

## IMBA in BI/IB/ APR Sem.-9 Examination

BI

PBA-II

Time : 1.30 Hours]

December-2025

[Max.Marks : 70

- Instructions :** (1) This paper contains **Thirty Five** questions.  
 (2) Each Question is of 2 Marks.  
 (3) Each Question is of multiple choices.  
 (4) All questions are compulsory.

Q.No	Questions	Marks
1	Which of the following data types in Python is immutable? A) List B) Dictionary C) Tuple D) Set	02
2	What will be the output of the following code: <code>print(type(5.0))</code> ? A) <code>&lt;class 'int'&gt;</code> B) <code>&lt;class 'float'&gt;</code> C) <code>&lt;class 'double'&gt;</code> D) <code>&lt;class 'decimal'&gt;</code>	02
3	Which keyword is used to define a function in Python? A) <code>func</code> B) <code>define</code> C) <code>def</code> D) <code>function</code>	02
4	How do you access the value associated with the key 'name' in the dictionary <code>d = {'name': 'John', 'age': 25}</code> ? A) <code>d['name']</code> B) <code>d.get('name')</code> C) <code>d.name</code> D) Both A and B	02
5	What is the correct syntax to output "Hello World" in Python? A) <code>echo "Hello World"</code> B) <code>p("Hello World")</code> C) <code>print("Hello World")</code> D) <code>printf("Hello World")</code>	02

- 6 In Python OOPs, what is the purpose of the `__init__` method? **02**  
A) To terminate the class                      B) To initialize the object's attributes  
C) To create a new class                        D) To import packages
- 7 Which keyword is used to create a class in Python? **02**  
A) object    B) class  
C) struct     D) constructor
- 8 What does the parameter `self` represent in a class method? **02**  
A) The current instance of the class            B) The parent class  
C) The global variables                         D) The library imports
- 9 Which concept of OOPs helps in hiding the variables in a class ? **02**  
A) Inheritance                                      B) Polymorphism  
C) Encapsulation                                 D) Abstraction
- 10 If class B inherits from class A, which is the correct syntax? **02**  
A) class B inherits A:                            B) class B(A):  
C) class A(B):                                     D) class B extends A:
- 11 Which library is primarily used for numerical computations in Python? **02**  
A) Pandas    B) Seaborn  
C) NumPy    D) Matplotlib
- 12 How do you create a NumPy array from a list [1, 2, 3]? **02**  
A) `np.array([1, 2, 3])`                            B) `np.create([1, 2, 3])`  
C) `np.list([1, 2, 3])`                            D) `np.object([1, 2, 3])`
- 13 Which NumPy attribute returns the dimensions of the array (rows, columns)? **02**  
A) size    B) ndim  
C) shape     D) dtype

- 14** What function is used to create an array filled with zeros? **02**  
 A) np.empty() B) np.zeros()  
 C) np.null() D) np.void()
- 15** If arr is a NumPy array, what does arr.mean() calculate? **02**  
 A) The median value B) The standard deviation  
 C) The average value D) The sum of values
- 16** What is the result of np.array([1, 2]) + np.array([1, 1])? **02**  
 A) [1, 2, 1, 1] B) [2, 3]  
 C) [1, 2] D) Error
- 17** Which Pandas function is used to read a CSV file? **02**  
 A) pd.read\_file() B) pd.read\_csv()  
 C) pd.import\_csv() D) pd.csv\_read()
- 18** What method is used to view the first 5 rows of a Pandas DataFrame? **02**  
 A) df.tail() B) df.view()  
 C) df.top() D) df.head()
- 19** In Pandas, what is the primary data structure for holding 2D labeled data? **02**  
 A) Series B) DataFrame  
 C) Panel D) Array
- 20** Which method provides a statistical summary of the DataFrame (mean, std, min, max)? **02**  
 A) df.info() B) df.stats()  
 C) df.describe() D) df.summary()
- 21** How do you select a single column 'Age' from a DataFrame df? **02**  
 A) df['Age'] B) df.loc['Age']  
 C) df.iloc['Age'] D) df.get('Age')

- 22 Which function is used to check for missing values in a DataFrame? **02**  
A) df.missing() B) df.isnull()  
C) df.nan() D) df.check\_na()
- 23 How do you drop rows with missing values in Pandas? **02**  
A) df.remove\_na() B) df.dropna()  
C) df.del\_na() D) df.fill\_na()
- 24 Which function is used to group data based on categories? **02**  
A) df.sort\_values() B) df.aggregate()  
C) df.groupby() D) df.pivot()
- 25 Which library is built on top of Matplotlib and provides a high-level interface for drawing attractive statistical graphics? **02**  
A) NumPy B) Pandas  
C) Seaborn D) Scikit-learn
- 26 Which function in Matplotlib is used to create a scatter plot? **02**  
A) plt.bar() B) plt.scatter()  
C) plt.plot() D) plt.hist()
- 27 What type of plot is best suited for visualizing the distribution of a single numerical variable? **02**  
A) Scatter Plot B) Histogram  
C) Pie Chart D) Heatmap
- 28 Which command displays the plot in Matplotlib? **02**  
A) plt.display() B) plt.show()  
C) plt.render() D) plt.output()
- 29 In Seaborn, which plot is primarily used to visualize the correlation matrix? **02**  
A) Boxplot B) Pairplot  
C) Heatmap D) Countplot

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- 30 Which plot is most useful for identifying outliers in a dataset? **02**  
A) Bar Chart B) Line Chart  
C) Box Plot D) Area Chart
- 31 What does EDA stand for in Data Science? **02**  
A) Essential Data Algorithm B) Exploratory Data Analysis  
C) Effective Database Assessment D) External Data Aggregation
- 32 Which of the following is a goal of EDA? **02**  
A) To detect outliers and anomalies B) To understand underlying structure  
C) To test assumptions D) All of the above
- 33 Analyzing a single variable at a time is called: **02**  
A) Univariate Analysis B) Bivariate Analysis  
C) Multivariate Analysis D) Regression Analysis
- 34 Which step is typically performed during Data Cleaning in EDA? **02**  
A) Handling missing values B) Removing duplicates  
C) Correcting data types D) All of the above
- 35 If two variables move in the same direction, they have a: **02**  
A) Negative Correlation B) Zero Correlation  
C) Positive Correlation D) Inverse Correlation

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