



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment Test II – October 2025
III SEMESTER

Class : II B.Voc.

Major: Artificial Intelligence and Machine Learning

Time: 2 hours

Maximum Marks: 60

23VAIC09 Advanced Python Programming

Course Outcomes:

1. Becomes familiar with advanced python concepts
2. To understand different dataset and their manipulations
3. Capable to design the statistics, ensemble models
4. Work on window functions and analysis
5. Mastering the programming in Time series analysis.

Part-A

6x1=6

Choose the correct answer

1. Which pandas function is used to read a CSV file into a DataFrame? CO3K2
a. pd.read_json() b. pd.read_csv() c. pd.read_excel() d. pd.read_html()
2. Which Python library is used to send HTTP requests and interact with web APIs? CO3K1
a. BeautifulSoup b. Flask c. Requests d. NumPy
3. What is the purpose of the groupby() method in pandas? CO4K1
a) To combine multiple DataFrames
b) To categorize data based on one or more columns and apply aggregate functions
c) To sort the DataFrame by a specific column
d) To reshape the DataFrame from wide to long format
4. Which primary data structure in pandas is used for one-dimensional labeled data? CO4K2
a. DataFrame b. Panel c. Series d. Array
5. The target variable is represented along _____ CO5K2
a) Y axis b) X axis c) Either Y-axis or X-axis d) Depends on the dataset
6. The forecasts on the basis of a time series are _____ CO5K1
a. 100% true b. Never true c. true to great extent d. none of these

Part- B

3x6=18

Answer ALL Questions

Each answer should not exceed 400 words or two pages

- 7.a. Briefly explain about binary data formats. CO3K3
(or)
- 7.b. Explain merge() and join() DataFrames in python. CO3K2
- 8.a. Describe dict and series in data grouping. CO4K2
(or)
- 8.b. Outline the decision tree ensemble model. CO4K3
- 9.a. Write a short note on date and time data type tools. CO5K3
(or)
- 9.b. Briefly explain Resampling Data in time series. CO5K2

Part-C

3x12=36

Answer ALL questions

Each answer should not exceed 800 words or four pages

- 10.a. Define data loading in Python? Explain Python library which is most commonly used for data loading. CO3K2
(or)
- 10.b. Describe about interacting with HTML and web APIs. CO3K3
- 11.a. Write the purpose of groupby() in Pandas. CO4K2
(or)
- 11.b. Explain Linear Regression and how is it implemented in Python. CO4K3
- 12.a. Describe the python time module with a simple program. CO5K4
(or)
- 12.b. Give the usage of asof() selection in python. CO5K3

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