

**K L University**  
**Department of MBA**  
**Course Handout for 2<sup>nd</sup> Year MBAPROGRAM**  
**A.Y.2017-18, IV Semester**

**CourseName : Business Analytics in HR**

**Course Code :15 MB 62 H7**

**L-T-Pstructure : 2- 0- 2**

**Course Credits : 3**

**Course Coordinator :Dr. A. B. Saraswathi, Assistant Professor in MBA**

**Course Instructors :Dr. A.B. Saraswathi, Assistant Professor**

**Course Teaching Associates :Nil**

**Course Objective: The important objectives of the course are**

1. To Explore the Role of Analytics in HR operations.
2. To understand and enhance the knowledge of predictive management in HR.
3. To integrate HR services with the knowledge of HR- Analytics

**Course Rationale:**

CO No:	CO	SO	BTL
1.	Understand the fundamentals of Business and HR Analytics with specific focus on Basics in R- Language	a	2
2.	Analyse the role of analytics in HR operations with the help of Descriptive analytics using R- Language	b	4
3.	Apply the concept of predictive management in HR using Data Analysis techniques using R language	b	3
4.	Analyse HCM 21 ® Model for enhanced staffing and retention and integrate HR services.	b,	4

**COURSE OUTCOME INDICATORS:**

CO No.	COI-1	COI-2	COI-3
1	Understand the Definition, and meaning of Business Analytics- HR	Understand The Language of Metrics and Analytics;	Understand the basics of R- Language
2	Analyse Improving HR	Develop the knowledge of Why	Analyse Process Analysis for

	<b>Processes.</b>	<b>Analytics Is Important? THE HCM 21® MODEL for market Scanning &amp; managing Risk.</b>	<b>Human Resources using R language with Descriptive analysis.</b>
<b>3</b>	<b>Analyse Turning Data into Business Intelligence..</b>	<b>Analyse the various data analysis techniques for integration of HR Services</b>	<b>Analyse how to Interpret the Data, using R language</b>
<b>4</b>	<b>Analyse THE HCM 21® MODELIN PRACTICE</b>	<b>Analyse Leveraging Human Capital Analytics.</b>	<b>Analyse Predictive Analytics for Decision making.</b>

## **SYLLABUS (As approved by BoS):MBA, 2016-17 Regulations**

### **Course Curriculum:**

INTRODUCTION TO PREDICTIVE ANALYTICS: What Is Analytics? **BIG Data and HR Analytics**– Introducing HCM – Toward Analytics and Prediction: The Language of Metrics and Analytics – Ascending the Value Ladder – The Power of Analytics – The Model for Predictive Management – Why Analytics Is Important? THE HCM 21® MODEL – Market Scanning, Managing the Risk – Improving HR Processes – The New Face of Workforce Planning, Introduction to R- Language- Basics of ‘R’, Data Types- Vectors, Lists, Matrices, Arrays, Factors; Data Frames- Creating a Data Frame, Data Reshaping, Joining Columns and Rows in a Data Frame, Merging Data Frames;

Capability Planning into Practice – Process Analysis for Human Resources – A Broader Future View – The Integration of HR Services – Turning Data into Business Intelligence, Descriptive Statistics in ‘R’- Pie-Charts, Bar Charts, Box plots, Histograms, Scatterplots, Line graphs;

Sampling-Hypothesis, How to Interpret the Data ? THE HCM 21® MODELIN PRACTICE: Impacting Productivity and the Bottom Line – Leveraging Human Capital Analytics – Fundamentals and various data analysis tests in ‘R’ for HR - Normality test, 1-t-test, 2-t-test, Predictive Management – Working a Mission-Critical Problem –

Predictive Analytics for Enhanced Staffing and Retention. FUTURE OF HR ANALYTICS: What Analytics Can Deliver for Organizations – Thought Drives Action – Still Evolving – Views of the Future: Human Capital Analytics, Decision Trees, ANOVA, Kruskal, Regression(Simple& Multiple), Chi-square, Forecasting Techniques in ‘R’.

### **BoS Approved Text books:**

#### **RECOMMENDED TEXT BOOK**

Jac Fitz-enz, (2010), The new HR analytics: predicting the economic value of your company’s human capital investments, American Management Association, New York.

Robert Kabacoff, (2015), R in Action: Data Analysis and Graphics with R

#### **REFERENCE BOOKS**

1. Tracey Smith, (2013) HR Analytics: The What, Why and How..., CreateSpace Independent Publishing Platform

2. Jac Fitz-enz (Author), John Mattox II, (2014), Predictive Analytics for Human Resources (Wiley and SAS Business Series) , Wiley; 1 edition.

3. Laurie Bassi, Rob Carpenter & Dan McMurrer, (2012), HR Analytics Handbook, McBassi

**Deviations (if any) from B o S approved syllabus and the topics planned: *NIL***

**COURSE DELIVERY PLAN:**

Sess. No.	CO	COI	Topic (s)	Teaching-Learning Methods	Evaluation Components
1	1	1	Introduction, Definition, meaning of Business Analytics	Deliver Lecture/ Discussion	In semester Test-1 End Semester
2	1	1	Introducing HCM	Deliver Lecture / Interaction	In semester Test-1 End Semester
3	1	2	Toward Analytics and Prediction	Deliver Lecture/ Discussion	In semester Test-1 End Semester
4	1	2	The Language of Metrics and Analytics	Deliver Lecture/ Discussion	In semester Test-1 End Semester
5	1	3	The Power of Analytics	Deliver Lecture/ Discussion	In semester Test-1 End Semester
6	1	3	The Model for Predictive Management	Deliver Lecture/ Discussion	In semester Test-1 End Semester
7	1	3	Why Analytics Is Important?	Deliver Lecture/ Discussion	In semester Test-1 End Semester
8	1	3	THE HCM 21® MODEL	Deliver Lecture/ Discussion	In semester Test-1 End Semester
9	1	3	Market Scanning	Deliver Lecture/ Discussion	In semester Test-1 End Semester
10	1	3	Managing the Risk	Deliver Lecture/ Discussion	In semester Test-1 End

					<b>Semester</b>
<b>11</b>	<b>1</b>	<b>3</b>	Improving HR Processes	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-1 End Semester</b>
<b>12</b>	<b>1</b>	<b>3</b>	The New Face of Workforce Planning	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-1 End Semester</b>
<b>13</b>	<b>1</b>	<b>1</b>	Basics of R- Language	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>14</b>	<b>1</b>	<b>1</b>	Basics of R- Language	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>15</b>	<b>1</b>	<b>2</b>	Data Types- Vectors, Lists	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>16</b>	<b>1</b>	<b>2</b>	Data Types- Vectors, Lists	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>17</b>	<b>1</b>	<b>2</b>	Data Types-Matrices, Arrays, Factors	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>18</b>	<b>1</b>	<b>2</b>	Data Types-Matrices, Arrays, Factors	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>19</b>	<b>1</b>	<b>3</b>	Data Frames- Creating a Data Frame	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>20</b>	<b>1</b>	<b>3</b>	Data Frames- Creating a Data Frame	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>21</b>	<b>1</b>	<b>3</b>	Data Reshaping, Joining Columns and Rows in 'R'	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>22</b>	<b>1</b>	<b>3</b>	Data Reshaping, Joining Columns and Rows in 'R'	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>23</b>	<b>1</b>	<b>3</b>	Merging Data Frames in 'R'	<b>Lab Demonstration</b>	<b>In semester Test-1</b>

					<b>End Semester</b>
<b>24</b>	<b>1</b>	<b>3</b>	Merging Data Frames in 'R'	<b>Lab Demonstration</b>	<b>In semester Test-1 End Semester</b>
<b>25</b>	<b>2</b>	<b>1</b>	Capability Planning into Practice	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>26</b>	<b>2</b>	<b>1</b>	Process Analysis for Human Resources	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>27</b>	<b>2</b>	<b>2</b>	A Broader Future View – The Integration of HR Services	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>28</b>	<b>2</b>	<b>2</b>	Turning Data into Business Intelligence	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>29</b>	<b>2</b>	<b>2</b>	<b>THE HCM 21® MODELING PRACTICE</b>	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>30</b>	<b>2</b>	<b>3</b>	Impacting Productivity and the Bottom Line	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>31</b>	<b>2</b>	<b>3</b>	Leveraging Human Capital Analytics	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>32</b>	<b>2</b>	<b>3</b>	Predictive Management	<b>Deliver Lecture/ Discussion</b>	<b>In semester Test-2 End Semester</b>
<b>33</b>	<b>2</b>	<b>1</b>	Descriptive Statistics Using 'R'	<b>Lab Demonstration</b>	<b>In semester Test-2 End Semester</b>
<b>34</b>	<b>2</b>	<b>1</b>	Descriptive Statistics Using 'R'	<b>Lab Demonstration</b>	<b>In semester Test-2 End Semester</b>
<b>35</b>	<b>2</b>	<b>2</b>	Descriptive Statistics- Pie- Charts, Bar- Charts, Box-Plots	<b>Lab Demonstration</b>	<b>In semester Test-2 End Semester</b>

36	2	2	Descriptive Statistics- Pie- Charts, Bar- Charts, Box-Plots	Lab Demonstration	In semester Test-2 End Semester
37	2	2	Descriptive Statistics- Histograms, Scatterplots, Line graphs	Lab Demonstration	In semester Test-2 End Semester
38	2	2	Descriptive Statistics- Histograms, Scatter plots, Line graphs	Lab Demonstration	In semester Test-2 End Semester
39	2	3	Sampling- Hypothesis Fundamentals	Lab Demonstration	In semester Test-2 End Semester
40	2	3	Sampling- Hypothesis Fundamentals	Lab Demonstration	In semester Test-2 End Semester
41	3	1	Working a Mission	Deliver Lecture/ Discussion	In semester Test-3 End Semester
42	3	1	Critical Problem	Deliver Lecture/ Discussion	In semester Test-3 End Semester
43	3	1	Predictive Analytics for Enhanced Staffing and Retention	Deliver Lecture/ Discussion	In semester Test-3 End Semester
44	3	2	FUTURE OF HR ANALYTICS	Deliver Lecture / Interaction	In semester Test-3 End Semester
45	3	2	What Analytics Can Deliver for Organizations	Deliver Lecture/ Discussion	In semester Test-3 End Semester
46	3	2	Views of the Future: Human Capital Analytics	Deliver Lecture/ Discussion	In semester Test-3 End Semester
47	3	3	Data Analysis using 'R'- 1-t-test and 2-t-test	Lab Demonstration	In semester Test-3 End Semester
48	3	3	Data Analysis using 'R'- 1-t-test and 2-t-test	Lab Demonstration	In semester Test-3 End

					<b>Semester</b>
<b>49</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- ANOVA</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>50</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- ANOVA</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>51</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Kruskal Test</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>52</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Kruskal Test</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>53</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Regression(simple&amp; Multiple)</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>54</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Regression(simple&amp; Multiple)</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>55</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Regression(simple&amp; Multiple)</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>56</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Regression(simple&amp; Multiple)</b>	<b>Lab Demonstration</b>	<b>In semester Test-3 End Semester</b>
<b>57</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Chi-square Test</b>	<b>Lab Demonstration</b>	<b>End Semester</b>
<b>58</b>	<b>3</b>	<b>3</b>	<b>Data Analysis using ‘R’- Chi-square Test</b>	<b>Lab Demonstration</b>	<b>End Semester</b>
<b>59</b>	<b>4</b>	<b>3</b>	<b>Case studies on HR functions integration</b>	<b>Lab Demonstration</b>	<b>End Semester</b>
<b>60</b>	<b>4</b>	<b>4</b>	<b>Case studies on HR functions integration</b>	<b>Lab Demonstration</b>	<b>End Semester</b>

### Session wise Teaching – Learning Plan

Session Number: 1

Session Outcome: Student understand “Introduction, Definition, meaning of Business Analytics”

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>

<b>30</b>	<b>Introduction, Definition, meaning of Business Analytics</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 2**

**Session Outcome: Student understand “Introducing HCM”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Introducing HCM</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 3**

**Session Outcome: Student understand “Toward Analytics and Prediction”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Toward Analytics and Prediction</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 4**

**Session Outcome: Student understand “The Language of Metrics and Analytics”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>The Language of Metrics and Analytics</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>



<b>5</b>	<b>Summary</b>		<b>Interaction</b>
----------	----------------	--	--------------------

**Session Number: 5**

**Session Outcome: Student understand “The Power of Analytics”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>The Power of Analytics</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 6**

**Session Outcome: Student understand “The Model for Predictive Management”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>The Model for Predictive Management</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 7**

**Session Outcome: Student understand “Why Analytics Is Important?”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Why Analytics Is Important?</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 8**

**Session Outcome: Student understand “THE HCM 21® MODEL”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>THE HCM 21® MODEL</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 9**

**Session Outcome: Student understand “Market Scanning”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Market Scanning</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 10**

**Session Outcome: Students Understand the “Managing the Risk”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Managing the Risk</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 11**

**Session Outcome: Students understand “Improving HR Processes”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning</b>
------------------	--------------	------------	----------------------------

			<b>Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Improving HR Processes</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 12**

**Session Outcome: Student able to understand “The New Face of Workforce Planning”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>The New Face of Workforce Planning</b>	<b>2</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 13**

**Session Outcome: Student able to understand “Basics of R- Language”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Basics of R- Language</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 14**

**Session Outcome: Student able to understand “Basics of R- Language”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Basics of R- Language</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 15**

**Session Outcome: Student able to understand “Data Types- Vectors, Lists”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Types- Vectors, Lists</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 16**

**Session Outcome: Student able to understand “Data Types- Vectors, Lists”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Types- Vectors, Lists</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 17**

**Session Outcome: Student able to understand “Data Types- Matrices, Arrays, Factors”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Types- Matrices, Arrays, Factors</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 18**

**Session Outcome: Student able to understand “Data Types- Matrices, Arrays, Factors”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Types- Matrices, Arrays, Factors</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 19**

**Session Outcome: Student able to understand “Data Frames- Creating a Data Frame”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Frames- Creating a Data Frame</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>

<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>
----------	----------------	--	---

**Session Number: 20**

**Session Outcome: Student able to understand “Data Frames- Creating a Data Frame”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Frames- Creating a Data Frame</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 21**

**Session Outcome: Student able to understand “Data Reshaping, Joining Columns and Rows in R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Frames- Creating a Data Frame</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 22**

**Session Outcome: Student able to understand “Data Reshaping, Joining Columns and Rows in R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Frames- Creating a Data Frame</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>

5	Q & A		Interaction
5	Summary		Deliver Lecture/ Interaction

**Session Number: 23**

**Session Outcome: Student able to understand “Merging Data Frames in R”**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Introduction		Lab Demonstration
30	Merging Data Frames in R	2	Deliver Lecture & Lab Demonstration
5	Q & A		Interaction
5	Summary		Deliver Lecture/ Interaction

**Session Number: 24**

**Session Outcome: Student able to understand “Merging Data Frames in R”**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Introduction		Lab Demonstration
30	Merging Data Frames in R	2	Deliver Lecture & Lab Demonstration
5	Q & A		Interaction
5	Summary		Deliver Lecture/ Interaction

**Session Number: 25**

**Session Outcome: Student able to analyse “Capability Planning into Practice”**

Time(min)	Topic	BTL	Teaching – Learning Method
10	Introduction		Deliver Lecture/ Interaction

<b>30</b>	<b>Capability Planning into Practice</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 26**

**Session Outcome: Student able to analyse “Process Analysis for Human Resources”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Process Analysis for Human Resources</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 27**

**Session Outcome: Student able to Analyse “A Broader Future View – The Integration of HR Services”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>A Broader Future View – The Integration of HR Services</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 28**

**Session Outcome: Student able to Analyse “Turning Data into Business Intelligence”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture / Interaction</b>
<b>30</b>	<b>Turning Data into Business Intelligence</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>



<b>5</b>	<b>Summary</b>		<b>Interaction</b>
----------	----------------	--	--------------------

**Session Number: 29**

**Session Outcome: Student able to Analyse “THE HCM 21® MODELING PRACTICE”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>THE HCM 21® MODELING PRACTICE”</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 30**

**Session Outcome: Student able to Analyse “Impacting Productivity and the Bottom Line”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Impacting Productivity and the Bottom Line</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 31**

**Session Outcome: Student able to Analyse “Leveraging Human Capital Analytics”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture / Interaction</b>
<b>30</b>	<b>Leveraging Human Capital Analytics</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>

<b>5</b>	<b>Summary</b>		<b>Interaction</b>
----------	----------------	--	--------------------

**Session Number: 32**

**Session Outcome: Student able to Analyse “Predictive Management”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Predictive Management</b>	<b>4</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 33**

**Session Outcome: Student able to understand “Descriptive Statistics Using R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Descriptive Statistics Using R</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 34**

**Session Outcome: Student able to understand “Descriptive Statistics Using R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Descriptive Statistics Using R</b>	<b>2</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>

<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>
----------	----------------	--	---

**Session Number: 35**

**Session Outcome: Student able to Analyse “Descriptive Statistics- Pie-Charts, Bar-Charts, Box-Plots Using R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Descriptive Statistics- Pie-Charts, Bar-Charts, Box-Plots Using R”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 36**

**Session Outcome: Student able to Analyse “Descriptive Statistics- Pie-Charts, Bar-Charts, Box-Plots Using R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Descriptive Statistics- Pie-Charts, Bar-Charts, Box-Plots Using R”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 37**

**Session Outcome: Student able to Analyse “Descriptive Statistics- Histograms, Scatterplots, Line graphs Using R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>

<b>30</b>	<b>Descriptive Statistics- Histograms, Scatterplots, Line graphs Using R”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 38**

**Session Outcome: Student able to Analyse “Descriptive Statistics- Histograms, Scatterplots, Line graphs Using R”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Descriptive Statistics- Histograms, Scatterplots, Line graphs Using R”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 39**

**Session Outcome: Student able to Analyse “Sampling, Hypothesis Fundamentals”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Sampling, Hypothesis Fundamentals”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 40**

**Session Outcome: Student able to Analyse “Sampling, Hypothesis Fundamentals”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Sampling, Hypothesis Fundamentals”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 41**

**Session Outcome: Student able to Apply “Working a Mission”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Working a Mission</b>	<b>3</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 42**

**Session Outcome: Student able to Apply “Critical Problem”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>“Critical Problem”</b>	<b>3</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 43**

**Session Outcome: Student able to Apply “Predictive Analytics for Enhanced Staffing and Retention”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning</b>
------------------	--------------	------------	----------------------------

			<b>Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>Predictive Analytics for Enhanced Staffing and Retention</b>	<b>3</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 44**

**Session Outcome: Student able to Apply “FUTURE OF HR ANALYTICS”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>FUTURE OF HR ANALYTICS</b>	<b>3</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 45**

**Session Outcome: Student able to Apply “What Analytics Can Deliver for Organizations”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>
<b>30</b>	<b>What Analytics Can Deliver for Organizations</b>	<b>3</b>	<b>Deliver Lecture</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 46**

**Session Outcome: Student able to Apply “Views of the Future: Human Capital Analytics”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Deliver Lecture/ Interaction</b>

<b>30</b>	<b>Views of the Future: Human Capital Analytics</b>	<b>3</b>	<b>Deliver Lecture/ Interaction</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Interaction</b>

**Session Number: 47**

**Session Outcome: Student able to Apply “Data Analysis Using R- 1-t-Test, 2-t-Test”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R- 1-t-Test, 2-t-Test</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 48**

**Session Outcome: Student able to Apply “Data Analysis Using R- 1-t-Test, 2-t-Test”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R- 1-t-Test, 2-t-Test</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 49**

**Session Outcome: Student able to Apply “Data Analysis Using R- ANOVA”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>

<b>30</b>	<b>Data Analysis Using R-- ANOVA</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 50**

**Session Outcome: Student able to Apply “Data Analysis Using R- ANOVA”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R-- ANOVA</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 51**

**Session Outcome: Student able to Apply “Data Analysis Using R- KRUSKAL Test”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R--- KRUSKAL Test</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 52**

**Session Outcome: Student able to Apply “Data Analysis Using R- KRUSKAL Test”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>



<b>30</b>	<b>Data Analysis Using R--- KRUSKAL Test</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 53**

**Session Outcome: Student able to Apply “Data Analysis Using R-Simple Regression”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R-Simple Regression</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 54**

**Session Outcome: Student able to Apply “Data Analysis Using R-Simple Regression”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R-Simple Regression</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 55**

**Session Outcome: Student able to Apply “Data Analysis Using R-Multiple Regression”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R-Multiple Regression”</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 56**

**Session Outcome: Student able to Apply “Data Analysis Using R-Multiple Regression”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R-Multiple Regression”</b>	<b>3</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 57**

**Session Outcome: Student able to Analyse “Data Analysis Using R-Chi -square Test”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R-Chi-Square”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 58**

**Session Outcome: Student able to Analyse “Data Analysis Using R-Chi -square Test”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Data Analysis Using R-Chi-Square”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 59**

**Session Outcome: Student able to Analyse “Case Studies on ‘R’ – HR functional Integration”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Case Studies on ‘R’ – HR functional Integration”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

**Session Number: 60**

**Session Outcome: Student able to Analyse “Case Studies on ‘R’ – HR functional Integration”**

<b>Time(min)</b>	<b>Topic</b>	<b>BTL</b>	<b>Teaching – Learning Method</b>
<b>10</b>	<b>Introduction</b>		<b>Lab Demonstration</b>
<b>30</b>	<b>Case Studies on ‘R’ – HR functional Integration”</b>	<b>4</b>	<b>Deliver Lecture &amp; Lab Demonstration</b>
<b>5</b>	<b>Q &amp; A</b>		<b>Interaction</b>
<b>5</b>	<b>Summary</b>		<b>Deliver Lecture/ Interaction</b>

Evaluati on Compon ent	Weightag e / Marks	Date	Durat ion (Hour s)	CO 1			CO 2			CO 3			CO 4		
COI Nu mber				2	2	3	2	3	4	2	3	4	2	3	4
BTL				2	2	2	2	3	4	2	3	4	2	3	4
Test 1 Theory	Weightag e ( 10%)		90 mts	3	3	4									
	Max Marks ( 20 )			6	6	8									
Test 2 Theory	Weightag e ( 10 %)		90 mts				3	3	4						
	Max Marks ( 20 )						6	6	8						
Test 3 (Lab)	Weightag e (10%)		90 mts							3	3	4			
	Max Marks (20 )									6	6	8			
Active Learning (Lab record)	Weightag e (15%)			5			5			5			5		
	Max Marks (15)			<div><div></div><div>15</div><div></div></div>											
Attenda nce	Weightag e (5%)	Equal weightage for all the lecture sessions (5%)													
Semeste r End Exam	Weightag e ( 50 %)		180 mts	2	2	14	2	2	14	2	2	14	8	14	24
	Max Marks ( 50 )			1	1	7	1	1	7	1	1	7	4	7	12
	Question Number			1(a)	1(b)	2	1(c)	1( d)	3	1(e)	1(f)	4,5	1 (g, h, i, i)	6, 7	8

Course Team members, Chamber Consultation Hours and Chamber Venue details:

S.No.	Name of Faculty	Chamber Consultation Day(s)	Chamber Consultation Timings for	Chamber Consultation Room No:	Signature of Course faculty
-------	-----------------	-----------------------------	----------------------------------	-------------------------------	-----------------------------

			<b>each day</b>		
1	Dr. A.B. Saraswathi	Friday	4-5p.m	Faculty Cubicals	

Signature of Course Coordinator

Signature of Research Group Head

**Recommended by HEAD OF DEPARTMENT:**  
**(Dr.M Kishore Babu)**

Document digitally approved by Vetting Team and HOD.  
For details please contact Digital Learning Team @C104.  
Please refer to the document's digital certificate for authenticity.



Hari Kiran Vege,  
Assoc. Dean-TLP

for **Approved By: DEAN-ACADEMICS**

**(Sign with Office Seal)**