

**NMIMS Global Access**  
**School for Continuing Education (NGA-SCE)**

Course: Business Statistics

**Internal Assignment Applicable for December 2018 Examination**

Assignment Marks: 30

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**Instructions:**

- *All Questions carry equal marks.*
- *All Questions are compulsory*
- *All answers to be explained in not more than 1000 words for question 1 and 2 and for question 3 in not more than 500 words for each subsection. Use relevant examples, illustrations as far as possible.*
- *All answers to be written individually. Discussion and group work is not advisable.*
- *Students are free to refer to any books/reference material/website/internet for attempting their assignments, but are not allowed to copy the matter as it is from the source of reference.*
- *Students should write the assignment in their own words. Copying of assignments from other students is not allowed*
- *Students should follow the following parameter for answering the assignment questions*

<b>For Theoretical Answer</b>	
<b>Assessment Parameter</b>	<b>Weightage</b>
Introduction	20%
Concepts and Application related to the question	60%
Conclusion	20%

<b>For Numerical Answer</b>	
<b>Assessment Parameter</b>	<b>Weightage</b>
Understanding and usage of the formula	20%
Procedure / Steps	50%
Correct Answer & Interpretation	30%

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<b>Assets</b>	<b>Expense Ratio</b>	<b>Return 2006</b>	<b>3-Year Return</b>	<b>5-Year Return</b>
904.8	1.51	4.6	10.7	8.1
675.9	1.28	8.5	11.9	7.3
909.7	0.80	13.1	10.4	6.3
52.2	1.50	11.6	10.3	6.4
8411.5	0.63	10.9	12.4	8.0
282.3	1.22	7.1	10.2	8.0
9870.7	0.86	12.3	15.0	7.7
424.8	1.13	12.3	11.0	6.2
15422.9	0.72	14.0	10.2	6.2
497.9	1.36	8.6	12.0	7.3
547.3	1.09	7.5	12.8	7.2
5527.1	0.41	11.2	10.2	6.5
22592.9	0.46	12.3	13.0	8.4
240.8	1.42	4.4	10.3	6.6
2403.4	0.93	8.0	10.1	4.3
233.3	1.33	6.5	9.4	5.4
71.2	0.15	15.4	6.6	5.0
506.9	1.15	11.2	9.3	4.5
221.6	1.12	13.2	8.9	4.7
434.9	1.19	14.2	12.3	7.1
7834.2	0.56	13.7	9.6	5.5
152.1	1.34	12.4	9.6	4.6
815.4	0.73	13.0	8.9	4.5
85.7	0.45	13.2	9.6	4.0
166.1	1.41	3.3	7.8	5.3
47.2	0.74	8.1	10.8	5.7
6955.2	0.87	7.8	10.7	5.8
135.4	1.25	14.6	8.2	5.8
142.0	1.18	9.2	9.7	5.6
601.8	1.00	9.7	7.9	3.8

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1. For the data on 30 mutual funds given above, conduct the following analysis:
  - i. Determine the measures of central tendency and of dispersion for the five variables.
  - ii. Provide the five-number summary i.e. the minimum, 1<sup>st</sup> quartile, median, 3<sup>rd</sup> quartile and maximum value for asset size.

Interpret the above results and comment on how the data is distributed.

**(10 Marks)**

2. For the same data on mutual funds given above:
  - i. Is there a strong association between asset size and expense ratio?
  - ii. Create a scatterplot diagram depicting the association between the two variables.
  - iii. Using the regression equation, predict the 5-year return of a fund whose 3-year return was 8%.

**(10 Marks)**

3. Assume there are 400 athletes in a training camp, who are required to attend the morning drill starting at 4 am. The attendance in morning drills is 70%, i.e. on an average, 280 athletes are present. Fifty new athletes are admitted in this batch.

- a. What is the probability of attendance being at least 70% among the new athletes, thus ensuring the overall attendance does not fall below 70%?

**(5 Marks)**

- b. The training coach thinks that this probability will increase, if the new batch size is 40 instead of 50 students. Is he right in assuming so?

**(5 Marks)**

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