



WEST BENGAL STATE UNIVERSITY
B.Sc. Honours/Programme 4th Semester Examination, 2021

STSHGEC04T/STSGCOR04T-STATISTICS (GE4/DSC4)

APPLIED STATISTICS

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

Answer any four questions from the following

5×4 = 20

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| 1. | Describe Laspeyre's and Paasche's methods of weighing index relatives. Which one would you prefer and why? | 3+2 |
| 2. | Explain the procedure of standardising death rates. | 5 |
| 3. | Discuss the moving average method in time series with proper justification. | 5 |
| 4. | Describe different procedure to obtain raw data in vital statistics. | 5 |
| 5. | Discuss how index number is used for measuring (i) purchasing power of money, (ii) real wage. | 5 |
| 6. | Discuss the method of mathematical curve fitting in determining trend of a time series. | 5 |

Answer any two questions from the following

10×2 = 20

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| 7. (a) | Discuss determination of seasonal indices by method of ratio-to-trend. | 5 |
| | (b) Describe merits and demerits of different methods of trend elimination. | 5 |
| 8. | Define consumer price index (CPI) and wholesale price index (WPI) numbers. What are the differences between CPI and WPI? Discuss briefly the various steps for constructing a WPI number. Discuss their applications in our day to day life. | 2+2+3+3 |
| 9. (a) | State the basic assumptions while constructing a life table. In the usual notations, show that $q_x = \frac{2m_x}{2+m_x}$. | 6 |
| | (b) Define gross and net reproduction rate. | 4 |
| 10.(a) | Explain time reversal and factor reversal tests. Write down the significance of the term factor. | 5 |
| | (b) Show that Fisher's index satisfies these two tests. Which test is better and why? | 5 |

N.B. : Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.

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