Reg. No. ☐☐☐☐☐☐☐☐☐

MIBS 405

First Semester M.B.A. (I.B.) Degree Examination, December 2018
INTERNATIONAL BUSINESS
Quantitative Techniques

Time : 3 Hours   Max. Marks : 70

SECTION – A

Note : Answer **any two** questions. **Each** question carries **10** marks. Answer to the question should **not** exceed **five** pages.   **(2×10=20)**

1. What are the main components of time series ? How will you determine them ?

2. Describe the two methods of collecting data. In what special circumstances are two methods suitable ?

3. Critically examine the different methods of measuring dispersion.

SECTION – B

Note : Answer **any three** questions. **Each** question carries **12** marks. Answer to the question should **not** exceed **six** pages.   **(3×12=36)**

4. Mr. A bought 3 books, 2 pens and 2 pencils for which the bill was Rs. 282. The next day he bought 5 books, 3 pens and 1 pencil for which the bill was Rs. 466. He again purchased 4 books, 8 pens and the bill was Rs. 400. If the price remained unchanged, find the price of 1 book, 1 pen and 1 pencil using Cramer's rule.

5. From the data given below, find the missing frequency. If the arithmetic mean is 28, find the median :

Profits per shop (Rs. '000)	0-10	10-20	20-30	30-40	40-50	50-60
No. of shops	12	18	27	?	17	6

6. From the following data obtain the two regression equations and calculate the correlation coefficient :

X	1	2	3	4	5	6	7	8	9
Y	9	8	10	12	11	13	14	16	15

Estimate the value of Y which should correspond on an average to X = 6.2.

7. From the data given below, find the coefficient of correlation between the driver's age and the number of accidents made by him.

Number of accidents	Driver's age				
	25-30	30-35	35-40	40-45	45-50
0	–	6	6	14	8
1	–	–	18	8	2
2	6	10	20	6	–
3	8	18	12	–	–
4	24	14	6	2	–

8. Given the revenue function $R(x) = -3x^3 + 600x^2$ and the cost function $C(x) = 357x^2 + 1800x$; find :
   a) The marginal profit at $x = 10$ units. Interpret the result.
   b) The marginal profit at $x = 100$ units. Interpret the result.

SECTION – C

(Compulsory)

Note : Answer to the question should **not** exceed **six** pages.   **(1×14=14)**

9. The following figures relate to the prices and quantities of certain commodities. Determine current price index through :

   (a) Laspeyre's method (b) Paasche's method (c) Bowley's method and (d) Fishers method :

Commodities	2016		2017	
	P_0	Q_0	P_1	Q_1
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

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