PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF INFORMATION SCIENCE

TEST 1

Sem & AY: Odd Sem 2019-20

Course Code: MAT 111

Course Name: STATISTICAL METHODS & TECHNIQUES

Program & Sem: BCA & I

Date: 27.09.2019

Time: 1.00 PM to 2.00 PM

Max Marks: 30

Weightage: 15%

Instructions:
   (i)   Answer all the questions.

Part A [Memory Recall Questions]

Answer all the Questions. Each Question carries two marks.   (3Qx2M=6M)

1. Define Statistics.   (C.O.NO.1)[Knowledge]
2. Explain difference between Bar chart and Histogram.   (C.O.NO.1)[Knowledge]
3. List various averages in Central Tendency.   (C.O.NO.1)[Knowledge]

Part B [Thought Provoking Questions]

Answer all the Questions. Each Question carries four marks.   (3Qx4M=12M)

4. Result of 200 students on academic achievement test given below. Draw histogram and frequency polygon curve.

CI	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	12	10	35	55	45	25	18

(C.O.NO.1)[Knowledge]

5. What is Pie Chart? 1000 software engineers pass out from a institute X and they were placed in four different companies in 2018. Draw pie chart for the given data.

Company	A	B	C	D
Placement	400	250	150	200

(C.O.NO.1)[Knowledge]

6. Write the formula for quartiles, decile and percentile.

<div align="right">(C.O.NO.1)[Knowledge]</div>

Part C [Problem Solving Questions]

Answer both the Questions. Each Question carries six marks.   **(2Qx6M=12M)**

7. The following data represents income of 100 families, calculate mean income of 100 families

Income In hundreds	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No. of families	8	12	25	22	16	11	6

<div align="right">(C.O.NO.1)[Knowledge]</div>

8. Define Ogive. Find median from frequency cumulative curve for the following data.

CI	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	12	10	35	55	45	25	18

<div align="right">(C.O.NO.1)[Knowledge]</div>

SCHOOL OF INFORMATION SCIENCE

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

Date: 27/09/2019

Semester: BCA I

Time:

Course Code: MAT111

Max Marks: 30

Course Name: STATISTICAL METHODS & TECHNIQUES

Weightage: 15%

Extract of question distribution [outcome wise & level wise]

Q.NO	C.O.NO	Unit/Module Number/Unit /Module Title	Memory recall type [Marks allotted] Bloom's Levels			Thought provoking type [Marks allotted] Bloom's Levels			Problem Solving type [Marks allotted]			Total Marks
			K			C			A			
1	CO1	01/Introduction	Def	2	K							2
2	CO1	01/Introduction	Pro	2	K							2
3	CO1	02/Central Tendency	Int	2	K							2
4	CO1	I/01/Introduction				Pro	4	K				4
5	CO1	I/01/Introduction				Pro	4	K				4
6	CO1	02/Central Tendency				For	4	K				4
7	CO1	02/Central Tendency							Pro	6	K	6
8	CO1	I/01/Introduction							Pro	6	K	6
	Total Marks			6			12			12		30

K =Knowledge Level   C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

[I hereby certify that All the questions are set as per the above guide lines. Dr. Sudheendra]

Reviewers' Comments

Annexure- II: Format of Answer Scheme

SCHOOL OF INFORMATION SCIENCE

SOLUTION

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

Semester: BCA I

Course Code: MAT 111

Course Name: STATISTICAL METHODS & TECHNIQUES

Date: 27/09/2019

Time:

Max Marks: 30

Weightage: 15%

Part A   (3Q x 2M = 6 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	Definition	2	2 min
2	Merits of Bar chart and Histogram	2	2 mins
3	List	2	2 mins

Part B   (3Q x 4M = 12 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
4	Histogram Frequency Polygon	2 2	5 mins
5	Pie chart definition Table and Pie Chart	1 3	5 mins
6	Quartiles Decile Percentile	2 1 1	3 mins

Part C   (2Q x 6M = 12Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
7	Table Construction Finding Mean	3 3	10 mins
8	Definition Table Constriction Graph Median	1 2 2 1	15 mins

PRESIDENCY UNIVERSITY
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SCHOOL OF INFORMATION SCIENCE

TEST – 2

Sem & AY: Odd Sem 2019-20   **Date**: 18.11.2019

Course Code: MAT 111   **Time**: 1.00 PM to 2.00 PM

Course Name: STATISTICAL METHODS & TECHNIQUES   **Max Marks**: 30

Program & Sem: BCA & I   **Weightage**: 15%

Instructions:
(i)   Answer all the questions.

Part A [Memory Recall Questions]

Answer all the Questions. Each Question carries two marks.   (3Qx2M=6M)

1. Define Probability of an event.   (CO1) [KNOWLEDGE]
2. What is the chance that a leap year selected at random will contain 53 Sundays?
                                                            (CO1) [KNOWLEDGE]
3. From a pack of 52 cards, two cards are drawn at random. Find the chance that one is a kind and the other a queen.   (CO1) [KNOWLEDGE]

Part B [Thought Provoking Questions]

Answer both the Questions. Each Question carries four marks.   (2Qx4M=8M)

4. Result of 100 students on academic achievement test given below. Find mean deviation from Mean.   (CO1) [KNOWLEDGE]

CI	10-20	20-30	30-40	40-50	50-60
f	12	10	35	18	25

5. A bag contains 7 white, 6 red and 5 black balls. Two balls are drawn at random. Find the probability that they will both be white.   (CO1) [KNOWLEDGE]

Part C [Problem Solving Questions]

Answer both the Questions. Each Question carries eight marks. (2Qx8M=16M)

6. The following data represents income of 100 families, calculate Standard deviation and Covariance. (CO1) [KNOWLEDGE]

Income In hundreds	30-40	40-50	50-60	60-70	70-80
No. of families	8	12	35	27	18

7. Find coefficient of correlation and Regression lines of x on y for the following data. (CO1) [KNOWLEDGE]

CI	1	2	3	4	5
f	2	5	8	11	14

SCHOOL OF INFORMATION SCIENCE

TEST - II

Date: 18/11/2019

Semester: BCA I

Time:

Course Code: MAT111

Max Marks: 30

Course Name: STATISTICAL METHODS & TECHNIQUES

Weightage: 15%

Extract of question distribution [outcome wise & level wise]

Q.NO	C.O.NO	Unit/Module Number/Unit /Module Title	Memory recall type [Marks allotted] Bloom's Levels			Thought provoking type [Marks allotted] Bloom's Levels			Problem Solving type [Marks allotted]			Total Marks
			K			C			A			
1	CO1	04/ Probability	Def	2	K							2
2	CO1	04/Probability	Pro	2	K							2
3	CO1	04/Probability	Pro	2	K							2
4	CO1	03/Measure of Dispersion				Pro	4	K				4
5	CO1	04/Probability				Pro	4	K				4
6	CO1	03/Measure of Dispersion							Pro	8	K	8
7	CO1	03/Measure of Dispersion							Pro	8	K	8
	Total Marks			6			8			16		30

K =Knowledge Level   C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

SCHOOL OF INFORMATION SCIENCE

TEST – II - SOLUTION

Semester: BCA I

Course Code: MAT 111

Course Name: STATISTICAL METHODS & TECHNIQUES

Date: 18/11/2019

Time:

Max Marks: 30

Weightage: 15%

Part A (3Q x 2M = 6 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	Definition	2	2 min
2	2/7	2	2 mins
3	8/663	2	2 mins

Part B (2Q x 4M = 8 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
4	Finding mean Mean deviation	1 3	10 mins
5	Total O/Cs Favorable O/C Prob – 7/51	1 1 2	10 mins

Part C (2Q x 8M = 16Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
7	Table Construction Finding Mean Standard Deviation Covariance	3 2 2 1	15 mins
8	Table Construction Mean of x & y Correlation Regression	2 2 2 2	15 mins

SCHOOL OF INFORMATION SCIENCE

Date: 06/01/2020

Time: 3 hours

Semester: BCA I

Max Marks: 100

Course Code: MAT111

Weightage: 50%

Course Name: STATISTICAL METHODS & TECHNIQUES

Extract of question distribution [outcome wise & level wise]

Q.NO	C.O.NO	Unit/Module Number/Unit /Module Title	Memory recall type [Marks allotted] Bloom's Levels			Thought provoking type [Marks allotted] Bloom's Levels			Problem Solving type [Marks allotted]			Total Marks
			K			C			A			
1	CO1	01/Introduction	D	2	K							2
2	CO1	01/Introduction	D	2	K							2
3	CO1	02/Central Tendency	D	2	K							2
4	CO1	04/Probability	D	2	K							2
5	CO1	04/Probability	P	2	K							2
6	CO1	04/Probability	P	2	K							2
7	CO1	03/Measure of Dispersion	D	2	K							2
8	CO1	03/Measure of Dispersion	D	2	K							2
9	CO1	05/Random Variables	D	2	K							2
10	CO1	04/Probability	D	2	K							2
11	CO1	02/Central Tendency				P	10	K				10
12	CO1	03/Measure of Dispersion				P	10	K				10
13	CO1	03/Measure of Dispersion				P	10	K				10
14	CO1	05/Random Variables				D	10	K				10
15	CO1	05/Random Variables				P	10	K				10
16	CO3	04/Probability				D			15	A		15
17	CO3	03/Measure of Dispersion				P			15	A		15
	Total Marks		10			50			30			100

K =Knowledge Level   C = Comprehension Level, A = Application Level

Note: While setting all types of questions the general guideline is that about 60%

Of the questions must be such that even a below average students must be able to attempt, About 20% of the questions must be such that only above average students must be able to attempt and finally 20% of the questions must be such that only the bright students must be able to attempt.

Annexure- II: Format of Answer Scheme

SCHOOL OF INFORMATION SCIENCE

SOLUTION

Date: 06/01/2020

Semester: BCA I

Time: 3 HOURS

Course Code: MAT 111

Max Marks: 100

Course Name: STATISTICAL METHODS & TECHNIQUES

Weightage: 50%

Part A   (10Q x 2M = 20 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
1	Definition	2	5 mins
2	Merits of Bar chart and Histogram	2	5 mins
3	List	2	5 mins
4	Probability	2	5 mins
5	Problem	$1/7 - 2$	5 mins
6	Problem	$8/663 - 2$	5 mins
7	Definition	2	5 mins
8	Definition	2	5 mins
9	Definition	2	5 mins
10	Definition	2	5 mins

Part B   (5Q x 10M = 50 Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
4	Problem	Table – 6 Formula – 2 Solution – 2	10 mins
5	Problem	Q1, Q2, Q3 D8, P55 (2 marks each)	15 mins
6	Problem	Table – 4 Mean – 1, Variance – 2, Standard deviation – 1, Cov-2	15 mins
	Derivation	Mean - 3 Variance - 5 SD - 2	15 mins
	Problem	Value of K – 2 PDF – 1 Mean – 2, SD=2, 1 each for P(f)	15 mins

Part C   (2Q x 15M = 30Marks)

Q No	Solution	Scheme of Marking	Max. Time required for each Question
7	Derivation	Statement – 3 Proof - 12	30 mins
8	Problem	Correlation – 10 Regression on x on y - 5	30 mins