



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

InSem Examination-I Winter2024	
Exam Seat No.:	
Academic Year:2024-2025	Semester:III
Class:SY	Program:B.Tech
Branch Code:ETC	Pattern:2023
Name of Course:Data Analytics with Python	Course Code: 2302206B
Max. Marks:30	Duration:1.15 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. Q.1 and Q.3 are compulsory.
2. This question paper contains 3 pages.
3. Answer to each new question is to be started on a new page.
4. Assume suitable data wherever required, but justify it.
5. Draw the neat labelled diagrams, wherever necessary.

Marks CO

Question No. 1

- 1 a) What do you mean by Data Analysis? Explain why analytics is important in today's business environment? (3) CO1
- 1 b) Why python? What are the main libraries you would use for data analysis in Python? (4) CO1

Question No. 2

- 2 a) Explain Range, Inter-quartile range, Variance and Standard Deviation. (4) CO1
- 2 b) The following data indicate the top 15 trading partners of the United States in exports in a recent year according to the U.S. Census Bureau. (4) CO1

Country	Exports (\$ billions)
Canada	213.1
Mexico	119.4
China	61.0
Japan	58.1
United Kingdom	45.4
Germany	44.3

South Korea	33.0
Netherlands	30.5
France	25.8
Taiwan	24.8
Singapore	23.6
Belgium	23.0
Brazil	21.7
Australia	17.9
India	16.3

What is the inter quartile range for these data?

OR

2 c) What is skewness? Explain positive skewness and negative skewness. (4) CO1

2 d) Determine the mode and median for the following numbers. (4) CO1

2 4 8 4 6 2 7 8 4 3 8 9 4 3 5

Question No. 3

3 a) What are the different continuous probability distributions? List and explain any two of them. (3) CO2

3 b) Use the values in the matrix to solve the equations given. (4) CO2

	E	F
A	0.10	0.03
B	0.04	0.12
C	0.27	0.06
D	0.31	0.07

1. $P(A \cup F) = ?$

2. $P(E \cup B) = ?$

Question No. 4

- 4 a) Explain probability. What are the methods of assigning probabilities? (4) CO2
- 4 b) A company has 140 employees, of which 30 are supervisors. Eighty of the employees are married, and 20% of the married employees are supervisors. If a company employee is randomly selected, what is the probability that the employee is married and is a supervisor? (4) CO2

OR

- 4 c) What is sampling in data analytics? What are the different types of sampling methods? (4) CO2
- 4 d) A customer service center receives an average of 5 calls per minute. What is the probability that exactly 3 calls are received in a given minute? (4) CO2

..... End of question paper.....