	10	10
77	20BF1A0 577	8		7			7	9		7			6	10	10	10	10	10
78	20BF1A0 578	8		9			9	10		10			5	10	10	10	10	10
79	20BF1A0 579 20BF1A0	9		10			10	9		9		8		10	10	10	10	10
80	580 20BF1A0		6		5		5		8					10	10	10	10	10
81	581 20BF1A0		3		5		5		8					10	10	10	10	10
82	582 20BF1A0		10		9		10		10		9	10		10	10	10	10	10
83	583		10	10		9			10	10		9		10	10	10	10	10



84	20BF1A0 584	10			10		10	10			10		10	10	10	10	10	10
85	20BF1A0 585		8		9		9		8		9		8	10	10	10	10	10
86	20BF1A0 586	9			9		10	9			10	10	-	10	10	10	10	10
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88	20BF1A0 588		8		8		8		8		8			10	10	10	10	10
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90	20BF1A0 590	10			9		9	10			9		10	10	10	10	10	10
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101	20BF1A0 5A1	10			9		9	10			9		9	10	10	10	10	10
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104	20BF1A0 5A4		9		10		10		9		9		10	10	10	10	10	10
105	20BF1A0 5A5		10		10		10		10		10		10	10	10	10	10	10
106	20BF1A0 5A6	9			4	4		9						10	10	10	10	10
107	20BF1A0 5A7	9		10		10	10	9		10		10		10	10	10	10	10
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113	20BF1A0 5B3	8		9			9	8		9			9	10	10	10	10	10
114	20BF1A0 5B4		9			9		8		-			-	10	10	10	10	10
115	20BF1A0 5B5	9			10		10	9			9		10	10	10	10	10	10
116	20BF1A0 5B6		8		9		9		8		9		10	10	10	10	10	10
117	20BF1A0 5B7		10			9	8		10	10		5		10	10	10	10	10
118	20BF1A0 5B8		9		10		9		9		8		10	10	10	10	10	10
119	20BF1A0 5B9	8			8		9	10			9	9		10	10	10	10	10
120	20BF1A0 5C0	5			5		0	5						10	10	10	10	10
121	20BF1A0 5C1	9		10			10	8		8			8	10	10	10	10	10
122	20BF1A0 5C2	9			10		10	9			10		10	10	10	10	10	10
123	20BF1A0 5C3	0	0	0	0	0	0	9					10	10	10	10	10	10
124	20BF1A0 5C4	8		7			7	8		10			10	10	10	10	10	10
125	20BF1A0 5C5		10		10		9	10			8	8		10	10	10	10	10
126	20BF1A0 5C6		10		7		7		10		9		9	10	10	10	10	10
127	20BF1A0 5C7	8			7		7	8			7	8		10	10	10	10	10
128	20BF1A0 5C8	9			10		10	9			8		8	10	10	10	10	10
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130	20BF1A0 5D0		9		10		10		9		9		10	10	10	10	10	10
131	20BF1A0 5D1		10		10		10		9		9		10	10	10	10	10	10
132	20BF1A0 5D2	7		8			8	10		10			10	10	10	10	10	10
133	20BF1A0 5D3	8		8			9	8		10		10		10	10	10	10	10
134	20BF1A0 5D4		10		10		10		8		10		10	10	10	10	10	10
135	20BF1A0 5D5	0	1	0	8	0	8	1					10	10	10	10	10	10
136	20BF1A0 5D6		6		7		8		6		6		7	10	10	10	10	10
137	20BF1A0 5D7		9		9		10		8		8			10	10	10	10	10
138	20BF1A0 5D8	10			10	9		10			10	9		10	10	10	10	10
139	20BF1A0 5D9		6		6		6		6		6		3	10	10	10	10	10
140	20BF1A0 5E0	0	0	0	0	0	8				1		8	10	10	10	10	10
141	20BF1A0 5E1	9			9		9	9			9			10	10	10	10	10



142	20BF1A0													10	10	10	10	10
143	5E2 20BF1A0	10		10			10	10				10	8	10	10	10	10	10
144	5E3 20BF1A0		9		9 8	9 7	9		9		9			10	10	10	10	10
145	5E4 20BF1A0	9			10	,	10		9		9			10	10	10	10	10
146	5E5 20BF1A0	,	9		6		6	9			9		9	10	10	10	10	10
	5E6 20BF1A0	0	9						9									
147	5E7 20BF1A0	9	0		9		9	9			6			10	10	10	10	10
148	5E8 20BF1A0		8		7				9		3			10	10	10	10	10
149	5E9 20BF1A0		9		9		5		9		9			10	10	10	10	10
150	5F0 20BF1A0		8		8	8	8		8		8			10	10	10	10	10
151	5F1	5	0	0	5	0	6				1		6	10	10	10	10	10
152	20BF1A0 5F2		9		9		9		9		9			10	10	10	10	10
153	20BF1A0 5F3		9		9	9	9		9		9	9		10	10	10	10	10
154	20BF1A0 5F4		8		9				8		3			10	10	10	10	10
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160	20BF1A0 5G0	10		9			9	10		9			5	10	10	10	10	10
161	20BF1A0 5G1		9		9	9		-10	9		9			10	10	10	10	10
162	20BF1A0 5G2		9		10		10		9		9		9	10	10	10	10	10
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165	20BF1A0 5G5		9		9	9	9		9		9		2	10	10	10	10	10
166	20BF1A0		9		9		9							10	10	10	10	10
167	5G6 20BF1A0	10			8		8		9		10		0	10	10	10	10	10
168	5G7 20BF1A0	*	9		9	9	9	8	_		8		8	10	10	10	10	10
169	5G8 20BF1A0	9		9			10		9		9		2	10	10	10	10	10
	5G9 20BF1A0			, ,	0			9		9								
170	5H0	9			9		9	9			9		9	10	10	10	10	10



171	20BF1A0 5H1	7	0	0	7	0	8	0	0	0	0	0	0	10	10	10	10	10
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173	20BF1A0 5H3	6	0	6	0	0	7	5			7		8	10	10	10	10	10
174	20BF1A0 5H4		8		8		8		8		2			10	10	10	10	10
175	20BF1A0 5H5	9		9		9	9	9		10				10	10	10	10	10
176	20BF1A0 5H6	6			6		7	8			3			10	10	10	10	10
177	20BF1A0 5H7		9		9		9		9		9			10	10	10	10	10
178	20BF1A0 5H8		8	8			8		8	2				10	10	10	10	10
179	20BF1A0 5H9	9			8	9	8	9			8			10	10	10	10	10
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182	20BF1A0 5I2	9					0	4						10	10	10	10	10
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191	20BF1A0 5J1		8		8		8		8					10	10	10	10	10
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194	21BF5A0 501	5		5			5	8		3				10	10	10	10	10
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199	21BF5A0 506	9			9		10	9			9		2	10	10	10	10	10



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207	21BF5A0 514	9			9	9	9	9			8	3		10	10	10	10	10
208	21BF5A0 515		9		9		9		9		9		6	10	10	10	10	10
209	21BF5A0 516	9			7		7	6		1				10	10	10	10	10
210	21BF5A0 517	7			5		4	8			6			10	10	10	10	10
211	21BF5A0 518	8			8		8	9					5	10	10	10	10	10
Numb	er of													211	211	211	211	211
studen	nts	21	10	73	14	63	19	12	91	56	12	43	86					
attemp		1	3	'3	5	0.5	6	3	91	50	7	43	00					
questi	on																	
Numb	er of	10			12		17	10			10			211	211	211	211	211
studen	nts scoring	10	86	57	12 5	44	6	4	82	40	10 5	27	63					
	than 60%	L 1					0											
% CO	Assesment	82. 8	83. 5	78. 1	86. 2	69. 8	89. 8	84. 6	90. 1	71. 4	<b>82.</b> 7	62. 8	73. 3	100 .0	100 .0	100 .0	100 .0	100 .0
CO As	ssesment	2.4 8	2.5 0	2.3 4	2.5 9	2.1 0	2.6 9	2.5 4	2.7 0	2.1 4	2.4 8	1.8 8	2.2	3.00	3.00	3.00	3.00	3.00



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### **Question-wise Distribution of Marks obtained in End Examinations:**

S.No	D. M		Sho	rt Ans	wers						Essay	Ansv	vers			
	Reg. No.	1a	1b	1c	1d	1e	Q.2	Q.3	Q.4	Q.5	Q.6	<b>Q.</b> 7	Q.8	Q.9	Q.10	Q.11
Ma	x. Marks	2	2	2	2	2	10	10	10	10	10	10	10	10	10	10
600	% Marks	1	1	1	1	1	6	6	6	6	6	6	6	6	6	6
1	2215305001	2	2	1	0.5	0.5		7	7		5	5	0	5		2
2	2215305002	2	2	2	1	2	10		10		9		10	8	9	
3	2215305003	2	2	2	1	1	10		9		9	9		8	9	
4	2215305004	1	1	2	1	2		9	10		9		10		10	
5	2215305005	2	0	2	0.5	0.5	8		7		9		7		0	
6	2215305006	0		0		0		3	1		3			0		0
7	2215305007	2	2	2	1	1	1.0	7	10		10		1.0	8	9	
8	2215305008	2	2	2	1	2	10	8	10		10	-	10		9	
9	2215305009	0	0	0.5	0	0	10	0.5	10	0	0	0	10	0	10	
10	2215305010	2	2	1	1	1	10		10	0	10	10	10		10	
11	2215305011 2215305012	2	2 2	2	1	2	10		9	8	9	10	10	9	9	6
13	2215305012	2	1	2	1	1	5	8	4	9	5		10	6	8	0
14	2215305013	2	1	2	1	2	10	0	10		10		10	0	10	
15	2215305014	2	2	2	1.5	1.5	10		10		10		10		10	6
16	2215305016	2	2	2	1.3	1.3	9	5	7		8		10	9	10	7
17	2215305017	2	2	2	1	2	9	,	7		8		9		10	
18	2215305017	2	2	2	1	2	9		10		10		10		9	
							-						<u> </u>			
19	2215305019	2	2	2	1	1	8	0	7		5		8		8	
20	2215305020	2	2	2	1	0	1	8	5		5	2	6	2	5	4
21	2215305021	_	_	_	0	0	3		0		0		_	0	_	
22	2215305022	2	2	2	1	1	7		10		8		8		8	
23	2215305023	1	1	1	1	1	8	5		7	9			8	10	
24	2215305024	2	1	1	0	1	5		1		4		8		4	
25	2215305025	2	2	2	0	1	6		8		1	10	9		8	
26	2215305026	2	2	1	1	1	9		7	10	6		8		8	
27	2215305027	2	2	2	1	2	10		10		8		10		9	
28	2215305028	2	0	0	1	1	3		6		4		4	4	2	6
29	2215305029	1	2	2	0	1	7		7		6		6			5
30	2215305030	2	2	2	1	1	8		9		10		9			8
31	2215305031	2	2	1	1	2	9		8		10		9		10	
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33	2215305033	2	2	2	1	1	7			6	7		8			9
34	2215305034	2	2	2	1	1	10		10		9		10		10	
35	2215305035	1	2	2	1	1	7		5		9			9	8	
36	2215305036	2	2	2	1	1	10		10		10			8	8	
37	2215305037	2	2	2	1	2	8		9	7	10		10		10	
38	2215305037	1	2	2	1	1	<del>                                     </del>	7	10	,	8		1	8		6



39	2215305039	2	2	2	2	1	9		10		6		9		10	8
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43	2215305043	2	2	2	1	1	10		10		10		10		9	
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46	2215305046	2	2	2	1	1		6	8		10			8		
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48	2215305048	2	2	1	0	1	8			4	7			8	6	
49	2215305049	2	2	1	1	1		7	10		6			8	3	
50	2215305050	2	2	2	0.5	0.5	7		4		7		8		1	
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52	2215305052	0.5	0	1	0	0	2			1	0			2	1.5	
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57	2215305057	2	2	2	1	1		9		9	7			6	2	
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59	2215305059	2	2	2	1	1		6	9			7	2			2
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91	2215305091	0	2	2	0	0	9		7		6		2	4		2
92	2215305092	2	2	2	1	1	7			3	10		10		9	0
93	2215305093	2	2	2	1	1	9		10		10		9		10	
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98	2215305098	0		1	0		3		8		2					
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102	2215305102	1	1	2	1	1	10	5	9		10			8	9	
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104	2215305104	2	2	1	1	1	8		10		8			5		2
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106	2215305106	0	2	2	1	2	10		10		8			5	8	
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142	2215305142	1	2	2	1	1	9		9		6		6			6
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151	2215305151	2	1	1	1	1	9				8			7	7	
152	2215305152	1	0	2	1	1	9		5		9		5		8	3
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154	2215305154	1	1	1	1	1	6		5		3			2	1	
155	2215305155	1	2	1	2	2	9		9		9		9	7	9	6
156	2215305156	2	2	2	1	1	7		1		9		9		8	
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158	2215305158	0	2	1	1	1	9			4		5	1			
159	2215305159	2	2	1	1	1	10		7		9		9			6
160	2215305160	2	2	2	1	1	10		7		9			8		5
161	2215305161	2	2	2	2	2	8	4	8		8			8		4
162	2215305162	2	2	2	2	2	9		8	9	8		8		8	
163	2215305163	2	2	2	2	2	7		7		7			4	6	3
164	2215305164	2	1	2	1	1	7	6			7			2	6	



165	2215305165	2	2	2	2	2	9		8			8	9		9	
166	2215305166	0	0	0	0	0	4	4	4		4		1		0	
167	2215305167	2	2	2	2	2	10		10		9	8		8	9	
168	2215305168	2	2	2	1	1	8	3	8		7		3	4		3
169	2215305169	0	2	2	2	2	8		7		5			8	8	
170	2215305170	2	2	1	1	1		6	5	2	7			8	4	
171	2215305171	2	2	2	2	2	8		6		7			3		3
172	2215305172	2	2	2	2	2	10		8		7		9		9	
173	2215305173	0	0	0	1	0	4		3			1		1		1
174	2215305174	2	2	2	2	2		6	9		5	8	8			8
175	2215305175	2	2	2	2	2	10		10		10		9		8	
176	2215305176	1	2	1	1	2	5		2	1	3			1		4
177	2215305177	2	2	2	2	2	10		8		8	10	6	6	7	7
178	2215305178		2	2			6		3		8					
179	2215305179	2	2	2	2	2	8		8		8		9	6	8	4
180	2215305180	2	2	2	2	2	9		8			8	6		8	
181	2215305181	2	2	2	2	2	10		9		9			8	9	
182	2215305182	2	2	2	2	2	10		4	7	7		9		9	6
183	2215305183	2	2	2	2	2	8		8		7		8		8	6
184	2215305184	2	2	2	2	2		10	9		8			9		9
185	2215305185	2	2	2	2	2	8		6		8		2	9	8	6
186	2215305186	2	2	2	2	2	8	4	8		8			9	8	
187	2215305187	2	2	2	2	2	8		8		7			8	6	
188	2215305188	2	2	2	2	2		8	7		6			6		8
189	2215305189	1	2	2	2	2		7		8	7	6	6		8	
190	2215305190	2	2	2	2	2	8	7	6		7		8		7	6
191	2215305191	2	2	2	2	2	8		8		8		9	8	9	
192	2215305192	2	2	2	2	2	7	4	7		7		8		2	
193	2215305193						8	8	3	3	3	3				7
194	2215305194	0	2	2	2	2	8	4	7		6		8			6
195	2215305195	2	2	2	2	2	8		4		7		8		8	4
196	2215305196	2	2	2	2	2	7		7	6	7	7		8		6
197	2215305197	2	2	2	2	2	10		10		8			9	9	9
198	2215305198	2	2	2	2	2	10		9		9		9		9	
199	2215305199	2	2	2	2	2	10			5	9		9		9	
200	2215305200	2	2	2	2	2	10	6	9		8		9		9	6
201	2215305201	2	2	2	2	2	9		6		7		6	7	8	
202	2215305202	1	1	2	1	1	7		6		7		4		4	
203	2215305203	2	2	2	2	2	8		8		8		8	6	8	
204	2215305204	2	2	2	2	2	9		8		8		8			8
205	2215305205	2	2	2	2	2	7		8		7		8		8	
206	2215305206	2	2	2	2	2	8		6		6		3		3	



# SRI VENKATESWARA COLLEGE OF ENGINEERING (Autonomous) Karakambadi Road, Opposite LIC Training Centre, Tirupati – 517 507.

207	2215305207	2	2	2	2	2	7	4		8	6	4	6		6	
208	2215305208	2	2	2	2	2	7		8	8	6		9		6	3
209	2215305209	2	2	2	2	2		8			6			7	6	
210	2215305210	2	2	2	2	2	7	4	8	4	6		8			7
211	2215305211	2	2	2	2	2	9			8	7			4	7	
	er of students ted question	202	200	202	205	204	178	63	179	45	188	38	130	96	148	90
	er of students more than	178	185	190	179	184	159	38	136	30	158	27	106	63	125	48
% CO /	Assesment	88	93	94	87	90	89	60	76	67	84	71	82	66	84	53
CO Ass	sesment level	2.64	2.78	2.82	2.62	2.71	2.6 8	1.8 1	2.2 8	2.0	2.5	2.1	2.4	1.9 7	2.53	1.60



Karakambadi Road, Opposite LIC Training Centre, Tirupati – 517 507.

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#### **INDIRECT TOOLS:**

Course End Survey:  $CES = \frac{Gx3 + Ax2 + Sx1}{T}$ 

G: Total Number of Students gave GOOD.A: Total Number of Students gave Moderate.S: Total Number of Students gave Satisfactory.

T: Total Number of Students.

Course Name	COs	COURSE OUTCOMES	Good (3)	Average (2)	Satisfactory (1)	TOTAL NO	INDIRECT LEVEL
	C215.1	Apply the features of Python language in various applications.		45	9	210	2.70
	C215.2	Apply Python programs using functions and modules to increase code readability and maintainability.	175	27	8	210	2.80
Python Programming (IT20APC301)	C215.3	Illustrate appropriate core data structures such as lists, tuples, dictionaries, and sets.		30	11	210	2.75
(IT20APC301)	C215.4	Analyze the importance of exception handling for building robust and error-free Python programs.	175	27	8	210	2.80
	C215.5	Summarize OOP principles such as classes, objects, inheritance, polymorphism, and encapsulation.	155	37	18	210	2.65



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#### CO ATTAINMENT:

N	Mapping of COs  Mapping of Mid I & Mid II Term Examination			Intern	Mapping of COs  Mapping of End Term Examination			Externa	Direct	Indirect Attainm	co	% CO Attain ed	
со			Assign ment	al Evalu ation				Evaluati on	Attainm ent levels	ent Level (CES)	Attain ed		
C215	2.48	2.50	2.34	3.00	2.58	2.6	2.6	1.8	2.38	2.46	2.70	2.51	83.61
C215	2.59	2.10	2.69	3.00	2.59	2.7	2.2	2.0	2.36	2.45	2.80	2.52	84.08
C215	2.54	2.70		3.00	2.75	2.8	2.5	2.1	2.49	2.59	2.75	2.63	87.51
C215 .4	2.14	2.48		3.00	2.54	2.6	2.4	1.9	2.34	2.42	2.80	2.50	83.19
C215	1.88	2.20		3.00	2.36	2.7	2.5	1.6	2.28	2.31	2.65	2.38	79.35

### **CO Attainment Analysis:**

Based on the above CO attainment it was found that all CO's has reached the target level of 60%. therefore, all CO's are attained.

### **ACTION SUGGESTED:**

For the forth coming batch target level can be increased.

Signature of HOD