SAINTGITS COLLEGE OF APPLIED SCIENCES
PATHAMUTTOM, KOTTAYAM

Internal Examination, June 2021
(Online Mode)
Department of Commerce, Semester IV
QUANTITATIVE TECHNIQUES FOR BUSINESS - II

Total: 40 marks   **Time**: 1.5 hours

Section A

Answer any 5 questions. Each question carries 2 marks.

1. Describe Irregular Variation.

2. Explain the term Permutation.

3. Examine cost of living index number.

4. What is splicing in Index Numbers?

5. The trend equation of annual sales of XY Company Ltd. is Y=81.6+28.8X

   (Origin- 2017, X-Unit: 1 Year, Y unit annual sales). Convert the equation to monthly basis.

6. Define sample space and sample point.

7. Examine Spurious Correlation.   **(5 X 2 = 10)**

Section B

Answer any 3 questions. It carries 5 marks.

8. Find coefficient of concurrent deviation from the following

X	85	91	56	72	95	76	89	51	59	90
Y	18	20	16	15	19	18	17	14	18	15

9. The following data based on 450 students, are given for marks in Statistics and Mathematics. Examine average marks in Mathematics of a student who secured 50 marks in Statistics.

	Statistics	Maths
Mean Marks	40	48
Standard Deviation	12	16

   Sum of products of deviation of marks from their respective mean = 42075

10. List out the problems in construction of index numbers?

11. Examine the components of Time Series.

12. From the following data, calculate trend values and short term fluctuations using 3 yearly moving average.

Year	2011	2012	2013	2014	2015	2016	2017	2018
Sales (in lakhs)	80	90	92	83	94	99	92	104

13. A committee of 6 is to be formed from a group of 7 men and 4 women
Find the probability that the committee consist of.

  a. Exactly 2 women
  b. At Least 2 women
  c. At the most 2 women   **(3 X 5 = 15)**

SECTION C

Answer any 1 question. It carries 15 marks

14. The following data gives the age and blood pressure of ten persons:

Age	56	42	36	47	49	42	60	72	63	55
BP	147	125	118	128	145	140	155	160	149	150

.   Solve the regression equation of X on Y and Y on X.
  1. Evaluate the blood pressure of a person whose age is 45.
  2. Illustrate the age when the BP is 170.
  3. Find out the correlation coefficient between X and Y.

15. Apply Fisher's Ideal Index from the following data and show whether it satisfies both time reversal and factor reversal tests.

Commodity	Price 2017	Expenditure 2017	Price 2018	Expenditure 2018
A	8	80	10	120
B	10	120	12	96
C	5	40	5	50
D	4	56	3	60
E	20	100	25	150

(15 X 1 = 15 marks)

Instructions to Students

1. *Exam should be written in A4 sheets only.*

2. *Use Blue or Black ball point pen only.*

3. *Page number, name, roll number and class should be written on each side of the sheet.*

4. *After completing the exam, handwritten answers should be turned in as a single PDF file (Use of Adobe scan or Microsoft Office lens App are advised). Upload the PDF in Microsoft teams channel before the deadline.*

5. *PDF of the scanned handwritten answers should be uploaded within the allotted time.*

6. *Marks will be taken as your internals.*

7. *One long essay question of 15 marks, three short essay questions of 5 marks each and 5 two marks questions. Total 40 marks exam for 1.5 hours duration.*

8. *Any kind of discussion among the candidates during the exam may result in cancellation of the exam.*

9. *In case of any doubts regarding questions / technical difficulties during the examination, the same should be brought to the notice of your respective Class teacher / Mentor / Subject teacher via Microsoft Teams/ Whatsapp/ Mobile.*

10. **Video must be made on throughout the exam**

Exam Cell 2020 – 21   Principal

Saintgits College of Applied Sciences