

Learning Assessment in Tertiary Business Education with Revised Taxonomy

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Abstract

The goal of this study was to evaluate the assessment criteria of learning in tertiary education of Bangladesh. The study was aimed at identifying percentage of questions during learning assessment of business graduates following cognitive levels of Bloom's in revised Taxonomy and to test whether there was any significant difference in the assessment procedure of different semesters. It was also intended to justify the proportion between higher order learning and lower level learning assessment in tertiary education. It was a descriptive research using secondary sources of data in the form of printed questions. Around 350 printed questions of different semesters in the sample business department of a private university in Bangladesh have been analyzed. Microsoft Office Excel 2007 package has been used as a tool of descriptive statistics and calculating Chi-Square Test value. The results reveal that the grand mean percentage in Apply level is the highest (26.10%) and Create level shows the lowest (2.80%). Chi-square test shows that the questions in different semesters are consistent as critical value is higher than the calculated value. Besides, grand mean percentage in higher order learning level (59.04%) is fairly greater than lower level (40.96%) which represents moderated upward trend. Consequently, the study indicates that the performance of the sample business department in assessment of learning of the students following revised Taxonomy is fairly satisfactory and recommends that emphasize should be given more on higher order learning levels. The results of the study would help the higher education & research authorities especially in Bangladesh with the relevant scenario of assessment trend in business education and take necessary steps in facilitating academic excellence.

Keywords: Revised Taxonomy; Cognitive Domain; Tertiary Education; Assessment; Percentage

1. Introduction

Bangladesh is a developing country (*Society for the Study of Reproduction*) and the economy here has been transforming rapidly towards manufacturing and service industry from agriculture. Again highly skilled manpower has been consistently serving round the globe. Thus Bangladesh aims to avail the global opportunities in building a knowledge based society. Hence, improving the tertiary level of education is needed to excel the country towards high growth curve. Presently tertiary education here has been facing many deeply embedded and tangled challenges. Developing a quality culture and ensuring good practices in higher education institutions could be the only way to fight back and successfully compete in the global arena.

Higher education is intended to make the students highly capable to take challenges as they come to their in both personal and professional and to use their knowledge and understanding in providing solutions to those issues competently (*UNESCO*). The quality of education refers to the fitness of the university graduates to meet the needs of stakeholders with their relevant knowledge and skills. In the assessment of a student's performance, focus is given to ensure the expected learning outcome to be achieved and thus assessment creates the basement for the judgment. Effective and appropriate performance assessment procedure is always mandatory in evaluating the level of attainment of learning outcomes and skill development (*Tuning Educational Structures in Europe - Tuning Project*). In tertiary education one of the most important tools for assessing the learning outcome of the graduates is examination question. Thus questions should be prepared in such a manner that facilitates critical thinking and help students applying the learning in facing real life situations emphasizing on higher order of learning. (*Higher Education Quality Enhancement Project, University Grants Commission of Bangladesh, 2014*)

2. Problem Statement

In Bangladesh, Private universities compare to Public Universities have been competitively serving with the supply of skilled manpower in the industry of Bangladesh and the global communities as well. The researcher focused on the assessment of learning of business graduates in private universities of Bangladesh and used examination questions as a tool of assessment. Hence, questions of business department of a private university at Chittagong city in Bangladesh had been taken as sample.

3. Research Objective

In the context described above, the study intended to fulfill the following research objectives:

1. To identify the current percentage of questions in each cognitive levels of revised Taxonomy.

2. To test whether there is any significant difference amongst the questions of different semesters.
3. To justify the proportion between higher order learning and lower level learning in tertiary education.

4. Literature Review

4.1 Original Taxonomy

The original Taxonomy of educational objectives was a framework with classified statement regarding the expectations of students to learn as a consequence of instruction which was conceived as a way to facilitate the exchange of test materials amongst faculty members of different universities. The goal was to have a collection of test items for measuring the similar educational objective. (Krathwohl, 2002)

Benjamin S. Bloom, Associate Director of the Board of Examinations of the University of Chicago, headed a group of educational psychologists who were measurement specialists as well, developed a classification of levels of intellectual behavior important in learning. They used to meet twice a year in 1949 for evaluating the progress, making revisions and planning the subsequent steps. In 1956, the final draft of the original Taxonomy was published under the title, *Taxonomy of Educational Objectives: The Classification of Educational Goals. Handbook I: Cognitive Domain* (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). Henceforth, it was referred to as the original Taxonomy. After 45 years, the revision of that classified framework, which was the subject of this issue of *Theory Into Practice*, was developed almost in the similar manner which was referred to as the revised Taxonomy. (Anderson, 2001)

Six major categories within the cognitive domain were defined carefully in the original Taxonomy which included *Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation*. Except *Application*, other categories were divided in relevant subcategories. The category of Knowledge included *knowledge of specifics, terminology, specific facts and knowledge of ways and means of dealing with specifics, conventions, trends & sequences, classifications & categories, criteria and methodology*. Knowledge of *universals & abstractions in a field, principles & generalizations and theories & structures* were also included in Knowledge category. The category of Comprehension included *translation, interpretation and extrapolation*. The category of Analysis included *analysis of elements, relationships and organizational principles*. The category of Synthesis included *production of a unique communications, a plan or a proposed set of operations and derivation of a set of abstract relations*. The category of Evaluation included *evaluation in terms of internal evidence and judgments in terms of external criteria*. (Krathwohl, 2002)

4.2 Revised Taxonomy

The Revised Taxonomy is as hierarchical as the original Taxonomy which provided the educational instructors greater value by allowing the categories to overlap one another which was much strict in the original one. During the 1990's a new group of cognitive psychologist, guided by Lorin Anderson (a former student of Bloom's), updated the taxonomy to meet the challenges of 21st century. In the revised Taxonomy, Bloom's six major categories were converted from noun form to verb form like the lowest level of the original one was renamed as Remember instead of Knowledge. At the end, Comprehension and Synthesis were converted to Understanding and Creating. (Krathwohl, 2002)

In order to minimize the confusion, comparison can be observed through following table below:

<i>Original Taxonomy (Noun Form)</i>	<i>Revised Taxonomy (Verb Form)</i>
Knowledge	Remember
Comprehension	Understand
Application	Apply
Analysis	Analyze
Synthesis	Evaluate
Evaluation	Create

In the revised Taxonomy, the converted categories were defined as follows:

<i>Remember</i>	-	Retrieving relevant knowledge from long-term memory.
<i>Understand</i>	-	Determining the meaning of instructional messages, including oral, written, and graphic communication.
<i>Apply</i>	-	Carrying out or using a procedure in a given situation.
<i>Analyze</i>	-	Breaking material into its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.
<i>Evaluate</i>	-	Making judgments based on criteria and standards.
<i>Create</i>	-	Putting elements together to form a novel, coherent whole or make an original product.

(Anderson, 2001)

For an easier understanding a tabular form of Bloom's cognitive domain can be shown as below:

<u>1. Remember</u>	<u>2. Understand</u>	<u>3. Apply</u>	<u>4. Analyze</u>	<u>5. Evaluate</u>	<u>6. Create</u>
1.1 Recognizing	2.1 Interpreting	3.1 Executing	4.1 Differentiating	5.1 Checking	6.1 Generating
1.2 Recalling	2.2 Exemplifying	3.2 Implementing	4.2 Organizing	5.2 Critiquing	6.2 Planning
	2.3 Classifying		4.3 Attributing		6.3 Producing
	2.4 Summarizing				
	2.5 Inferring				
	2.6 Comparing				
	2.7 Explaining				

(Krathwohl, 2002)

Again for understanding the implication of the revised taxonomy in the tertiary level of education, Bloom's Levels of Cognitive Domain can be further classified as Lower Level Learning and Higher Order Learning which can be shown as follows:

Bloom's cognitive domain (Six sub-domains of cognitive domain)

Lower Level Learning		Higher Order Learning			
Design		Explore		Support	
1. Remember	2. Understand	3. Apply	4. Analyze	5. Evaluate	6. Create

(Ali, 2016)

In primary level and secondary level of education, it is quite acceptable to have most of the questions in lower level learning criteria. But in tertiary level of education including colleges and universities, most of questions should come from higher order learning level to assess the appropriate learning of graduates. (*Higher Education Quality Enhancement Project, University Grants Commission of Bangladesh, 2014*)

5. Methodology

5.1. Sample Size

A total of around 350 questions of different courses conducted by 20 regular faculty members, in last three semesters such as Fall 2016, Summer 2016 and Spring 2016 including both Mid Term and Final Term Examinations under Department of Business Administration, were collected through random sampling technique.

5.2. Source of Data

The study was descriptive in nature. Secondary sources of data were used. Printed questions of different subjects of Department of Business Administration of a private university in Chittagong, Bangladesh have been randomly selected as follows:

Semester	Term	Total Questions	No of Sample Questions	% of Sample
Spring 2016	Mid Term	94	49	52.13%
Spring 2016	Final Term	94	51	54.26%
Summer 2016	Mid Term	92	71	77.17%
Summer 2016	Final Term	92	57	61.96%
Fall 2016	Mid Term	96	62	64.58%
Fall 2016	Final Term	96	63	65.63%

5.3. Analysis

Each and every question has been individually analyzed by the respective course teachers based on six criteria including *Remember, Understandings, Apply, Analyze, Evaluate* and *Create* following revised Taxonomy. Microsoft Office Excel 2007 Package has been used in every step of analysis and presentation. Each question with full or partial marks has been divided according to six criteria and total marks in each level of learning have been calculated. Based on total marks, percentage in each separate level has been identified. Percentage also has been calculated in terms of lower level learning (*remember, understanding*) and higher order learning (*apply, analyze, evaluate, create*). After analyzing all the questions in terms of percentage in each level, those are summarized according to respective semesters and terms. Finally, summery was drawn by taking each semester & term wise analysis of questions altogether and Grand Mean of percentages has been calculated as well. Chi-Square (χ^2) test has been conducted to find out whether there is any significant difference among the questions of different semesters. Grand Mean of percentage has been compared to evaluate the ratio between higher order learning and lower level learning in tertiary education.

5.4. Findings & Presentation

Summarized findings of sample questions of each semester in terms of both Mid Term and Final Term have been tabulated respectively. Then summarized percentages in each level with respect of all the semesters and terms have been tabulated. All the findings have been presented through Table and Figure. Comparative analysis result in terms of higher order and lower level learning in revised Taxonomy also has been presented through Trend Line Graph. At the end required discussions have been given respectively and recommendation has been drawn as well.

6. Research Results

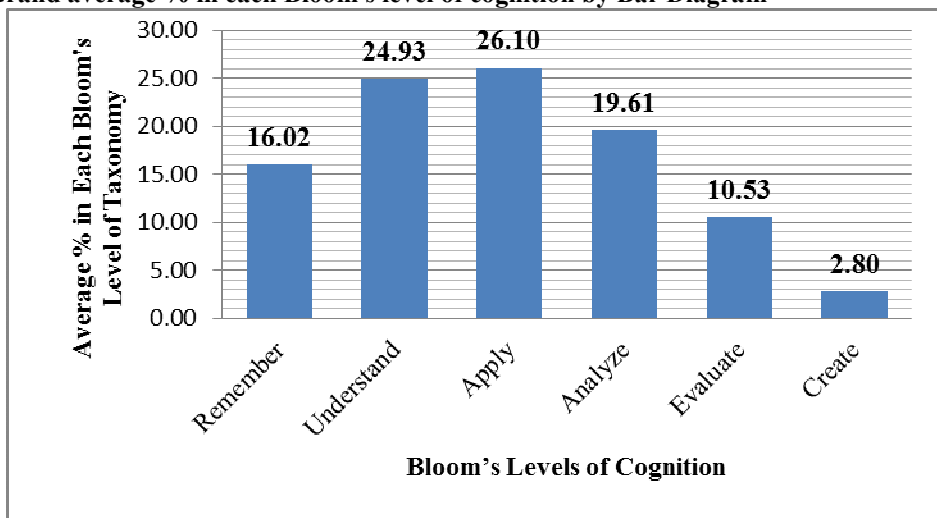
6.1. Grand average percentage of questions in each Bloom's level of cognition in the revised Taxonomy:

Table 1: Grand Average % of questions in each Bloom's level of cognition

		<i>Average % of Questions in Each Bloom's Level of Cognition</i>					
		1	2	3	4	5	6
<u>Semester</u>	<u>Term</u>	Remember	Understand	Apply	Analyze	Evaluate	Create
Spring 2016	Mid Term	15.03%	23.21%	27.84%	19.10%	12.14%	2.68%
Spring 2016	Final	15.46%	23.09%	32.14%	15.59%	10.75%	2.97%
Summer 2016	Mid Term	17.40%	29.15%	21.60%	19.24%	11.26%	1.35%
Summer 2016	Final	17.77%	24.96%	24.55%	20.99%	10.00%	1.72%
Fall 2016	Mid Term	16.06%	27.15%	23.85%	19.49%	9.18%	4.26%
Fall 2016	Final	14.43%	22.02%	26.62%	23.28%	9.82%	3.83%
Grand Mean %		16.02%	24.93%	26.10%	19.61%	10.53%	2.80%

Source: Appendix A and Appendix C (Table 1-6)

Figure 1: Grand average % in each Bloom's level of cognition by Bar Diagram



Source: Table 1

6.2. Test of significant difference among the questions of different semesters:

Table 2: Chi-Square Value in determining significant difference

<i>Calculated Value</i>	<i>Critical Value</i>	
	Level of Significance (α) = .010	Level of Significance (α) = .050
	Degree of freedom (d.f.) =25	Degree of freedom (d.f.) =25
$\chi^2 = \sum \frac{(O - E)^2}{E} = 9.15$	$\chi^2 = 44.314$	$\chi^2 = 37.7$

*Calculated Value is less than Critical Value

Source: Appendix B

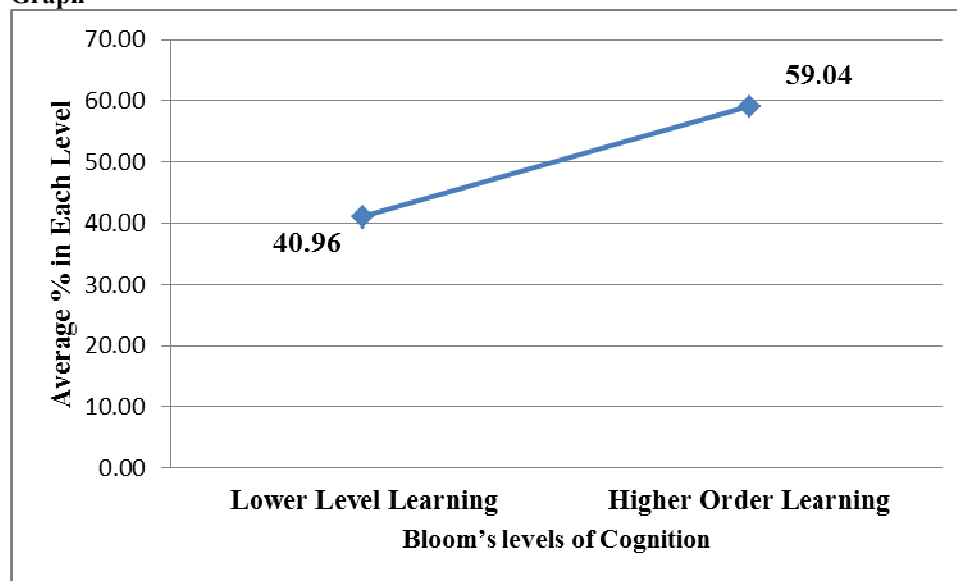
6.3. Grand Average percentage of questions in terms of Lower Level Learning and Higher Order Learning of revised Taxonomy

Table 3: Grand Average % of questions' in Lower Level and Higher Order Learning

	<i>Average % of Questions in Each Bloom's Level of Cognition</i>					
	1	2	3	4	5	6
	Remember	Understand	Apply	Analyze	Evaluate	Create
	16.02%	24.93%	26.10%	19.61%	10.53%	2.80%
Grand Mean %	Lower Level Learning			Higher Order Learning		
	40.96%			59.04%		

Source: Table 1

Figure 2: Grand Average % of questions' in Lower Level and Higher Order Learning by Trend Line Graph



Source: Table 3

7. Discussion

7.1. Spring 2016 Mid-Term:

In the study, highest mean percentage of 27.84% is found in Apply level which is considered to be Higher Order Learning Criteria. Understand Level contains 23.21% which is second highest. Lowest percentage 2.68% is found in Create Level. As a whole it is found that percentage in Higher Order Learning Level is 61.76% which is quite greater than Lower Level Learning of 38.24%. Thus an upward trend is found towards Higher Order Learning which is somehow satisfactory in tertiary education.

(Source: Table 1, Figure 1)

7.2. Spring 2016 Final Term:

In the study, highest mean percentage of 32.14% is found in Apply level which is Higher Level. Understand Level contains 23.09% which is second highest. Lowest percentage 2.97% is found in Create Level. As a whole it is found that percentage in Higher Order Learning Level is 61.45% which is fairly greater than Lower Level Learning of 38.55%. Thus an upward trend is found towards Higher Order Learning which is in some way satisfactory in tertiary education. (Source: Table 1, Figure 1)

7.3. Summer 2016 Mid-Term:

In the study, highest mean percentage of 29.15% is found in Understand level which represents Lower Level Learning. Apply Level contains 21.60% representing Higher Order Learning arena which is second highest. Lowest percentage 1.35% is found in Create Level. As a whole it is found that percentage in Higher Order Learning Level is 61.76% which is reasonably greater than Lower Level Learning of 38.24%. Thus an upward trend is found towards Higher Order Learning which is somehow satisfactory in tertiary education. (Source: Table 1, Figure 1)

7.4. Summer 2016 Final Term:

In the study, both Apply and Understand Level contains similar kind of percentage such as 24.55% and 24.96% respectively. Again Analyze Level also contains good percentage of 20.99% which represents Higher Order. Lowest percentage 1.72% is found in Create Level. As a whole it is found that percentage in Higher Order Learning Level is 57.27% which is moderately greater than Lower Level Learning of 42.73%. Thus an upward trend is found towards Higher Order Learning which is one way or another satisfactory in tertiary level education. (Source: Table 1, Figure 1)

7.5. Fall 2016 Mid-Term:

In the study, highest mean percentage of 27.15% is found in Understand level which represents Lower Level Learning. Then Apply Level contains 23.85% representing Higher Order Learning arena which is second highest. Lowest percentage 4.26% was found in Create Level. As a whole it is found that percentage in Higher Order Learning Level is 56.79% which is relatively greater than Lower Level Learning of 43.21%. Thus an upward trend is found towards Higher Order Learning which is by some means satisfactory in tertiary education. (Source: Table 1, Figure 1)

7.6. Fall 2016 Final Term:

In the study, highest mean percentage of 26.62% is found in Apply level which is considered to be Higher Level Learning Criteria. Analyze Level contains 23.28% which is second highest and also considered to be Higher Level of Learning. Lowest percentage 2.68% is found in Create Level. As a whole it is found that percentage in Higher Order Learning Level is 63.55% which is quite greater than Lower Level Learning of 36.45%. Thus an upward trend is found towards Higher Order Learning which is fairly satisfactory in tertiary level of education. (Source: Table 1, Figure 1)

7.7. Summarized Result:

The study reveals that the Grand mean of percentages in each Bloom's Levels of Cognition in Revised Taxonomy for all the three Semesters round the year including both Mid-Term and Final-Term Questions where Apply Level represents highest percentage of 26.10%, Understand Level represents 24.93%, Analyze Level represents 19.61%, Remember Level represents 16.02%, Evaluate Level represents 10.53% and Create Level represents 2.80% which is lowest. (Source: Table 1, Figure 1)

7.8. Test of significant difference:

The study indicates that Chi-Square calculated value is lower than the critical value up to a great extent which means that there is no significant difference or inconsistency among the questions of different semesters both in terms of Mid-Term and Final Term Examinations. (Source: Table 02)

7.9. Comparing Higher Order Learning and Lower Level Learning:

In comparing assessment of Higher Order Learning and Lower Level Learning, the study shows that Grand mean of percentages in Higher Order is 59.04% which is fairly greater than Lower Level representing 40.96%. Thus a moderated upward trend can easily be drawn towards Higher Order Learning which is rational in tertiary level of education. (Source: Table 3, Figure 3)

8. Recommendation

Though the findings is moderately satisfactory but it is expected that in tertiary level of education, questions should represent not more than 20% in lower level of learning including remember and understand level of Bloom's Taxonomy since students' performance assessment approach must be focused on higher order learning. Moreover, in most of the questions, create level was not found present and in rest of the questions it was representing lowest weight consistently. Thus questions should be given proportionate weight emphasizing more on higher order of learning especially Evaluate and Create, concerning the appropriate prerequisite of tertiary level of education. With the help of regular quality enhancement training programs, a set of standards prescribed in Bloom's Revised Taxonomy should be followed in preparing questions for achieving academic excellence.

9. Conclusion

The purpose of this study was to investigate the percentage of questions in each level of Bloom's revised Taxonomy under the sample business department and to justify whether there is any significant inconsistency in the questions of different semesters. Again it was intended also to compare the ratio of higher order learning and lower level learning in setting exam questions.

Accordingly, descriptive analysis was done by converting partial and full marks of each question in percentage. Through the Chi-Square Test, it was shown that there is no significant inconsistency in the questions

of different semesters. Finally, it was seen that higher order learning percentage was greater than that of lower level learning.

Hence, the study indicates the performance of the sample department in assessment of learning of the students following revised Taxonomy to be fairly satisfactory and recommends emphasizing more on higher order learning levels to meet the global challenge in tertiary education of Bangladesh.

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Appendix A
A Sample of Analyzed Question for Learning Assessment in Business Education with
Bloom's Revised Taxonomy¹

Semester: Summer 2016								
Term: Mid Term Examination								
<i>Course Name</i>	Questions		Bloom's Levels of Cognition in Revised Taxonomy					
	Question No	Marks per question	1	2	3	4	5	6
			Remember	Understand	Apply	Analyze	Evaluate	Create
Introduction to Research	1	10		6		4		
	2	10		5	5			
	3	10		6				4
	4	10	4	6				
	5	10		10				
	6	10	2	5		3		
	7	10		3		7		
	8	0	0	0	0	0	0	0
	9	0	0	0	0	0	0	0
	Total marks	70	6	41	5	14	0	4
	Total % in each level		8.57	58.57	7.14	20.00	0.00	5.71
% Marks in levels (1&2: 3&4: 4&5)			67.14		27.14		5.71	
Ratios in levels (1&2: 3&4: 4&5)			11.75		4.75		1.00	

¹ Sample format was used in preparing Appendix C (Table 1-6)

Appendix B
Chi-Square Test to Justify Significant Difference among Questions of Different Semesters²

R1=Spring 2016 Mid Term
R2=Spring 2016 Final Term
R3=Summer 2016 Mid Term
R4=Summer 2016 Final Term
R5=Fall 2016 Mid Term
R6=Fall 2016 Final Term

V1=Remember
V2=Understand
V3=Apply
V4=Analyze
V5=Evaluate
V6=Create

	OBSERVED FREQUENCY (O)						
	V1	V2	V3	V4	V5	V6	Total
R1	15.03	23.21	27.84	19.10	12.14	2.68	100
R2	15.46	23.09	32.14	15.59	10.75	2.97	100
R3	17.40	29.15	21.60	19.24	11.26	1.35	100
R4	17.77	24.96	24.55	20.99	10.00	1.72	100
R5	16.06	27.15	23.85	19.49	9.18	4.26	100
R6	14.43	22.02	26.62	23.28	9.82	3.83	100
	96.14	149.59	156.61	117.69	63.15	16.82	600
	EXPECTED FREQUENCY (E)						
	V1	V2	V3	V4	V5	V6	Total
R1	16.02	24.93	26.10	19.62	10.53	2.80	100
R2	16.02	24.93	26.10	19.62	10.53	2.80	100
R3	16.02	24.93	26.10	19.62	10.53	2.80	100
R4	16.02	24.93	26.10	19.62	10.53	2.80	100
R5	16.02	24.93	26.10	19.62	10.53	2.80	100
R6	16.02	24.93	26.10	19.62	10.53	2.80	100
	96.14	149.59	156.61	117.69	63.15	16.82	600

² See Appendix C (Table 1-6)

	<i>O</i>	<i>E</i>	$(O-E)$	$(O-E)^2$	$\frac{(O-E)^2}{E}$
V1	15.03	16.02	-1.00	0.99	0.06
	15.46	16.02	-0.57	0.32	0.02
	17.40	16.02	1.37	1.89	0.12
	17.77	16.02	1.75	3.06	0.19
	16.06	16.02	0.04	0.00	0.00
	14.43	16.02	-1.60	2.55	0.16
V2	23.21	24.93	-1.72	2.96	0.12
	23.09	24.93	-1.84	3.38	0.14
	29.15	24.93	4.22	17.82	0.71
	24.96	24.93	0.03	0.00	0.00
	27.15	24.93	2.22	4.93	0.20
	22.02	24.93	-2.91	8.46	0.34
V3	27.84	26.10	1.74	3.03	0.12
	32.14	26.10	6.04	36.48	1.40
	21.60	26.10	-4.50	20.25	0.78
	24.55	26.10	-1.55	2.41	0.09
	23.85	26.10	-2.25	5.07	0.19
	26.62	26.10	0.52	0.27	0.01
V4	19.10	19.62	-0.52	0.27	0.01
	15.59	19.62	-4.03	16.20	0.83
	19.24	19.62	-0.38	0.14	0.01
	20.99	19.62	1.38	1.90	0.10
	19.49	19.62	-0.12	0.02	0.00
	23.28	19.62	3.66	13.42	0.68
V5	12.14	10.53	1.61	2.60	0.25
	10.75	10.53	0.23	0.05	0.00
	11.26	10.53	0.74	0.54	0.05
	10.00	10.53	-0.52	0.27	0.03
	9.18	10.53	-1.34	1.81	0.17
	9.82	10.53	-0.71	0.50	0.05
V6	2.68	2.80	-0.12	0.01	0.01
	2.97	2.80	0.17	0.03	0.01
	1.35	2.80	-1.46	2.12	0.76
	1.72	2.80	-1.08	1.17	0.42
	4.26	2.80	1.46	2.13	0.76
	3.83	2.80	1.03	1.06	0.38
	$\chi^2 = \sum \frac{(O-E)^2}{E} =$				9.15

Appendix C

Average Percentage of Questions in Each Bloom's Level of Cognition in Revised Taxonomy³

Table 1: Average % of Spring 2016 Mid Term Questions in Each Bloom's Level of Cognition

Course Name	Bloom's levels of Cognition					
	1	2	3	4	5	6
	Remember	Understand	Apply	Analyze	Evaluate	Create
Business Math	4.84	19.35	20.16	33.87	20.16	1.61
Entrepreneurship Development	31.43	14.29	0.00	28.57	18.57	7.14
Human Resources Management	48.57	17.14	0.00	11.43	0.00	22.86
Marketing Management	28.57	20.00	0.00	14.29	11.43	25.71
Marketing Management (EMBA)	61.54	0.00	0.00	0.00	0.00	38.46
Microeconomics	24.29	0.00	32.86	22.86	20.00	0.00
Macroeconomics	17.14	0.00	0.00	52.86	30.00	0.00
Business Communication	10.00	15.71	25.71	22.86	11.43	14.29
Company and Industrial law	14.29	28.57	14.29	28.57	0.00	14.29
Principles of Management	14.29	21.43	21.43	30.00	12.86	0.00
Business Policy & Strategy	0.00	45.16	24.19	16.12	14.53	0.00
Business Calculus	0.00	11.43	72.85	15.72	0.00	0.00
Business Math	0.00	14.29	58.57	24.29	2.85	0.00
Industrial Relations	18.57	42.86	0.00	14.29	24.29	0.00
International Management	2.86	71.43	11.43	14.29	0.00	0.00
Computer in Business	1.43	42.86	8.57	28.57	18.57	0.00
Introduction to Computer	11.43	31.43	28.57	14.29	14.29	0.00
Financial Management	14.29	11.43	25.71	5.71	42.86	0.00
Introduction to Finance	15.71	7.14	51.43	11.43	14.29	0.00
Financial Analysis & Control	25.71	11.43	55.71	7.14	0.00	0.00
Financial Analysis & Control	10.00	5.71	70.00	0.00	14.29	0.00
Accounting I	4.29	14.29	81.43	0.00	0.00	0.00
Accounting II	20.00	0.00	80.00	0.00	0.00	0.00
Accounting II-evening	28.57	0.00	57.14	0.00	14.29	0.00
Corporate Financial accounting	28.57	0.00	71.43	0.00	0.00	0.00
Fundamentals of Accounting	28.57	0.00	71.43	0.00	0.00	0.00
Business Law	17.14	50.00	15.71	17.14	0.00	0.00
Introduction to Marketing	21.43	51.43	0.00	5.71	21.43	0.00
Modern Marketing Practices	11.43	20.00	22.86	22.86	22.86	0.00
Business Law	14.29	51.43	0.00	25.71	8.57	0.00
General math	0.00	0.00	42.86	35.71	21.43	0.00
Introduction to Marketing	20.00	37.14	17.14	10.00	15.71	0.00
Introduction to Statistics	5.71	7.14	65.71	21.43	0.00	0.00
Organizational Behavior	12.86	24.29	14.29	11.43	37.14	0.00
Introduction to Marketing	7.14	51.43	0.00	34.29	7.14	0.00
Introduction to Statistics	5.71	22.86	71.43	0.00	0.00	0.00
Export Import Management	0.00	47.14	14.29	31.43	7.14	0.00
Modern Marketing Practices	5.71	52.86	15.71	25.71	0.00	0.00
Inferential Statistics	11.43	17.14	28.57	28.57	14.29	0.00
Business Math	0.00	14.29	28.57	28.57	28.57	0.00
Financial Analysis and Control	11.43	12.86	25.71	0.00	50.00	0.00
Fundamentals of Accounting	15.71	7.14	47.14	14.29	15.71	0.00
General Math	5.71	7.14	31.43	55.71	0.00	0.00
Human Resource Development	31.43	14.29	0.00	28.57	18.57	7.14
Introduction to Finance	22.86	25.71	15.71	20.00	15.71	0.00
Money and Banking	25.71	32.86	12.86	8.57	20.00	0.00
Introduction to Business	8.57	65.71	0.00	20.00	5.71	0.00
Introduction to Statistics	2.86	20.00	0.00	77.14	0.00	0.00
Organizational Behavior	14.29	58.57	11.43	15.71	0.00	0.00
Mean % in each level	15.03	23.21	27.84	19.10	12.14	2.68
% Marks in levels (1&2: 3&4: 4&5)	38.24		46.94		14.82	
Ratios in levels (1&2: 3&4: 4&5)	2.58		3.17		1.00	

Note: Dissimilar questions of same courses conducted by different faculties in different batches are included.

³ See Appendix A

Table 2: Average % of Spring 2016 Final Term Questions in Each Bloom's Level of Cognition

Course Name	Bloom's levels of Cognition					
	1 Remember	2 Understand	3 Apply	4 Analyze	5 Evaluate	6 Create
Marketing Management	37.14	11.43	0.00	28.57	0.00	22.86
Entrepreneurship Development	26.67	0.00	0.00	13.33	0.00	60.00
Human Resources Management	37.14	14.29	0.00	22.86	0.00	25.71
Marketing Management	27.14	20.00	0.00	10.00	0.00	42.86
Macroeconomics	14.29	0.00	17.14	51.43	17.14	0.00
Microeconomics	24.29	10.00	24.29	30.00	11.43	0.00
Business Communication	0.00	0.00	100.00	0.00	0.00	0.00
Company and Industrial Law	27.27	15.15	36.36	15.15	6.06	0.00
Principles of Management	37.14	7.14	8.57	32.86	14.29	0.00
Business Policy & Strategy	11.43	42.86	32.86	12.86	0.00	0.00
Business Calculus	0.00	20.00	55.00	18.75	6.25	0.00
Business Math	0.00	20.00	75.71	4.29	0.00	0.00
Industrial Relations	21.43	28.57	31.43	11.43	7.14	0.00
International Management	11.67	55.00	16.67	8.33	8.33	0.00
Computer in Business	5.00	45.00	41.67	8.33	0.00	0.00
Introduction to Computer	3.33	48.33	16.67	18.33	13.33	0.00
Financial Analysis & Control	21.43	21.43	28.57	14.29	14.29	0.00
Financial Analysis & Control	18.57	15.71	28.57	0.00	37.14	0.00
Financial Management	22.86	15.71	25.71	7.14	28.57	0.00
Introduction to Finance	24.29	28.57	30.00	0.00	17.14	0.00
Financial Analysis & Control	21.43	21.43	28.57	14.29	14.29	0.00
Financial Analysis & Control	18.57	15.71	28.57	0.00	37.14	0.00
Financial Management	22.86	15.71	25.71	7.14	28.57	0.00
Introduction to Finance	24.29	28.57	30.00	0.00	17.14	0.00
Accounting I	28.57	0.00	71.43	0.00	0.00	0.00
Accounting II	14.29	0.00	85.71	0.00	0.00	0.00
Accounting II	14.29	0.00	71.43	0.00	14.29	0.00
Corporate Financial Accounting	28.57	0.00	71.43	0.00	0.00	0.00
Fundamentals of Accounting	28.57	0.00	71.43	0.00	0.00	0.00
Business Law	0.00	45.71	0.00	37.14	17.14	0.00
Introduction to Marketing	14.29	28.57	7.14	35.71	14.29	0.00
Modern Marketing Practices	14.29	58.57	0.00	27.14	0.00	0.00
Business Law	21.43	48.57	15.71	4.29	10.00	0.00
General Math	0.00	0.00	78.57	21.43	0.00	0.00
Introduction to Statistics	32.86	32.86	25.71	0.00	8.57	0.00
Introduction to Statistics	0.00	12.86	64.29	22.86	0.00	0.00
Organizational Behavior	32.86	37.14	7.14	0.00	22.86	0.00
Introduction to Marketing	0.00	64.29	21.43	14.29	0.00	0.00
Introduction to Statistics	0.00	10.00	90.00	0.00	0.00	0.00
Export Import Management	0.00	64.29	7.14	28.57	0.00	0.00
Modern Marketing Practices	14.29	27.14	27.14	24.29	7.14	0.00
Inferential Statistics	5.71	8.57	28.57	28.57	28.57	0.00
Business Math	0.00	7.14	50.00	28.57	14.29	0.00
Financial Analysis and Control	21.43	20.00	14.29	24.29	20.00	0.00
Fundamentals of Accounting	24.29	5.71	54.29	8.57	7.14	0.00
General Math	0.00	0.00	48.57	44.29	7.14	0.00
Introduction to Finance	5.71	11.43	28.57	14.29	40.00	0.00
Money and Banking	11.43	47.14	8.57	17.14	15.71	0.00
Introduction to Business	8.57	65.71	0.00	20.00	5.71	0.00
Organization Behavior	0.00	64.29	8.57	18.57	8.57	0.00
Organization Behavior	8.57	17.14	0.00	45.71	28.57	0.00
Mean % in Each Level	15.46	23.09	32.14	15.59	10.75	2.97
% Marks in levels (1&2: 3&4: 4&5)	38.55		47.73		13.72	
Ratios in levels (1&2: 3&4: 4&5)	2.81		3.48		1.00	

Note: Dissimilar questions of same courses conducted by different faculties in different batches are included.

Table 3: Average % of Summer 2016 Mid Term Questions in Each Bloom's Level of Cognition

Course Name	Bloom's levels of Cognition					
	1 Remember	2 Understand	3 Apply	4 Analyze	5 Evaluate	6 Create
Business Math	4.84	19.35	20.16	33.87	20.16	1.61
Business Law	4.29	10.00	4.29	55.71	25.71	0.00
Introduction to Finance	10.00	11.43	27.14	41.43	10.00	0.00
Introduction to Statistics	0.00	12.86	48.57	32.86	5.71	0.00
Introduction to Research	8.57	58.57	7.14	20.00	0.00	5.71
Introduction to Marketing	31.43	38.57	21.43	5.71	2.86	0.00
Advertising & Promotion Management	18.00	22.00	0.00	0.00	24.00	36.00
Human Resources Management	42.86	57.14	0.00	0.00	0.00	0.00
Introduction to Business	77.14	17.14	0.00	5.71	0.00	0.00
Modern Marketing Practices	57.14	0.00	0.00	0.00	21.43	21.43
Organizational Development & Change	48.57	11.43	0.00	0.00	32.86	7.14
Principles of management	71.43	0.00	0.00	0.00	28.57	0.00
Macroeconomics	17.14	14.29	0.00	48.57	20.00	0.00
Microeconomics	22.86	14.29	10.00	31.43	21.43	0.00
Business Communication	14.29	28.57	21.43	31.43	4.29	0.00
Company & Industrial law	26.67	6.67	25.00	25.00	0.00	16.67
Introduction to Business	8.57	27.14	7.14	45.71	11.43	0.00
Principles of Management	28.57	22.86	7.14	34.29	0.00	7.14
Business Calculus	0.00	21.43	57.14	15.71	5.71	0.00
International Management	30.00	33.33	20.00	8.33	8.33	0.00
Production Management	8.57	44.29	22.86	24.29	0.00	0.00
Computer in Business	1.43	42.86	8.57	28.57	18.57	0.00
Introduction to Computer	17.14	22.86	14.29	25.71	20.00	0.00
Accounting I	24.29	0.00	75.71	0.00	0.00	0.00
Money & Banking	17.14	82.86	0.00	0.00	0.00	0.00
Corporate Finance	24.29	12.86	28.57	25.71	8.57	0.00
Corporate Finance	12.86	24.29	7.14	2.86	52.86	0.00
Financial Management	28.57	5.71	40.00	11.43	14.29	0.00
Accounting I	4.29	0.00	81.43	0.00	14.29	0.00
Accounting II	14.29	0.00	85.71	0.00	0.00	0.00
Agricultural and Industrial Marketing	0.00	67.14	0.00	32.86	0.00	0.00
Export Import Marketing	0.00	78.57	0.00	21.43	0.00	0.00
Introduction to Marketing	20.00	35.71	8.57	21.43	14.29	0.00
Modern Marketing Practices	5.71	45.71	0.00	25.71	22.86	0.00
Business Law	18.57	25.71	25.71	22.86	7.14	0.00
Company and Industrial law	18.57	34.29	37.14	0.00	10.00	0.00
Introduction to Business	31.43	38.57	21.43	5.71	2.86	0.00
Organization Behavior	18.57	35.71	11.43	11.43	22.86	0.00
Computer in Business	1.43	42.86	8.57	28.57	18.57	0.00
Introduction to Computer	17.14	22.86	14.29	25.71	20.00	0.00
Accounting I	24.29	0.00	75.71	0.00	0.00	0.00
Money & Banking	17.14	82.86	0.00	0.00	0.00	0.00
Corporate Finance	24.29	12.86	28.57	25.71	8.57	0.00
Corporate Finance	12.86	24.29	7.14	2.86	52.86	0.00
Financial Management	28.57	5.71	40.00	11.43	14.29	0.00
Business Math	0.00	21.43	57.14	15.71	5.71	0.00
Accounting I	4.29	0.00	81.43	0.00	14.29	0.00
Accounting II	14.29	0.00	85.71	0.00	0.00	0.00
Agricultural and Industrial Marketing	0.00	67.14	0.00	32.86	0.00	0.00
Export Import Marketing	0.00	78.57	0.00	21.43	0.00	0.00
Introduction to Marketing	20.00	35.71	8.57	21.43	14.29	0.00
Modern Marketing Practices	5.71	45.71	0.00	25.71	22.86	0.00
Business Law	18.57	25.71	25.71	22.86	7.14	0.00
Company and Industrial law	18.57	34.29	37.14	0.00	10.00	0.00
Introduction to Business	31.43	38.57	21.43	5.71	2.86	0.00
Organization Behavior	18.57	35.71	11.43	11.43	22.86	0.00
Business Policy and Strategy	7.14	64.29	14.29	14.29	0.00	0.00
Introduction to Research	8.57	67.14	0.00	17.14	7.14	0.00

Micro Economics	14.29	42.86	30.00	12.86	0.00	0.00
Inferential Statistics	10.00	4.29	28.57	42.86	14.29	0.00
Business Math	14.29	0.00	20.00	37.14	28.57	0.00
Modern Marketing Practices	20.00	38.57	8.57	10.00	22.86	0.00
Financial Management	11.43	11.43	37.14	35.71	4.29	0.00
General Math	5.71	0.00	51.43	42.86	0.00	0.00
Introduction to Finance	20.00	8.57	37.14	7.14	27.14	0.00
Money and Banking	21.43	37.14	20.00	0.00	21.43	0.00
Principles of Management	31.43	38.57	21.43	5.71	2.86	0.00
General Math	0.00	14.29	0.00	85.71	0.00	0.00
Introduction to Business	8.57	65.71	0.00	20.00	5.71	0.00
Introduction to Statistics	2.86	20.00	5.71	71.43	0.00	0.00
Organizational Behavior	14.29	58.57	11.43	15.71	0.00	0.00
Mean % in each level	17.40	29.15	21.60	19.24	11.26	1.35
% Marks in levels (1&2: 3&4: 4&5)	46.55		40.84		12.61	
Ratios in levels (1&2: 3&4: 4&5)	3.69		3.24		1.00	

Note: Dissimilar questions of same courses conducted by different faculties in different batches are included.

Table 4: Average % of Summer 2016 Final Term Questions in Each Bloom's Level of Cognition

<u>Course Name</u>	Bloom's levels of Cognition					
	1	2	3	4	5	6
	Remember	Understand	Apply	Analyze	Evaluate	Create
Introduction to Finance	12.86	30.00	4.29	30.00	22.86	0.00
Introduction to Finance	4.29	27.14	44.29	18.57	0.00	5.71
Introduction to Statistics	7.14	12.86	54.29	20.00	5.71	0.00
Introduction to Research	5.71	18.57	7.14	25.71	4.29	38.57
Advertising & Promotion Management	43.64	20.00	0.00	27.27	9.09	0.00
Human Resources Management	71.43	0.00	0.00	28.57	0.00	0.00
Introduction to Business	71.43	0.00	0.00	28.57	0.00	0.00
Modern Marketing Practices	54.29	11.43	0.00	0.00	14.29	20.00
Organizational Development & change	35.00	27.50	0.00	0.00	25.00	12.50
Principles of Management	25.71	74.29	0.00	0.00	0.00	0.00
Accounting I	0.00	7.14	57.14	28.57	7.14	0.00
Project Management	12.86	34.29	21.43	17.14	14.29	0.00
Cost Accounting	14.29	17.14	68.57	0.00	0.00	0.00
Macroeconomics	17.14	5.71	0.00	54.29	22.86	0.00
Microeconomics	18.57	14.29	22.86	34.29	10.00	0.00
Business Communication	0.00	0.00	100.00	0.00	0.00	0.00
Company and Industrial law	27.27	15.15	36.36	15.15	6.06	0.00
Introduction to Business	5.71	25.71	14.29	47.14	7.14	0.00
Principles of Management	5.71	21.43	18.57	41.43	12.86	0.00
Industrial Relations	10.00	18.57	11.43	38.57	21.43	0.00
Business Calculus	0.00	20.00	51.43	22.86	5.71	0.00
Business Calculus	0.00	24.29	57.14	14.29	4.29	0.00
Industrial Relations	8.57	54.29	37.14	0.00	0.00	0.00
International Management	0.00	42.86	42.86	14.29	0.00	0.00
Production Management	21.43	35.71	28.57	0.00	14.29	0.00
Computer in Business	5.71	18.57	11.43	35.71	14.29	14.29
Introduction to Computer	10.00	12.86	14.29	37.14	25.71	0.00

Corporate Finance	27.14	17.14	27.14	14.29	14.29	0.00
Corporate Finance	12.86	27.14	31.43	0.00	28.57	0.00
Money & Banking	40.00	47.14	0.00	12.86	0.00	0.00
Accounting I	24.29	0.00	71.43	4.29	0.00	0.00
Financial Management	28.57	10.00	25.71	0.00	35.71	0.00
Accounting I	28.57	0.00	71.43	0.00	0.00	0.00
Accounting II	28.57	0.00	71.43	0.00	0.00	0.00
Agricultural and Industrial Marketing	17.14	62.85	0.00	20.00	0.00	0.00
Export & Import Management	0.00	57.14	0.00	14.29	28.57	0.00
Introduction to Marketing	14.29	28.57	0.00	57.14	0.00	0.00
Modern Marketing Practices	14.29	71.43	0.00	8.57	5.71	0.00
Business law	21.43	28.57	12.86	37.14	0.00	0.00
Company & Industrial law	31.43	30.00	27.14	0.00	11.43	0.00
Introduction to Business	35.71	25.71	21.43	0.00	17.14	0.00
Introduction to Marketing	21.43	34.29	34.29	4.29	5.71	0.00
Organizational Behavior	41.43	22.86	14.29	5.71	15.71	0.00
Business Policy and Strategy	17.14	50.00	0.00	25.71	0.00	7.14
Introduction to Research	5.71	44.29	31.43	12.86	5.71	0.00
Micro Economics	7.14	38.57	30.00	24.29	0.00	0.00
Inferential Statistics	0.00	0.00	28.57	42.86	28.57	0.00
Business Math	0.00	0.00	35.71	35.71	28.57	0.00
Modern Marketing Practices	17.14	42.86	21.43	18.57	0.00	0.00
Financial Management	8.57	4.29	54.29	10.00	22.86	0.00
General Math	2.86	0.00	42.86	38.57	15.71	0.00
Introduction to Finance	11.43	27.14	22.86	12.86	25.71	0.00
Money and Banking	17.14	40.00	2.86	15.71	24.29	0.00
General Math	0.00	14.29	0.00	85.71	0.00	0.00
Introduction to Business	21.43	44.29	0.00	34.29	0.00	0.00
Introduction to Statistics	14.29	5.71	5.71	65.71	8.57	0.00
Organizational Behavior	14.29	58.57	11.43	15.71	0.00	0.00
Mean % in each level	17.77	24.96	24.55	20.99	10.00	1.72
% Marks in levels (1&2: 3&4: 4&5)	42.73		45.54		11.73	
Ratios in levels (1&2: 3&4: 4&5)	3.64		3.88		1.00	

Note: Dissimilar questions of same courses conducted by different faculties in different batches are included.

Table 5: Average % of Fall 2016 Mid Term Questions in Each Bloom's Level of Cognition

Course	Bloom's levels of Cognition					
	1	2	3	4	5	6
	Remember	Understand	Apply	Analyze	Evaluate	Create
Business Law	17.14	7.14	0.00	51.43	14.29	10.00
Project Management	14.29	32.86	24.29	20.00	0.00	8.57
Introduction to Research	7.14	24.29	10.00	42.86	15.71	0.00
Introduction to Finance	0.00	20.00	38.00	34.00	8.00	0.00
Introduction to Finance	5.71	25.71	34.29	24.29	10.00	0.00
Entrepreneurship Development	60.00	14.29	0.00	0.00	25.71	0.00
Entrepreneurship Development	52.50	0.00	0.00	35.00	6.25	6.25
Introduction to Business	40.00	60.00	0.00	0.00	0.00	0.00
Marketing Management	20.00	17.14	0.00	25.71	0.00	37.14
Financial Audit & Cost Audit	21.43	57.14	10.00	0.00	11.43	0.00
Advanced Cost Accounting	12.86	20.00	44.29	22.86	0.00	0.00
Accounting I	0.00	7.14	57.14	21.43	14.29	0.00
Macroeconomics	21.43	20.00	7.14	40.00	11.43	0.00
Microeconomics	27.14	0.00	0.00	35.71	37.14	0.00
Business Communication	20.00	7.14	47.14	14.29	11.43	0.00
Company & Industrial law	26.67	6.67	25.00	25.00	0.00	16.67
Business Calculus	7.14	15.71	57.14	14.29	5.71	0.00
Business Statistics	17.14	8.57	71.43	2.86	0.00	0.00
Company, Industrial & Labor Law	42.86	42.86	14.29	0.00	0.00	0.00
International Management	11.43	45.71	0.00	28.57	14.29	0.00
Computer in Business	8.57	25.71	8.57	18.57	38.57	0.00
Introduction to Computer	17.14	31.43	22.86	14.29	14.29	0.00
Business Math	0.00	0.00	100.00	0.00	0.00	0.00
Quantitative Methods	4.71	32.94	50.59	0.00	11.76	0.00
Organizational Behavior	15.71	52.86	18.57	7.14	5.71	0.00
Management of Training	0.00	5.71	44.29	14.29	7.14	28.57
Principles of Management	5.71	11.43	30.00	10.00	14.29	28.57
Micro Economics	11.43	34.29	28.57	14.29	11.43	0.00
Macro Economics	15.71	52.86	18.57	7.14	5.71	0.00
Accounting I	7.14	14.29	78.57	0.00	0.00	0.00
Accounting II	21.43	0.00	64.29	0.00	14.29	0.00
Corporate Financial Accounting	28.57	0.00	71.43	0.00	0.00	0.00
Fundamentals of Accounting	28.57	0.00	71.43	0.00	0.00	0.00
Business Law	2.86	37.14	0.00	54.28	5.71	0.00
Introduction to Marketing	0.00	50.00	0.00	7.14	42.86	0.00
English Reading	14.29	28.57	0.00	14.29	14.29	28.57
Business Math	0.00	16.92	83.08	0.00	0.00	0.00
Spoken English	14.29	28.57	0.00	14.29	14.29	28.57
Introduction to Marketing	14.29	58.57	0.00	12.86	14.29	0.00

Introduction to Statistics	0.00	14.29	0.00	85.71	0.00	0.00
Modern Marketing Practices	14.29	48.57	0.00	14.29	22.86	0.00
Company and Industrial Law	17.14	32.86	35.71	0.00	14.29	0.00
Introduction to Statistics	15.71	7.14	68.57	8.57	0.00	0.00
Introduction to Business	41.43	20.00	21.43	0.00	17.14	0.00
Introduction to Marketing	55.71	14.29	15.71	14.29	0.00	0.00
Principles of Management	21.43	42.86	18.57	7.14	10.00	0.00
Business Policy and Strategy	4.29	74.29	0.00	21.43	0.00	0.00
Modern Marketing Practices	10.00	42.86	15.71	18.57	5.71	7.14
Business Ethics and Morality	4.29	64.29	0.00	31.43	0.00	0.00
Introduction to Statistics	14.29	11.43	30.00	40.00	4.29	0.00
Inferential Statistics	10.00	4.29	14.29	42.86	28.57	0.00
Quantitative Methods	4.71	24.12	50.59	8.82	11.76	0.00
Inferential Statistics	12.86	15.71	35.71	28.57	7.14	0.00
Sales & Distribution Management	22.86	52.86	15.71	8.57	0.00	0.00
Business Communication	20.00	10.00	0.00	30.00	32.86	7.14
English Reading	21.43	50.00	0.00	7.14	0.00	21.43
Managing Customer Services	15.71	42.86	0.00	34.29	0.00	7.14
English Writing	14.29	28.57	0.00	14.29	14.29	28.57
General Math	0.00	14.29	0.00	85.71	0.00	0.00
Introduction to business	17.14	60.00	8.57	14.29	0.00	0.00
Introduction to Statistics	11.43	22.86	5.71	60.00	0.00	0.00
Organization Behavior	11.43	71.43	11.43	5.71	0.00	0.00
Mean % in Each Level	16.06	27.15	23.85	19.49	9.18	4.26
% Marks in levels (1&2: 3&4: 4&5)	43.21		43.34		13.44	
Ratios in levels (1&2: 3&4: 4&5)	3.21		3.22		1.00	

Note: Dissimilar questions of same courses conducted by different faculties in different batches are included.

Table 6: Average % of Fall 2016 Final Term Questions in Each Bloom's Level of Cognition

<u>Course Name</u>	Bloom's levels of Cognition					
	1	2	3	4	5	6
	Remember	Understand	Apply	Analyze	Evaluate	Create
Business Law	4.35	31.88	0.00	34.78	23.19	5.80
Project Mgt	17.86	43.57	25.71	9.29	3.57	0.00
Introduction to Research	0.00	28.57	5.71	8.57	25.71	31.43
Introduction to Finance	12.22	31.11	32.22	18.89	0.00	5.56
Introduction to Finance	5.71	25.71	34.29	24.29	10.00	0.00
Entrepreneurship Development	51.43	22.86	0.00	11.43	7.14	7.14
Entrepreneurship Development	28.57	42.86	0.00	0.00	0.00	28.57
Introduction to Business	71.43	0.00	0.00	28.57	0.00	0.00
Marketing Management	34.29	14.29	11.43	2.86	11.43	25.71
Financial Audit & Cost Audit	7.14	0.00	17.14	75.71	0.00	0.00
Financial Management	5.71	0.00	7.14	24.29	62.86	0.00
Managerial Accounting	0.00	2.86	45.71	14.29	37.14	0.00
Introduction to Statistics	5.71	8.57	28.57	42.86	14.29	0.00
Spoken English	14.29	0.00	28.57	14.29	14.29	28.57
Introduction to Business	28.57	35.71	21.43	14.29	0.00	0.00
Macroeconomics	18.57	0.00	5.71	51.43	24.29	0.00
Microeconomics	22.86	0.00	12.86	48.57	15.71	0.00
Business Communication	0.00	0.00	100.00	0.00	0.00	0.00
company and industrial law	27.27	15.15	36.36	15.15	6.06	0.00
Business Calculus	0.00	4.29	77.14	0.00	18.57	0.00
Business Statistics	11.43	10.00	60.00	10.00	8.57	0.00
Company, Industrial & Labor Law	47.14	38.57	14.29	0.00	0.00	0.00
International Management	28.57	42.86	14.29	14.29	0.00	0.00
Computer in Business	12.86	21.43	14.29	27.14	24.29	0.00
Introduction to Computer	12.86	40.00	4.29	25.71	17.14	0.00
Business Math	0.00	0.00	89.33	10.67	0.00	0.00
Quantitative Methods	0.00	0.00	89.33	10.67	0.00	0.00
English Reading	14.29	28.57	0.00	14.29	14.29	28.57
Organizational Behavior	12.86	22.86	28.57	28.57	7.14	0.00
Management of Training	14.29	7.14	21.43	28.57	28.57	0.00
Micro Economics	2.86	14.29	37.14	20.00	25.71	0.00
Macro Economics	8.57	31.43	28.57	24.29	7.14	0.00
Principles of Management	7.14	14.29	21.43	21.43	35.71	0.00
Accounting I	10.00	7.14	82.86	0.00	0.00	0.00
Accounting II	14.29	0.00	85.71	0.00	0.00	0.00
Corporate Financial Accounting	28.57	0.00	71.43	0.00	0.00	0.00
Fundamentals of Accounting	28.57	0.00	71.43	0.00	0.00	0.00
Business Law	0.00	65.71	0.00	22.86	11.43	0.00
Introduction to Marketing	0.00	48.57	0.00	51.43	0.00	0.00
Introduction to Marketing	14.29	67.14	0.00	18.57	0.00	0.00

Introduction to Statistics	0.00	0.00	0.00	100.00	0.00	0.00
Modern Marketing Practices	14.29	51.43	0.00	25.71	8.57	0.00
Company and Industrial law	17.14	40.00	24.29	8.57	10.00	0.00
Principles of Management	28.57	35.71	21.43	14.29	0.00	0.00
Introduction to Marketing	17.14	30.00	37.14	0.00	15.71	0.00
Introduction to Statistics	0.00	21.43	42.86	35.71	0.00	0.00
Principles of Management	25.71	37.14	28.57	0.00	8.57	0.00
Modern Marketing Practices	12.86	50.00	0.00	24.29	12.86	0.00
Business Policy and Strategy	4.29	27.14	0.00	50.00	18.57	0.00
Introduction to Research	14.29	50.00	0.00	21.43	14.29	0.00
Introduction to Statistics	0.00	0.00	28.57	42.86	28.57	0.00
Inferential Statistics	5.71	8.57	14.29	50.00	21.43	0.00
Sales & Distribution Management	28.57	48.57	22.86	0.00	0.00	0.00
Business Communication	14.29	8.57	7.14	40.00	0.00	30.00
English Reading	28.57	35.71	0.00	14.29	0.00	21.43
Managing Customer Services	12.86	24.29	0.00	51.43	11.43	0.00
Quantitative Methods	0.00	0.00	100.00	0.00	0.00	0.00
Business Math	0.00	0.00	100.00	0.00	0.00	0.00
English Writing	14.29	28.57	0.00	14.29	14.29	28.57
General Math	0.00	0.00	14.29	85.71	0.00	0.00
Introduction to Business	14.29	68.57	0.00	17.14	0.00	0.00
Introduction to Statistics	8.57	14.29	0.00	77.14	0.00	0.00
Organizational Behavior	22.86	40.00	11.43	25.71	0.00	0.00
Mean % in each level	14.43	22.02	26.62	23.28	9.82	3.83
% Marks in levels (1&2: 3&4: 4&5)	36.45		49.90		13.65	
Ratios in levels (1&2: 3&4: 4&5)	2.67		3.66		1.00	

Note: Dissimilar questions of same courses conducted by different faculties in different batches are included.