**Q1) Which of the following is not a type of data visualization?**

a) Bar Graph

b) Scatter Plot

c) Database

d) Pie Chart

Correct Answer: Option (c)

Explanation: Data visualization is the graphical representation of data and information. It is used to communicate complex data sets in a clear and concise manner. There are various types of data visualization techniques such as bar graphs, scatter plots, pie charts, line charts, etc. However, a database is not a type of data visualization. It is a structured collection of data that is used for storing, managing, and retrieving data efficiently.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q2) Which library in Python is used for data visualization?**

a) NumPy

b) Pandas

c) Matplotlib

d) Scikit-learn

Correct Answer: Option (c)

Explanation: Matplotlib is a popular data visualization library in Python. It is used to create static, animated, and interactive visualizations in Python. Matplotlib provides various types of plots such as line plots, scatter plots, bar plots, histogram, etc. It is a powerful library that can be used for creating high-quality visualizations for both scientific and non-scientific purposes.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q3) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which function in Pandas is used for grouping data based on one or more columns?**

a) join()

b) merge()

c) groupby()

d) concat()

Correct Answer: Option (c)

Explanation: The groupby() function in Pandas is used to group data based on one or more columns. It is a powerful function that allows you to group data based on various criteria such as the values in a column, the number of occurrences of a value, etc. Once the data is grouped, you can perform various operations such as calculating the sum, mean, median, etc. on each group.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q4) Which of the following is a commonly used data format for data analysis and manipulation using Pandas?**

a) CSV

b) JSON

c) XML

d) All of the above

Correct Answer: Option (d)

Explanation: Pandas is a powerful data analysis and manipulation library in Python. It supports various data formats such as CSV, JSON, XML, Excel, SQL, etc. Among these formats, CSV (Comma Separated Values) is a commonly used data format for storing and exchanging data between applications. It is a simple and lightweight format that can be easily read and written by Pandas.

Thus, the correct answer is option (d).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q5) Which of the following is a function in Matplotlib used for creating a scatter plot?**

a) plot()

b) hist()

c) scatter()

d) pie()

Correct Answer: Option (c)

Explanation: The scatter() function in Matplotlib is used for creating a scatter plot. A scatter plot is a type of plot that displays the relationship between two variables. It is useful for visualizing the distribution and correlation of data points. In a scatter plot, each point represents an individual observation or data point, and the x and y coordinates represent the values of the two variables being compared.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q6) Which library in Python is used for data manipulation and analysis?**

a) Numpy

b) Pandas

c) Matplotlib

d) Scipy

Correct Answer: Option (b)

Explanation: Pandas is a popular library in Python used for data manipulation and analysis. It provides efficient data structures for working with structured data, such as dataframes and series, and includes a variety of tools for data cleaning, merging, and aggregation. Numpy is another library in Python used for scientific computing, while Matplotlib and Scipy are libraries used for data visualization and scientific computing, respectively.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q7) Which of the following is a method to remove duplicate rows in a pandas dataframe?**

a) drop\_duplicates()

b) remove\_duplicates()

c) delete\_duplicates()

d) erase\_duplicates()

Correct Answer: Option (a)

Explanation: The drop\_duplicates() method is used in Pandas to remove duplicate rows from a dataframe. This method allows for various options to be specified, such as the columns to consider for identifying duplicates, the order in which to keep the duplicates, and whether to consider missing values as duplicates. The other options listed are not valid methods in Pandas for removing duplicate rows.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q8) Which of the following is a Python library used for data manipulation and analysis?**

a) NumPy

b) Pandas

c) Matplotlib

d) Seaborn

Correct Answer: Option (b)

Explanation: Pandas is a popular Python library used for data manipulation and analysis. It provides easy-to-use data structures and data analysis tools for handling structured data, including time series, tabular, and matrix data. With Pandas, you can easily manipulate and transform data, perform data cleaning and preprocessing, and perform various data analysis tasks such as filtering, grouping, and merging. NumPy is also a Python library used for numerical computing, Matplotlib is used for data visualization, and Seaborn is a Python library built on top of Matplotlib for statistical data visualization.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q9) Which of the following Pandas functions is used to load data from a CSV file?**

a) read\_csv()

b) read\_excel()

c) read\_html()

d) read\_sql()

Correct Answer: Option (a)

Explanation: Pandas provides several functions for loading data from various file formats, including CSV, Excel, HTML, and SQL databases. The read\_csv() function is specifically used to load data from a CSV file into a Pandas DataFrame. It allows you to specify various options such as the delimiter, header, and index column, and returns a DataFrame object containing the loaded data. The read\_excel() function is used to load data from an Excel file, read\_html() function is used to load data from an HTML table, and read\_sql() function is used to load data from a SQL database.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q10) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following is a Pandas function used to select specific columns from a DataFrame?**

a) iloc[]

b) loc[]

c) head()

d) drop()

Correct Answer: Option (b)

Explanation: The loc[] function in Pandas is used to select specific rows and columns from a DataFrame based on labels. It takes two arguments - the row label(s) and column label(s) - and returns a subset of the DataFrame that matches the specified labels. For example, df.loc[:, ['col1', 'col2']] selects all rows and only the 'col1' and 'col2' columns from the DataFrame df. The iloc[] function is used to select rows and columns based on their integer position, while the head() function is used to display the first few rows of a DataFrame. The drop() function is used to drop specific rows or columns from a DataFrame.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q11) Answer the following question with reference to the audio**

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**TYPE: Audio  
Which of the following is a NumPy function used to compute the dot product of two arrays?**

a) dot()

b) sum()

c) mean()

d) std()

Correct Answer: Option (a)

Explanation: The dot() function in NumPy is used to compute the dot product of two arrays. It takes two arrays as inputs and returns a scalar value. The dot product is a mathematical operation that combines the elements of two arrays in a specific way. It is used in many applications, such as linear algebra, signal processing, and machine learning. The sum() function is used to compute the sum of elements along a specified axis, while the mean() function is used to compute the arithmetic mean of elements along a specified axis. The std() function is used to compute the standard deviation of elements along a specified axis.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q12) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which function is used to read a CSV file in Pandas?**

a) read\_excel()

b) read\_sql()

c) read\_csv()

d) read\_html()

Correct Answer: Option (c)

Explanation: The read\_csv() function is used to read a CSV file in Pandas. CSV stands for Comma-Separated Values and is a common file format used for data exchange. The function allows users to specify various parameters such as delimiter, header, encoding, and data types while reading the file.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q13) Which of the following is not a valid data structure in Pandas?**

a) Series

b) DataFrame

c) Array

d) Panel

Correct Answer: Option (c)

Explanation: Pandas is a Python library used for data manipulation and analysis. It provides two main data structures: Series and DataFrame. Series is a one-dimensional array-like object that can hold any data type. DataFrame is a two-dimensional table-like data structure with rows and columns. Panel is a three-dimensional data structure which is not widely used. Array is not a valid data structure in Pandas as it is a data structure provided by the NumPy library.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q14) Which of the following libraries is not used for data visualization in Python?**

a) Matplotlib

b) Seaborn

c) Pandas

d) Plotly

Correct Answer: Option (c)

Explanation: Pandas is a library used for data manipulation and analysis, but it does not have inbuilt visualization capabilities. Matplotlib is a widely used library for data visualization in Python. Seaborn is a higher-level library built on top of Matplotlib that provides more aesthetically pleasing visualizations. Plotly is a library that provides interactive visualizations for web-based applications.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q15) Which of the following is not a valid method for merging DataFrames in Pandas?**

a) concat()

b) join()

c) merge()

d) add()

Correct Answer: Option (d)

Explanation: Pandas provides various methods for merging DataFrames, including concat(), join(), and merge(). The add() method is used for adding values element-wise in two DataFrames or Series, and not for merging DataFrames.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q16) Which of the following is used for filling missing values in a DataFrame in Pandas?**

a) fill\_zeros()

b) fill\_nulls()

c) fill\_missing()

d) fillna()

Correct Answer: Option (d)

Explanation: In Pandas, the fillna() method is used for filling missing values in a DataFrame. It can take various arguments such as method, value, limit, and axis to customize the filling process. The other given are not valid methods for filling missing values in Pandas.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q17) Which of the following is not a valid type of plot in Matplotlib?**

a) Line plot

b) Scatter plot

c) Bar plot

d) Heat map

Correct Answer: Option (d)

Explanation: Matplotlib provides various types of plots such as line plots, scatter plots, bar plots, and area plots. Heat map is not a type of plot in Matplotlib but can be created using other libraries such as Seaborn.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q18) Which of the following methods is used in Pandas to create a pivot table?**

a) pivot()

b) groupby()

c) merge()

d) pivot\_table()

Correct Answer: Option (d)

Explanation: The pivot\_table() method in Pandas is used to create a pivot table, which is a powerful tool for summarizing and aggregating data. A pivot table allows you to group data by one or more columns, and then apply aggregation functions to the grouped data. The pivot\_table() method enables you to specify the columns to be used for grouping, the columns to be used for values, and the aggregation functions to be applied. The pivot() method is used to reshape data by pivoting columns into rows and vice versa. The groupby() method is used for grouping data based on one or more criteria. The merge() method is used to join two or more DataFrames based on common columns.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q19) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following statements about Matplotlib is not true?**

a) It is a data visualization library in Python.

b) It provides a wide variety of plotting options.

c) It is built on top of Pandas.

d) It is highly customizable.

Correct Answer: Option (c)

Explanation: Matplotlib is a data visualization library in Python that provides a wide range of plotting options. It is not built on top of Pandas but can be used in conjunction with Pandas to create visualizations of the data.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q20) Which of the following statements about Seaborn is not true?**

a) It is a data visualization library in Python.

b) It provides a high-level interface for creating aesthetically pleasing plots.

c) It is built on top of Matplotlib.

d) It provides fewer plot types than Matplotlib.

Correct Answer: Option (d)

Explanation: Seaborn is a data visualization library in Python that provides a high-level interface for creating aesthetically pleasing plots. It is built on top of Matplotlib and provides additional functionality and plot types compared to Matplotlib.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q21) Which of the following is a valid argument for the fillna() method in Pandas?**

a) method='median'

b) value='0'

c) limit=2

d) All of the above

Correct Answer: Option (d)

Explanation: The fillna() method in Pandas can take various arguments to customize the filling process. The method argument can take values such as 'mean', 'median', 'ffill', 'bfill' to fill missing values using different methods. The value argument is used to fill missing values with a specific value. The limit argument is used to limit the number of consecutive missing values that can be filled.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q22) Which of the following is not a valid type of plot in Seaborn?**

a) Violin plot

b) Swarm plot

c) Heat map

d) Line plot

e) Ridge plot

Correct Answer: Option (d)

Explanation: Seaborn, a data visualization library in Python, offers a range of plots like violin, swarm, heat maps, and ridge plots. However, unlike Seaborn, Matplotlib provides line plots, which are useful for displaying trends over time or continuous data.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q23) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following is NOT a valid data type in Pandas?**

a) Object

b) Float

c) Complex

d) DateTime

Correct Answer: Option (c)

Explanation: Pandas, a popular data manipulation library in Python, supports various data types, including Object, Float, Integer, Boolean, and DateTime. However, Pandas does not support the Complex data type. Complex numbers can be represented in Pandas using float or object data types.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q24) Which Pandas function is used to remove duplicate rows from a DataFrame?**

a) remove\_duplicates()

b) drop\_duplicates()

c) delete\_duplicates()

d) erase\_duplicates()

Correct Answer: Option (b)

Explanation: In Pandas, drop\_duplicates() function is a useful tool to identify and remove duplicate rows from a DataFrame. It provides options to specify columns for duplicate identification and to keep the first or last occurrence of the duplicates.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q25) Which of the following is NOT a valid parameter for the plot() function in Pandas?**

a) kind

b) color

c) size

d) title

Correct Answer: Option (c)

Explanation: Pandas plot() function is a versatile tool for creating different types of plots, and it supports various parameters such as kind, color, title, labels, and more. However, size is not a valid parameter in Pandas plot() function. Instead, the figsize parameter can be used to adjust the size of the plot.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q26) Which Pandas function is used to fill missing values in a DataFrame?**

a) fill\_values()

b) fillna()

c) replace\_values()

d) replace\_na()

Correct Answer: Option (b)

Explanation: In Pandas, fillna() function is a useful tool to fill missing or NaN values in a DataFrame. It provides options to replace missing values with a specified value or using different methods like forward or backward fill. Other like remove\_missing() or clear\_missing() are invalid functions.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q27) Which of the following is used to create a scatter plot in Pandas?**

a) line()

b) bar()

c) scatter()

d) pie()

Correct Answer: Option (c)

Explanation: Pandas scatter() function is a simple yet powerful tool to create a scatter plot that visualizes the relationship between two variables. Others like plot() for line plot, bar() for bar plot, hist() for histogram, and boxplot() for box plot are used to create different types of plots in Pandas.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q28) Which of the following is a valid syntax to select rows and columns from a Pandas DataFrame?**

a) df.select(rows, columns)

b) df.loc[rows, columns]

c) df[rows, columns]

d) df.iloc[rows, columns]

Correct Answer: Option (d)

Explanation: In Pandas, iloc[] function is a powerful indexing tool that enables selecting rows and columns from a DataFrame by their integer position. The syntax for selecting rows and columns is df.iloc[rows, columns], where the rows and columns can be specified using integer-based slicing or a list of integer positions.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q29) Which of the following is not a valid type of join operation in Pandas?**

a) Inner join

b) Outer join

c) Right join

d) Diagonal join

Correct Answer: Option (d)

Explanation: Diagonal join is not a valid type of join operation in Pandas. The three valid types of join operations are inner join, outer join, and right join. These operations are used to combine data from multiple tables based on a common column or index.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q30) Which of the following is a valid syntax to plot a line graph in Matplotlib?**

a) plt.plot(x, y, type='line')

b) plt.plot(x, y, 'line')

c) plt.line(x, y)

d) plt.lineplot(x, y)

Correct Answer: Option (b)

Explanation: Matplotlib provides a simple syntax to create line plots using plt.plot(x, y, 'line'). The x and y variables represent the data to be plotted, and 'line' is a shorthand notation to specify the type of line plot to be generated. Additional parameters can be used to customize the plot appearance.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q31) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following is true about data cleaning?**

a) It involves removing all missing values from the dataset

b) It involves converting all categorical variables to numerical variables

c) It involves handling missing or incorrect data in the dataset

d) It involves removing outliers from the dataset

Correct Answer: Option (c)

Explanation: Data cleaning is the process of identifying and handling missing, incorrect, or inconsistent data in a dataset. It involves various techniques such as imputation, deletion, and correction to ensure that the data is accurate and complete.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q32) Which function is used to group data in Pandas?**

a) group()

b) group\_by()

c) groupby()

d) group\_data()

Correct Answer: Option (c)

Explanation: The groupby() function in Pandas is used to group data based on one or more columns in a data frame. It allows users to perform aggregate operations such as sum, mean, count, etc. on the grouped data.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q33) Which of the following is true about data visualization?**

a) It is used to create tables and charts from data

b) It is used to summarize data in a dataset

c) It is used to explore and communicate patterns and trends in data

d) It is used to perform statistical analysis on data

Correct Answer: Option (c)

Explanation: Data visualization is the process of representing data in a graphical or visual format. It is used to explore, analyze, and communicate patterns and trends in data to a wider audience. It helps users to gain insights into the data and make informed decisions.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q34) Which function is used to plot a scatter plot in Matplotlib?**

a) plot.scatter()

b) scatterplot()

c) plt.scatter()

d) scatter()

Correct Answer: Option (c)

Explanation: The plt.scatter() function in Matplotlib is used to create a scatter plot. A scatter plot is a type of plot that shows the relationship between two variables by plotting their values on a two-dimensional plane. It is commonly used to visualize the correlation between variables.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q35) How do you check for missing values in a Panda’s Data frame?**

a) df.isnull()

b) df.notnull()

c) df.missing()

d) df.null()

Correct Answer: Option (a)

Explanation: The df.isnull() function is used to check for missing values in a Panda’s Data frame.This function evaluates a scalar or array-like object and displays the presence or absence of values ( NaN in numeric arrays, None or NaN in object arrays, NaT in datetimelike).

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q36) Which of the following is not a method of the pandas DataFrame class?**

a) pivot\_table()

b) merge()

c) melt()

d) group\_by()

Correct Answer: Option (d)

Explanation: The group\_by() method is not a method of the pandas DataFrame class. Instead, it is a method of the pandas Series class. The pivot\_table(), merge(), and melt() methods are all methods of the DataFrame class used for data manipulation and analysis.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q37) Which of the following methods can be used to fill the missing values in a pandas DataFrame?**

a) fill\_values()

b) fillna()

c) replace\_na()

d) drop\_na()

Correct Answer: Option (b)

Explanation: The fillna() method can be used to fill missing values in a pandas DataFrame. This method allows you to specify a value to replace the missing values with or to use a method such as forward fill or backward fill to interpolate missing values based on the existing data. The other methods mentioned are not valid methods for filling missing values in pandas.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q38) Which of the following is not a type of plot available in pandas?**

a) Line plot

b) Bar plot

c) Pie chart

d) Area plot

Correct Answer: Option (c)

Explanation: While pandas provides a variety of plotting methods, including line plots, bar plots, scatter plots, histograms, and area plots, it does not support the creation of pie charts. However, you can use other Python libraries, such as Matplotlib or Seaborn, to create pie charts.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q39) Which of the following is the correct syntax for sorting a pandas DataFrame by multiple columns?**

a) df.sort\_values(by=['column1', 'column2'], ascending=[True, False])

b) df.sort\_values(by=['column1', 'column2'], ascending=True, False)

c) df.sort\_values(['column1', 'column2'], True, False)

d) df.sort\_values('column1', 'column2', ascending=True, False)

Correct Answer: Option (a)

Explanation: The correct syntax for sorting a pandas DataFrame by multiple columns is df.sort\_values(by=['column1', 'column2'], ascending=[True, False]). Here, 'column1' and 'column2' represent the columns you want to sort by, and True and False represent whether each column should be sorted in ascending or descending order, respectively.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q40) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1w-IdYbyD0HdBh9ojEmejPjWzfpDiEgWT/view?usp=share\_link**](https://drive.google.com/file/d/1w-IdYbyD0HdBh9ojEmejPjWzfpDiEgWT/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following statements is true about the pivot table in Pandas?**

a) It only works with numerical data.

b) It can be used to group data by multiple columns.

c) It cannot handle missing data.

d) It is only used for visualizing data.

Correct Answer: Option (b)

Explanation: The pivot table in Pandas is a powerful tool that allows users to group and summarize data based on one or more columns. It is not limited to numerical data and can be used with categorical data as well. Additionally, the pivot table can handle missing data by filling in the missing values with the appropriate data. One of the key features of the pivot table is its ability to group data by multiple columns, allowing users to create complex summaries of their data.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q41) Which of the following functions in Pandas is used to calculate the correlation between two columns of a DataFrame?**

a) corr()

b) sum()

c) mean()

d) diff()

Correct Answer: Option (a)

Explanation: The corr() function in Pandas is used to calculate the correlation between two columns of a DataFrame. It returns a correlation matrix that shows the correlation coefficients between all pairs of columns in the DataFrame. The sum() and mean() functions are used to calculate the sum and mean of the values in a column, respectively. The diff() function is used to calculate the difference between consecutive values in a column.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q42) Which of the following statements is true about data visualization in Python?**

a) Python has limited support for data visualization.

b) Matplotlib is the only library available for data visualization in Python.

c) Data visualization is not important in data analysis.

d) Python has several libraries available for data visualization.

Correct Answer: Option (d)

Explanation: Python has several libraries available for data visualization, including Matplotlib, Seaborn, Plotly, and Bokeh. These libraries provide a wide range of tools and techniques for creating high-quality visualizations of data. Data visualization is an important part of data analysis, as it allows users to explore and understand patterns and relationships in their data.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q43) Which of the following statements is true about the box plot in data visualization?**

a) It shows the distribution of a single variable.

b) It shows the correlation between two variables.

c) It shows the distribution of a single variable and the spread of a second variable.

d) It shows the distribution of a single variable and the spread of multiple variables.

Correct Answer: Option (a)

Explanation: The box plot, also known as the box and whisker plot, is a type of data visualization that shows the distribution of a single variable. It displays the median, quartiles, and outliers of the data, providing a visual summary of its spread and skewness. The box plot does not show the correlation between two variables or the spread of multiple variables.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q44) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following statements is true about data wrangling in Pandas?**

a) It is the process of transforming data from a raw form into a form suitable for analysis.

b) It only involves cleaning and filtering data.

c) It does not involve merging or combining datasets.

d) It is not necessary for data analysis.

Correct Answer: Option (a)

Explanation: Data wrangling is a critical process in data analysis that involves various tasks, including cleaning, filtering, transforming, and aggregating data from different sources to make it suitable for analysis. It aims to ensure data accuracy, consistency, and completeness by dealing with missing, duplicate, or inconsistent data.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q45) Which of the following is not a valid way to deal with missing data in Pandas?**

a) Removing the rows with missing data

b) Replacing the missing data with a fixed value

c) Filling in the missing data with the mean of the column

d) None of the above

Correct Answer: Option (d)

Explanation: All three, i.e., removing rows with missing data, replacing missing data with a fixed value, and filling in the missing data with the mean of the column, are valid ways to deal with missing data in Pandas.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q46) Which of the following plot types can be used to compare the distribution of a continuous variable across different groups?**

a) Line plot

b) Bar plot

c) Box plot

d) Scatter plot

Correct Answer: Option (c)

Explanation: Box plot, also known as box and whisker plot, is a plot type that can be used to compare the distribution of a continuous variable across different groups. It provides information about the median, interquartile range, and outliers for each group, allowing for easy comparison.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q47) Which of the following methods can be used to perform data normalization in Pandas?**

a) Min-max scaling

b) Z-score scaling

c) Robust scaling

d) All of the above

Correct Answer: Option (d)

Explanation: All three, i.e., min-max scaling, z-score scaling, and robust scaling, can be used to perform data normalization in Pandas. Min-max scaling scales the data to a fixed range (typically 0 to 1), z-score scaling scales the data to have zero mean and unit variance, and robust scaling scales the data using the median and interquartile range, making it robust to outliers.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q48) Which of the following statements about pivot tables in Pandas is false?**

a) Pivot tables can be used to summarize and aggregate data.

b) Pivot tables can be created using the pivot\_table() function in Pandas.

c) Pivot tables can only be created with numeric data.

d) Pivot tables can be used to analyze data from multiple dimensions.

Correct Answer: Option (c)

Explanation: The statement that pivot tables can only be created with numeric data is false. Pivot tables can be created with both numeric and non-numeric data, and can be used to summarize and analyze data from multiple dimensions. The pivot\_table() function in Pandas is used to create pivot tables, and can be customized to perform a variety of operations on the data, including aggregation and filtering.

Thus, the correct answer is option (c).

Difficulty Level- Very Hard

Bloom’s Taxonomy- Analyze

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**Q49) Which of the following data visualization libraries in Python is best suited for creating interactive visualizations?**

a) Seaborn

b) Matplotlib

c) Plotly

d) Pandas

Correct Answer: Option (c)

Explanation: Plotly is a data visualization library in Python that is best suited for creating interactive visualizations. Plotly provides a variety of visualization types, including scatter plots, line charts, and bar charts, and allows for easy customization of the visualizations with a simple and intuitive syntax. Plotly also allows for the creation of interactive visualizations with features such as hover text and zooming.

Thus, the correct answer is option (c).

Difficulty Level- Very Hard

Bloom’s Taxonomy- Analyze

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**Q50) Which of the following statements about data preprocessing is true?**

a) Data preprocessing involves only cleaning and formatting the data.

b) Data preprocessing involves converting the data into a format that is suitable for analysis.

c) Data preprocessing is not necessary for data analysis.

d) Data preprocessing is only necessary for machine learning applications.

Correct Answer: Option (b)

Explanation: Data preprocessing involves converting the data into a format that is suitable for analysis, which can include cleaning and formatting the data, as well as transforming the data to make it easier to analyze. Data preprocessing is an important step in data analysis, as it can help to improve the accuracy and efficiency of the analysis. Data preprocessing is not only necessary for machine learning applications, but also for other types of data analysis.

Thus, the correct answer is option (b).

Difficulty Level- Very Hard

Bloom’s Taxonomy- Analyze

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**Q51) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which SQL keyword is used to retrieve a specific row in a table?**

a) SELECT

b) WHERE

c) FROM

d) ORDER BY

Correct Answer: Option (b)

Explanation: The WHERE keyword is used in SQL to filter data and retrieve specific rows from a table based on a condition. For example, the query "SELECT \* FROM customers WHERE age > 18" will retrieve all rows from the "customers" table where the age column is greater than 18.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q52) Which SQL command is used to add a new column to an existing table?**

a) ALTER TABLE

b) ADD COLUMN

c) UPDATE TABLE

d) INSERT INTO

Correct Answer: Option (b)

Explanation: The ADD COLUMN command is used in SQL to add a new column to an existing table. For example, the query "ALTER TABLE customers ADD COLUMN email VARCHAR(255)" will add a new column called "email" with a data type of VARCHAR(255) to the "customers" table.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q53) Which SQL keyword is used to sort the result set in ascending or descending order?**

a) ORDER BY

b) GROUP BY

c) HAVING

d) DISTINCT

Correct Answer: Option (a)

Explanation: The ORDER BY keyword is used in SQL to sort the result set in ascending or descending order based on one or more columns. For example, the query "SELECT \* FROM products ORDER BY price DESC" will retrieve all rows from the "products" table and sort them in descending order based on the "price" column.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q54) Which SQL command is used to delete a table?**

a) DROP TABLE

b) DELETE TABLE

c) REMOVE TABLE

d) TRUNCATE TABLE

Correct Answer: Option (a)

Explanation: The DROP TABLE command is used in SQL to delete an entire table along with its data and metadata. For example, the query "DROP TABLE customers" will delete the "customers" table from the database.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q55) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which SQL command is used to update existing data in a table?**

a) ALTER

b) UPDATE

c) SET

d) MODIFY

Correct Answer: Option (b)

Explanation: The UPDATE command is used in SQL to modify existing data in a table. For example, the query "UPDATE customers SET age = 25 WHERE id = 1" will update the "age" column of the row with the "id" value of 1 in the "customers" table to 25.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q56) In SQL, what is the keyword used to retrieve data from a database table?**

a) SELECT

b) FROM

c) WHERE

d) JOIN

Correct Answer: Option (a)

Explanation: The SELECT keyword is used to retrieve data from a database table in SQL. It is used in conjunction with other keywords such as FROM, WHERE, and JOIN to filter and manipulate the data as needed.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q57) Which of the following SQL keywords is used to filter data based on a specific condition?**

a) SELECT

b) FROM

c) WHERE

d) JOIN

Correct Answer: Option (c)

Explanation: In SQL, the WHERE keyword is a powerful tool used to filter data from a table based on specific conditions. It is commonly used in conjunction with the SELECT keyword to retrieve specific data from one or more tables based on certain criteria, such as a particular value or range of values in a column. The WHERE clause can be used with logical operators such as AND, OR, and NOT to create complex filters.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q58) In SQL, which keyword is used to combine rows from different tables based on a related column between them?**

a) SELECT

b) FROM

c) WHERE

d) JOIN

Correct Answer: Option (d)

Explanation: The JOIN keyword is used to combine rows from different tables based on a related column between them in SQL. It allows for the creation of complex queries that involve multiple tables and data sources.

Thus, the correct answer is option (d).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q59) Which of the following SQL statements is used to insert data into a database table?**

a) SELECT

b) INSERT INTO

c) UPDATE

d) DELETE

Correct Answer: Option (b)

Explanation: The INSERT INTO statement is used to insert data into a database table in SQL. It is used in conjunction with the VALUES keyword to specify the data that should be inserted into each column of the table.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q60) Which SQL keyword is used to select data from a table?**

a) SELECT

b) FROM

c) WHERE

d) ORDER BY

Correct Answer: Option (a)

Explanation: The SELECT keyword is used in SQL to select data from a table. It is followed by a list of columns that you want to select data from. For example, the SQL query "SELECT \* FROM table\_name" selects all columns from the table named "table\_name".

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q61) Which SQL keyword is used to filter data in a WHERE clause?**

a) SELECT

b) FROM

c) WHERE

d) ORDER BY

Correct Answer: Option (c)

Explanation: The WHERE keyword is used in SQL to filter data in a WHERE clause. It is followed by a condition that specifies which rows to select. For example, the SQL query "SELECT \* FROM table\_name WHERE column\_name = 'value'" selects all columns from the table named "table\_name" where the value in the column named "column\_name" is equal to 'value'.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q62) Which SQL keyword is used to sort data in ascending or descending order?**

a) SELECT

b) FROM

c) WHERE

d) ORDER BY

Correct Answer: Option (d)

Explanation: The ORDER BY keyword is used in SQL to sort data in ascending or descending order. It is followed by the column name that you want to sort by and the sort order (ASC or DESC). For example, the SQL query "SELECT \* FROM table\_name ORDER BY column\_name DESC" selects all columns from the table named "table\_name" and sorts the data in descending order by the column named "column\_name".

Thus, the correct answer is option (d).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q63) Which SQL function is used to count the number of rows in a table?**

a) COUNT

b) SUM

c) AVG

d) MAX

Correct Answer: Option (a)

Explanation: The COUNT function is used in SQL to count the number of rows in a table. It can also be used with the DISTINCT keyword to count the number of distinct values in a column. For example, the SQL query "SELECT COUNT(\*) FROM table\_name" counts the number of rows in the table named "table\_name".

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Apply

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**Q64) Which of the following SQL commands is used to delete a table?**

a) DROP

b) DELETE

c) REMOVE

d) ERASE

Correct Answer: Option (a)

Explanation: The DROP command is used to delete a table from a database in SQL. It permanently removes the table and all of its data from the database. DELETE, REMOVE, and ERASE are not valid commands for deleting a table.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q65) Which of the following SQL statements is used to retrieve data from a database?**

a) SELECT

b) UPDATE

c) INSERT

d) ALTER

Correct Answer: Option (a)

Explanation: The SELECT statement is used to retrieve data from one or more tables in a database. It allows you to specify the columns you want to retrieve, the table or tables you want to retrieve data from, and any conditions or filters that should be applied to the data. UPDATE, INSERT, and ALTER are used to modify data in a database.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q66) Which SQL keyword is used to retrieve unique values from a table?**

a) SELECT

b) DISTINCT

c) UNIQUE

d) DIFFERENT

Correct Answer: Option (b)

Explanation: The DISTINCT keyword is used to retrieve unique values from a table in SQL. It is used in combination with the SELECT statement to specify the columns for which you want to retrieve unique values. SELECT, UNIQUE, and DIFFERENT are not valid keywords for retrieving unique values in SQL.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q67) Which SQL command is used to modify a table structure?**

a) ALTER

b) MODIFY

c) CHANGE

d) UPDATE

Correct Answer: Option (a)

Explanation: The ALTER command is used to modify the structure of a table in SQL. It allows you to add or delete columns, change the data type of columns, and modify other properties of the table. MODIFY and CHANGE are not valid commands in SQL, and UPDATE is used to modify data in a table, not its structure.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q68) Which SQL statement is used to select all columns and records from a table?**

a) SELECT ALL

b) SELECT \*

c) SELECT COLUMN

d) SELECT RECORDS

Correct Answer: Option (b)

Explanation: The SELECT \* statement is used to retrieve all columns and records from a table in SQL. This statement is commonly used to view the contents of a table and is also useful when querying large amounts of data. SELECT ALL is not a valid SQL statement, and others are not used to retrieve all columns and records.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q69) Which SQL statement is used to delete a table?**

a) DELETE TABLE

b) DROP TABLE

c) REMOVE TABLE

d) ERASE TABLE

Correct Answer: Option (b)

Explanation: The DROP TABLE statement is used to delete a table in SQL. This statement removes all data and the table structure from the database. It is a powerful command and should be used with caution to avoid unintended consequences.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q70) How do you rename a column in a panda’s Data frame?**

a) df.rename()

b) df.column\_rename

c) df.column()

d) df.name()

Correct Answer: Option (a)

Explanation: Method 1 -

Rename specific columns df.rename(columns={‘old\_col1’:’new\_col1’,’old\_col2’:’new\_col2’},inplace=True)

Method 2-

Rename all columns df.columns=[‘new\_col1’,’new\_col2’,’new\_col3’,‘new\_col4’]

Method 3-

Replace specific characters in column df.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q71) Which SQL statement is used to modify data in a table?**

a) MODIFY

b) ALTER

c) UPDATE

d) CHANGE

Correct Answer: Option (c)

Explanation: The UPDATE statement can also be used in conjunction with other SQL statements, such as JOIN and WHERE, to update specific rows or multiple tables at once. It is a powerful tool for managing data in a database, but it should be used carefully to avoid unintended changes to the data.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q72) In SQL, which command is used to retrieve data from a database?**

a) SELECT

b) DELETE

c) INSERT

d) UPDATE

Correct Answer: Option (a)

Explanation: The SELECT command is used in SQL to retrieve data from a database. This command is used to retrieve one or more columns of data from one or more tables in a database. The retrieved data can be filtered, sorted, and grouped according to specific criteria using the WHERE, ORDER BY, and GROUP BY clauses respectively.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q73) Which of the following operators is used to combine two or more conditions in SQL?**

a) AND

b) XNOR

c) NOT

d) XOR

Correct Answer: Options (a)

Explanation: In SQL, the AND and OR operators are used to combine two or more conditions in a WHERE clause. The AND operator is used to combine conditions where both conditions must be true for a row to be selected, while the OR operator is used to combine conditions where either one or both conditions must be true for a row to be selected.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q74) Which SQL statement is used to add data to a database?**

a) SELECT

b) INSERT INTO

c) UPDATE

d) DELETE FROM

Correct Answer: Option (b)

Explanation: The INSERT INTO statement is used in SQL to add new data to a database. This statement is used to specify the table and columns where the data should be added, and the values that should be added to each column.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q75) Which of the following clauses is used to filter data in SQL?**

a) SELECT

b) FROM

c) WHERE

d) GROUP BY

Correct Answer: Option (c)

Explanation: The WHERE clause is used in SQL to filter data based on specific criteria. This clause is used in conjunction with the SELECT statement to specify the conditions that must be met for a row to be selected from a table.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q76) Which SQL command is used to retrieve data from a table in a database?**

a) SELECT

b) UPDATE

c) INSERT

d) DELETE

Correct Answer: Option (a)

Explanation: The SELECT command is used to retrieve data from one or more tables in a database. It is the most commonly used command in SQL and is used to retrieve specific data based on certain conditions.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q77) Which SQL command is used to add a new column to an existing table in a database?**

a) ADD COLUMN

b) INSERT COLUMN

c) CREATE COLUMN

d) ALTER TABLE

Correct Answer: Option (d)

Explanation: In SQL, the ALTER TABLE command is a powerful tool that allows database administrators to modify the structure of an existing table. It can be used to add or remove columns, change data types or constraints, rename tables, and more. The ALTER TABLE command is critical for managing database schema changes without losing data.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q78) Which keyword is used in SQL to filter data based on a condition?**

a) SELECT

b) WHERE

c) FROM

d) JOIN

Correct Answer: Option (b)

Explanation: When you want to specify a subset of the data elements in an internal or SQL database data type, you use SQL filters, which are text strings. The filter is a SQL WHERE clause that offers a set of comparisons that must be true in order for a data item to be returned for internal data types and SQL databases.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q79) Which SQL command is used to group data based on one or more columns?**

a) WHERE

b) HAVING

c) GROUP BY

d) ORDER BY

Correct Answer: Option (c)

Explanation: In SQL, the GROUP BY clause is used to group data based on one or more columns. It is commonly used in conjunction with the SELECT statement to group data and perform aggregation functions on the grouped data, such as COUNT, SUM, AVG, MAX, and MIN. The GROUP BY clause creates groups of rows based on the values in the specified column or columns, and the aggregation functions are applied to each group separately. The WHERE clause is used to filter data based on specific conditions, while the HAVING clause is used to filter data after aggregation. The ORDER BY clause is used to sort the result set based on one or more columns.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q80) Which SQL keyword is used to sort the result-set in ascending or descending order?**

a) SORT BY

b) ORDER BY

c) GROUP BY

d) ARRANGE BY

Correct Answer: Option (b)

Explanation: The ORDER BY keyword is used to sort the result-set in ascending or descending order based on one or more columns. It is usually used with the SELECT statement. The default sorting order is ascending, but you can specify descending order by using the DESC keyword.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q81) Which SQL statement is used to update data in a table?**

a) MODIFY

b) ALTER

c) UPDATE

d) CHANGE

Correct Answer: Option (c)

Explanation: The UPDATE statement is used to modify or update existing records in a table. It can be used to update one or more columns at a time. The WHERE clause is used to specify the records that should be updated.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q82) Which SQL statement is used to delete data from a table?**

a) DELETE

b) REMOVE

c) ERASE

d) CLEAR

Correct Answer: Option (a)

Explanation: In SQL, the DELETE statement is used to remove one or more records from a table. It is often used in conjunction with the WHERE clause to specify the specific records that should be deleted based on certain criteria, such as a particular value or range of values in a column or a combination of columns. The DELETE statement should be used with caution, as it is a permanent deletion and cannot be undone.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q83) Which SQL statement is used to insert new data into a table?**

a) ADD

b) INSERT

c) CREATE

d) MAKE

Correct Answer: Option (b)

Explanation: In SQL, the INSERT statement is used to add new records to a table. It is commonly used to insert one or more rows at a time, and requires specifying the column names and their corresponding values in the statement. The INSERT statement can be used to add new data to an existing table, or to create a new table with initial data.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Apply

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**Q84) Which SQL keyword is used to retrieve data from multiple tables in a single query?**

a) JOIN

b) SELECT

c) WHERE

d) GROUP BY

Correct Answer: Option (a)

Explanation: The JOIN keyword is used to combine rows from two or more tables based on a related column between them. It allows the retrieval of data from multiple tables in a single query by specifying the relationship between the tables in the join condition. The SELECT keyword is used to specify the columns to be retrieved, WHERE is used to filter rows based on conditions, and GROUP BY is used to group rows based on one or more columns.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q85) Which SQL command is used to remove a table from a database?**

a) DELETE

b) DROP

c) TRUNCATE

d) REMOVE

Correct Answer: Option (b)

Explanation: The DROP command is used to remove a table from a database, along with all its data and indexes. DELETE is used to remove specific rows from a table, TRUNCATE is used to remove all rows from a table, and REMOVE is not a valid SQL command.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q86) Which of the following SQL commands is used to add a new column to an existing table?**

a) ADD COLUMN

b) ALTER TABLE

c) UPDATE

d) INSERT INTO

Correct Answer: Option (b)

Explanation: The ALTER TABLE command is used to modify the structure of an existing table, including adding or removing columns. The ADD COLUMN clause is used to add a new column to the table. UPDATE is used to modify data in the table, and INSERT INTO is used to add new rows to the table.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q87) Which of the following SQL statements is used to update existing data in a table?**

a) SELECT

b) MODIFY

c) ALTER

d) UPDATE

Correct Answer: Option (d)

Explanation: The UPDATE statement is used to modify existing data in a table based on specified conditions. It allows the user to change the values of one or more columns in one or more rows of the table. SELECT is used to retrieve data, MODIFY and ALTER are not valid SQL statements for updating data.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q88) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/12L3aR3jyHVEEURy3oEKc-9F9fu3\_KOoL/view?usp=share\_link**](https://drive.google.com/file/d/12L3aR3jyHVEEURy3oEKc-9F9fu3_KOoL/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following statements is true about the GROUP BY clause in SQL?**

a) It allows you to specify a column or expression to group the results by

b) It is used to filter records based on a condition

c) It is used to sort records in ascending or descending order

d) It is used to join multiple tables together

Correct Answer: Option (a)

Explanation: The GROUP BY clause is used in SQL to group the results of a query based on one or more columns or expressions. This can be useful for performing aggregate functions, such as calculating the sum or average of a group of records. By grouping the records together, you can see the data in a more organized and meaningful way. Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q89) Which of the following is a valid SQL command to add a new column to an existing table?**

a) INSERT INTO

b) ALTER TABLE

c) UPDATE

d) DELETE

Correct Answer: Option (b)

Explanation: The ALTER TABLE command is used in SQL to modify the structure of an existing table, including adding new columns. This command allows you to specify the name of the table, the type and length of the new column, and any constraints that should be applied.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q90) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1CQ2qlY1CGdtTP3nxchMktbhS4zqJ42aO/view?usp=share\_link**](https://drive.google.com/file/d/1CQ2qlY1CGdtTP3nxchMktbhS4zqJ42aO/view?usp=share_link) **)**

**TYPE: Audio**

**What is the purpose of a subquery in SQL?**

a) To join multiple tables together

b) To filter records based on a condition

c) To perform calculations on a group of records

d) To retrieve data from one table based on the values in another table

Correct Answer: Option (d)

Explanation: A subquery in SQL is a query that is nested inside another query, and is used to retrieve data from one table based on the values in another table. This can be useful for performing complex queries that involve multiple tables, and can help to simplify the overall query structure.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q91) Which of the following is NOT a valid SQL aggregate function?**

a) COUNT

b) SUM

c) AVERAGE

d) MAX

Correct Answer: Option (c)

Explanation: In SQL, there is no aggregate function called AVERAGE. The correct function name is AVG, which is used to calculate the average value of a group of records. The AVG function takes a single column as an argument and returns the average of all values in that column. It is commonly used in conjunction with the GROUP BY clause to calculate the average value of a specific column for each group of records.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q92) Which of the following SQL clauses is used to group the results of a query by one or more columns?**

a) ORDER BY

b) HAVING

c) GROUP BY

d) SELECT DISTINCT

Correct Answer: Option (c)

Explanation: The GROUP BY clause is used in SQL to group the results of a query by one or more columns. This clause is often used in combination with aggregate functions like SUM, COUNT, AVG, etc., which calculate values based on the groups defined by the GROUP BY clause. The ORDER BY clause is used to sort the results of a query, the HAVING clause is used to filter the results based on conditions on the grouped values, and the SELECT DISTINCT clause is used to remove duplicate rows from the result set.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q93) Which of the following SQL keywords is used to create a table in a database?**

a) ALTER

b) INSERT

c) CREATE

d) UPDATE

Correct Answer: Option (c)

Explanation: The CREATE keyword is used in SQL to create a new table in a database. The syntax for creating a new table involves specifying the name of the table, the names and data types of the columns in the table, and any constraints on the columns. The ALTER keyword is used to modify the structure of an existing table, the INSERT keyword is used to add new rows to a table, and the UPDATE keyword is used to modify the data in existing rows.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q94) Which of the following SQL statements is used to add a new column to an existing table?**

a) ALTER TABLE

b) ADD COLUMN

c) CREATE TABLE

d) UPDATE TABLE

Correct Answer: Option (a)

Explanation: The ALTER TABLE statement is used in SQL to modify the structure of an existing table. To add a new column to a table, the syntax for ALTER TABLE involves specifying the name of the table, the ADD COLUMN keyword, and the name and data type of the new column. The CREATE TABLE statement is used to create a new table, not modify an existing one. The ADD COLUMN keyword is not a valid statement on its own, and there is no UPDATE TABLE statement in SQL.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q95) Which of the following SQL join types returns only the rows from both tables that have matching values in the joined columns?**

a) INNER JOIN

b) LEFT JOIN

c) RIGHT JOIN

d) FULL OUTER JOIN

Correct Answer: Option (a)

Explanation: The INNER JOIN type in SQL returns only the rows from both tables that have matching values in the joined columns. This is the most common type of join used in SQL. The LEFT JOIN type returns all the rows from the left table and matching rows from the right table, while the RIGHT JOIN type returns all the rows from the right table and matching rows from the left table. The FULL OUTER JOIN type returns all the rows from both tables, with NULL values in the columns where there is no match.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q96) Which of the following SQL statements is used to retrieve all columns from a table named "students"?**

a) SELECT \*

b) SELECT ALL

c) SELECT FROM students

d) SELECT COLUMNS

Correct Answer: Option (a)

Explanation: The SQL statement used to retrieve all columns from a table is "SELECT ". The asterisk () is used as a placeholder for all columns, and the statement specifies the name of the table from which the data is to be retrieved.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q97) Which of the following clauses is used to sort the result set of an SQL query in ascending order by a specific column?**

a) SORT BY

b) ORDER BY

c) GROUP BY

d) ARRANGE BY

Correct Answer: Option (b)

Explanation: The "ORDER BY" clause is used to sort the result set of an SQL query in ascending or descending order by one or more columns. To sort the result set in ascending order by a specific column, the column name is specified followed by the keyword "ASC".

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q98) Which of the following SQL statements is used to delete a specific row from a table named "employees"?**

a) DELETE ALL FROM employees

b) DELETE ROW FROM employees

c) DELETE employees

d) DELETE FROM employees WHERE ...

Correct Answer: Option (d)

Explanation: The SQL statement used to delete a specific row from a table is "DELETE FROM employees WHERE ...", where the ellipsis (...) represents the condition that specifies which row to delete. This condition can be based on one or more column values.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q99) Which of the following SQL statements is used to create a new table named "customers" with columns for customer ID, name, and email address?**

a) CREATE TABLE customers (customer\_id, name, email)

b) CREATE TABLE customers (customer\_id INT, name VARCHAR(50), email VARCHAR(100))

c) CREATE TABLE customers (customer\_id PRIMARY KEY, name, email)

d) CREATE TABLE customers (customer\_id, name, email, PRIMARY KEY)

Correct Answer: Option (b)

Explanation: The SQL statement used to create a new table with specific columns and their data types is "CREATE TABLE table\_name (column1 datatype1, column2 datatype2, ...)". Therefore, option (b) is the correct answer as it specifies the table name "customers" and the data types for the columns "customer\_id", "name", and "email".

Thus, the correct answer is option (b).

Difficulty Level- Very Hard

Bloom’s Taxonomy- Apply

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**Q100) Which of the following SQL statements will give the same result as the following SQL query?**

**SELECT name, COUNT() as total**

**FROM orders**

**GROUP BY name**

**HAVING COUNT() > 10;**

a) SELECT name, COUNT() as total

FROM orders

WHERE total > 10

GROUP BY name;

b) SELECT name, COUNT() as total

FROM orders

GROUP BY name

WHERE total > 10;

c) SELECT name, COUNT() as total

FROM orders

HAVING total > 10

GROUP BY name;

d) SELECT name, COUNT() as total

FROM orders

WHERE COUNT(\*) > 10

GROUP BY name;

Correct Answer: Option (c)

Explanation: The given SQL query groups the orders by name, counts the total number of orders for each name, and returns only the names with more than 10 orders. In the correct SQL statement that will give the same result because it also uses the HAVING clause to filter the results after grouping, while the WHERE clause filters the rows before grouping. In other parts we use the WHERE clause to filter the rows, which would not produce the same result. The GROUP BY clause is used after the WHERE clause, which is syntactically incorrect.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Apply

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**Q101) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1Z5TaI0VMhsuAI8WADpAWEU5fmC7lHptJ/view?usp=share\_link**](https://drive.google.com/file/d/1Z5TaI0VMhsuAI8WADpAWEU5fmC7lHptJ/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is a device that connects multiple devices together to form a network?**

a) Router

b) Modem

c) Switch

d) Firewall

Correct Answer: Option (c)

Explanation: A switch is a device that connects multiple devices together to form a network. It is a layer 2 device that operates at the data link layer of the OSI model and forwards data based on the MAC addresses of the devices connected to it.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q102) Which of the following is a protocol used to transfer files over a network?**

a) FTP

b) HTTP

c) SMTP

d) SNMP

Correct Answer: Option (a)

Explanation: FTP can be used to upload and download files between a local computer and a remote server. It is commonly used for website maintenance, software updates, and file sharing. However, FTP is considered less secure than other file transfer protocols, and its use is declining in favor of more secure alternatives such as SFTP and FTPS.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q103) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following is a network topology in which each device is connected to a central device?**

a) Bus

b) Ring

c) Star

d) Mesh

Correct Answer: Option (c)

Explanation: A star topology is a network topology in which each device is connected to a central device, usually a switch or a hub. The central device manages the traffic on the network and allows devices to communicate with each other.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q104) Which of the following is a device that is used to amplify and regenerate signals in a network?**

a) Router

b) Modem

c) Repeater

d) Bridge

Correct Answer: Option (c)

Explanation: A repeater is a networking device that is used to regenerate and amplify signals in a network. It is used to extend the reach of a network by boosting weak signals and retransmitting them. Repeaters are commonly used in wired and wireless networks to improve signal quality and increase the coverage area of the network.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q105) Which device is used to connect multiple computers on a network?**

a) Router

b) Modem

c) Switch

d) Firewall

Correct Answer: Option (c)

Explanation: A switch is a networking device that is used to connect multiple devices, such as computers, printers, and servers, on a local area network (LAN). Switches are used to create a network by connecting devices together in a way that allows them to communicate with each other. They operate at the data link layer of the OSI model and can improve the overall performance and security of a network.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Remember

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**Q106) Which protocol is used for sending email over the internet?**

a) FTP

b) HTTP

c) SMTP

d) DNS

Correct Answer: Option (c)

Explanation: SMTP stands for Simple Mail Transfer Protocol, which is the standard protocol used for sending email messages over the internet. SMTP is responsible for delivering email messages from a client to a server, and from one server to another server, until the message reaches its final destination. It is a text-based protocol that operates on port 25 and uses a set of commands to transfer messages between email servers.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q107) Which type of network covers a small geographic area, such as an office or a building?**

a) LAN

b) WAN

c) MAN

d) SAN

Correct Answer: Option (a)

Explanation: LAN stands for Local Area Network, which is a type of computer network that covers a small geographic area, such as a single building or a group of buildings. LANs are typically used to connect computers, printers, and other devices within an office or a home, and can be connected to other LANs or the internet using a router or a switch.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q108) Which of the following is a network protocol used for email communication?**

a) FTP

b) HTTP

c) SMTP

d) SNMP

Correct Answer: Option (c)

Explanation: SMTP (Simple Mail Transfer Protocol) is a widely used network protocol that defines how email messages are exchanged between email servers. SMTP is responsible for sending email messages from the sender's email client or application to the recipient's email server. It uses a set of rules to ensure that email messages are delivered to the correct email server and that they are properly formatted for delivery.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q109) Which of the following protocols is used for secure file transfer over the internet?**

a) FTP

b) TFTP

c) SFTP

d) HTTP

Correct Answer: Option (c)

Explanation: SFTP (Secure File Transfer Protocol) is a network protocol used for secure file transfer over the internet. It is a secure extension of FTP (File Transfer Protocol) that uses SSH (Secure Shell) to encrypt the data during transmission.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q110) Which of the following is a protocol used for dynamic host configuration?**

a) TCP

b) DHCP

c) FTP

d) SNMP

Correct Answer: Option (b)

Explanation: DHCP (Dynamic Host Configuration Protocol) is a network protocol used for dynamic host configuration. It is a client/server protocol that automatically assigns IP addresses to devices on a network.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q111) Which of the following is a security protocol used for wireless networks?**

a) TCP/IP

b) FTP

c) WEP

d) HTTP

Correct Answer: Option (c)

Explanation: WEP (Wired Equivalent Privacy) is a security protocol that was commonly used to secure wireless networks. It uses encryption to protect wireless traffic from eavesdropping and unauthorized access. However, WEP is now considered insecure and has been replaced by more advanced security protocols such as WPA and WPA2.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q112) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1K8M3u8\_e-Z6oUWK3dvGoQcn\_MfREJIHm/view?usp=share\_link**](https://drive.google.com/file/d/1K8M3u8_e-Z6oUWK3dvGoQcn_MfREJIHm/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is a physical device used to connect multiple devices on a network?**

a) Hub

b) Router

c) Switch

d) Modem

Correct Answer: Option (c)

Explanation: In addition to forwarding data, switches also learn and remember the MAC addresses of devices connected to its ports and use this information to make forwarding decisions, which helps to reduce network congestion and improve performance.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q113) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1pJD\_iI6XS8dch3UeLG47TCQVkfmUv4zh/view?usp=share\_link**](https://drive.google.com/file/d/1pJD_iI6XS8dch3UeLG47TCQVkfmUv4zh/view?usp=share_link) **)**

**TYPE: Audio**

**In computer networks, which layer is responsible for providing end-to-end error control?**

a) Physical Layer

b) Data Link Layer

c) Transport Layer

d) Network Layer

Correct Answer: Option (c)

Explanation: The Transport Layer is responsible for providing end-to-end error control, in addition to other services such as segmentation and reassembly of messages and flow control. The Physical Layer is responsible for the physical transmission of data, the Data Link Layer is responsible for error detection and correction at the local level, and the Network Layer is responsible for routing and addressing.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q114) Which protocol is used for transferring files over the Internet?**

a) FTP

b) SMTP

c) HTTP

d) ICMP

Correct Answer: Option (a)

Explanation: FTP (File Transfer Protocol) is the protocol used for transferring files over the Internet. SMTP (Simple Mail Transfer Protocol) is used for sending email, HTTP (Hypertext Transfer Protocol) is used for accessing websites, and ICMP (Internet Control Message Protocol) is used for network troubleshooting.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q115) Which network topology has a central node that all other nodes are connected to?**

a) Bus

b) Ring

c) Star

d) Mesh

Correct Answer: Option (c)

Explanation: The Star topology has a central node (often a hub or switch) that all other nodes are connected to. The Bus topology has all nodes connected to a central cable, the Ring topology has each node connected to two adjacent nodes in a circular configuration, and the Mesh topology has each node connected to every other node in the network.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q116) Which type of network device forwards data packets based on their destination MAC address?**

a) Router

b) Switch

c) Hub

d) Repeater

Correct Answer: Option (b)

Explanation: A Switch is a network device that forwards data packets based on their destination MAC address, while a Router forwards packets based on their destination IP address. A Hub simply repeats signals to all connected devices, and a Repeater amplifies signals to extend the reach of a network.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q117) Which of the following is a device used to connect two or more networks together?**

a) Router

b) Switch

c) Hub

d) Modem

Correct Answer: Option (a)

Explanation: A router is a device that connects two or more networks together and forwards data packets between them. Routers operate at the network layer (layer 3) of the OSI model and use routing tables to determine the best path for forwarding packets. Switches and hubs are devices used to connect multiple devices within a network, while a modem is a device used to connect a computer or network to the Internet.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q118) Which of the following is a protocol used for securely transmitting data over the internet?**

a) HTTP

b) FTP

c) SSL/TLS

d) POP3

Correct Answer: Option (c)

Explanation: SSL/TLS (Secure Sockets Layer/Transport Layer Security) is a protocol used for securely transmitting data over the internet. SSL/TLS provides encryption and authentication of data, preventing unauthorized access and data interception. HTTP (Hypertext Transfer Protocol) and FTP (File Transfer Protocol) are used for transferring data over the internet but do not provide encryption. POP3 (Post Office Protocol version 3) is a protocol used for receiving emails.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q119) Which of the following is a topology in which all devices are connected to a single cable?**

a) Bus

b) Star

c) Ring

d) Mesh

Correct Answer: Option (a)

Explanation: In a bus topology, all devices are connected to a single cable, known as the bus. Data is transmitted along the bus, and each device receives and processes the data intended for it. A star topology connects all devices to a central hub or switch, while a ring topology connects devices in a circular configuration. A mesh topology connects devices to multiple nodes in a network, creating multiple paths for data transmission.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q120) Which of the following protocols is used for email communication over the internet?**

a) HTTP

b) SMTP

c) FTP

d) Telnet

Correct Answer: Option (b)

Explanation: SMTP (Simple Mail Transfer Protocol) is a protocol used for sending email messages between servers over the internet. It is a standard protocol for email communication on the internet. HTTP (Hypertext Transfer Protocol) is used for web page communication, FTP (File Transfer Protocol) is used for file transfer, and Telnet is used for remote login to a server.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q121) Which of the following is not a type of network topology?**

a) Bus

b) Ring

c) Mesh

d) Dial-up

Correct Answer: Option (d)

Explanation: Dial-up is a method of connecting to the internet using a phone line and a modem. It is not a type of network topology. The others are all types of network topologies: Bus, Ring, and Mesh.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q122) Which of the following is an advantage of a wireless network over a wired network?**

a) Higher data transfer rate

b) More secure

c) Easier to set up

d) Lower interference

Correct Answer: Option (c)

Explanation: One advantage of a wireless network over a wired network is that it is easier to set up. With a wireless network, there are no cables to run, making it easier and more convenient to set up. The others are not advantages of a wireless network over a wired network. Wired networks generally have higher data transfer rates, are more secure, and have lower interference.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q123) Which layer of the OSI model is responsible for routing and forwarding data between different networks?**

a) Application layer

b) Network layer

c) Transport layer

d) Data Link layer

Correct Answer: Option (b)

Explanation: The network layer is responsible for routing and forwarding data between different networks. It is the third layer of the OSI model and is responsible for logical addressing, routing, and path determination. The network layer uses logical addresses, such as IP addresses, to route data between networks.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q124) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following topologies is the most fault-tolerant?**

a) Bus Topology

b) Star Topology

c) Mesh Topology

d) Ring Topology

Correct Answer: Option (c)

Explanation: Mesh topology is the most fault-tolerant topology because it has multiple paths for data to travel. In a mesh topology, each node is connected to every other node in the network. This redundancy ensures that if one link fails, there are alternative paths for data to travel. This makes the network more fault-tolerant and less prone to failures.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q125) Which of the following protocols is used to send email messages over the Internet?**

a) FTP

b) SMTP

c) HTTP

d) TCP

Correct Answer: Option (b)

Explanation: SMTP (Simple Mail Transfer Protocol) is a protocol used to send email messages over the Internet. It is the standard protocol used for email transmission and is responsible for sending email messages from the client's computer to the email server. FTP (File Transfer Protocol) is used for transferring files between computers, HTTP (Hypertext Transfer Protocol) is used for transmitting web pages, and TCP (Transmission Control Protocol) is used for reliable communication between two applications.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q126) Which of the following devices is used to connect multiple networks together?**

a) Router

b) Switch

c) Modem

d) Hub

Correct Answer: Option (a)

Explanation: A router is a device used to connect multiple networks together. It is responsible for routing data between different networks and is the primary device used for connecting to the Internet. A switch is used for connecting multiple devices within a network, a modem is used to connect a computer to the Internet, and a hub is used to connect multiple devices within a network.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q127) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following is the correct order of the layers in the TCP/IP model?**

a) Application, Transport, Network, Data Link

b) Transport, Network, Data Link, Application

c) Network, Data Link, Transport, Application

d) Application, Data Link, Network, Transport

Correct Answer: Option (a)

Explanation: The correct order of the layers in the TCP/IP model is Application, Transport, Network, and Data Link. The Application layer is responsible for providing network services to the user, the Transport layer is responsible for providing reliable data transfer between applications, the Network layer is responsible for routing data between different networks, and the Data Link layer is responsible for transmitting data over a physical link.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q128) Which of the following protocols is used for remote login on a computer network?**

a) FTP

b) SMTP

c) Telnet

d) DNS

Correct Answer: Option (c)

Explanation: Telnet is a network protocol used for remote login and accessing resources on a computer network. It allows a user to log in to a remote computer as if they were sitting in front of it, and interact with the system as if it were a local computer. FTP (File Transfer Protocol) is used for transferring files between computers, SMTP (Simple Mail Transfer Protocol) is used for sending email messages, and DNS (Domain Name System) is used for translating domain names into IP addresses.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q129) Which of the following topologies has the highest level of fault tolerance in a computer network?**

a) Bus

b) Ring

c) Star

d) Mesh

Correct Answer: Option (d)

Explanation: In a mesh topology, each device in the network is connected to every other device, creating multiple redundant paths for data to travel. This redundancy provides a high level of fault tolerance, as even if one or more devices fail, the network can still function using alternative paths. In contrast, a bus topology has a single point of failure, a ring topology can be disrupted by a single break in the ring, and a star topology can be disrupted if the central hub fails.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q130) Which of the following network devices operates at the Data Link layer of the OSI model?**

a) Router

b) Switch

c) Gateway

d) Repeater

Correct Answer: Option (b)

Explanation: A switch is a network device that operates at the Data Link layer of the OSI model, which is responsible for providing error-free communication between devices on the same network segment. A router operates at the Network layer, which is responsible for routing data between different networks. A gateway operates at the Application layer, which is responsible for providing access to services and applications across different networks. A repeater operates at the Physical layer, which is responsible for transmitting bits over a communication channel.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q131) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1RYRemEljbQNIrVO5PXiIU9s92UIqgk51/view?usp=share\_link**](https://drive.google.com/file/d/1RYRemEljbQNIrVO5PXiIU9s92UIqgk51/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following wireless network standards provides the highest data transfer rates?**

a) 802.11a

b) 802.11b

c) 802.11g

d) 802.11n

Correct Answer: Option (d)

Explanation: 802.11n is a wireless network standard that provides the highest data transfer rates among the options given. It operates on both the 2.4GHz and 5GHz frequency bands and uses multiple-input multiple-output (MIMO) technology to improve performance. 802.11a operates on the 5GHz band and has a lower maximum data rate than 802.11n. 802.11b operates on the 2.4GHz band and has a slower data rate than 802.11n. 802.11g also operates on the 2.4GHz band and has a higher data rate than 802.11b but lower than 802.11n.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q132) Which of the following is NOT a characteristic of a wireless network?**

a) Mobility

b) Security

c) Scalability

d) Reliability

Correct Answer: Option (d)

Explanation: While wireless networks have many advantages, they can be less reliable than wired networks due to interference, signal loss, and distance limitations. Thus, reliability is not a characteristic of a wireless network. Mobility refers to the ability to connect to the network from anywhere within range, security refers to the protection of the network from unauthorized access, and scalability refers to the ability to expand the network as needed.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q133) Which of the following is NOT a function of a router?**

a) Forwarding packets between networks

b) Translating logical addresses to physical addresses

c) Implementing security policies

d) Filtering network traffic

Correct Answer: Option (b)

Explanation: While routers are responsible for forwarding packets between networks, implementing security policies, and filtering network traffic, they do not translate logical addresses to physical addresses. This is the function of a network switch or bridge.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q134) Which of the following is NOT a type of network topology?**

a) Mesh Topology

b) Star Topology

c) Tree Topology

d) Disk Topology

Correct Answer: Option (d)

Explanation: Disk topology is not a type of network topology. The correct types of network topology are Mesh Topology, Star Topology, and Tree Topology. A mesh topology has every node connected to every other node, a star topology has every node connected to a central hub or switch, and a tree topology has a hierarchical structure with multiple levels of nodes.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q135) Which of the following network topologies is most commonly used in modern LANs?**

a) Bus

b) Ring

c) Star

d) Mesh

Correct Answer: Option (c)

Explanation: The star topology is the most commonly used network topology in modern LANs. In a star topology, all devices in the network are connected to a central hub or switch, which acts as a central point of control and communication. This topology provides several advantages, including easy scalability, centralized control, and fault tolerance. In contrast, a bus topology has a single point of failure, a ring topology can be disrupted by a single break in the ring, and a mesh topology can be complex and difficult to manage.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Remember

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**Q136) Which of the following protocols is used for transferring files between clients and servers over the Internet?**

a) HTTP

b) FTP

c) SMTP

d) POP3

Correct Answer: Option (b)

Explanation: The File Transfer Protocol (FTP) is a standard network protocol used for transferring files from one host to another over the Internet. It is commonly used by web developers and designers to upload files to a web server, and by businesses to exchange files between clients and servers. FTP can be used with a wide range of file formats, such as text, images, audio, and video. HTTP (Hypertext Transfer Protocol) is used for communication between web browsers and web servers, SMTP (Simple Mail Transfer Protocol) is used for email communication over the Internet, and POP3 (Post Office Protocol version 3) is used for retrieving email from a remote server. Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q137) Which of the following network devices is used to connect multiple LANs together?**

a) Hub

b) Switch

c) Router

d) Repeater

Correct Answer: Option (c)

Explanation: A router is a network device that is used to connect multiple LANs together, as well as to connect LANs to the Internet. It operates at the Network layer of the OSI model, which is responsible for routing data between different networks. A hub and a switch are used to connect multiple devices within a LAN, and a repeater is used to regenerate signals over long distances.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Remember

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**Q138) Which of the following wireless network standards uses the 5GHz frequency band and provides the highest data transfer rates?**

a) 802.11a

b) 802.11b

c) 802.11g

d) 802.11ac

Correct Answer: Option (d)

Explanation: 802.11ac is a wireless network standard that uses the 5GHz frequency band and provides the highest data transfer rates among the options given. It uses multiple-input multiple-output (MIMO) technology and wider channel bandwidths to achieve speeds of up to several gigabits per second. 802.11a also uses the 5GHz band, but has a lower maximum data rate than 802.11ac. 802.11b operates on the 2.4GHz band and has a slower data rate than 802.11ac.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Remember

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**Q139) Answer the following question with reference to the audio**

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**TYPE: Audio**

**Which of the following protocols is used to establish a secure connection between a client and a server over the internet?**

a) HTTP

b) FTP

c) SSH

d) Telnet

Correct Answer: Option (c)

Explanation: The Secure Shell (SSH) protocol is used to establish a secure connection between a client and a server over the internet. It provides a secure channel for remote login, file transfer, and other network services. Unlike Telnet and FTP, which transmit data in plain text, SSH encrypts all data, making it much more secure. HTTP, on the other hand, is used for web browsing, and does not provide the level of security offered by SSH.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q140) Which of the following network topologies uses a centralized control device to manage the flow of data?**

a) Bus

b) Ring

c) Star

d) Mesh

Correct Answer: Option (c)

Explanation: A star topology uses a centralized control device, such as a switch or hub, to manage the flow of data. All devices in the network are connected to this central device, and all communication between devices must pass through it. This makes it easier to manage and troubleshoot the network, as well as allowing for better control over the flow of data. In contrast, bus and ring topologies do not use a centralized control device, and mesh topologies have multiple paths for data to travel, making them more difficult to manage.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q141) Which of the following is a type of routing algorithm that takes into account the speed and distance of each path to determine the best route?**

a) Distance-vector

b) Link-state

c) Hybrid

d) Static

Correct Answer: Option (a)

Explanation: Distance-vector routing algorithms take into account the speed and distance of each path to determine the best route. This type of algorithm calculates the distance to each destination network, and selects the path with the lowest cumulative distance. Link-state routing algorithms, on the other hand, take into account the entire network topology to determine the best route. Hybrid routing algorithms combine aspects of both distance-vector and link-state algorithms. Static routing algorithms use fixed routes that are manually configured by the network administrator.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q142) Which of the following layers of the OSI model is responsible for ensuring that data is delivered error-free and in the correct sequence?**

a) Transport

b) Network

c) Data Link

d) Physical

Correct Answer: Option (a)

Explanation: The Transport layer of the OSI model is responsible for ensuring that data is delivered error-free and in the correct sequence. It accomplishes this by providing services such as flow control, error recovery, and segmentation and reassembly. The Network layer is responsible for routing packets between networks, the Data Link layer is responsible for the reliable transmission of data between adjacent nodes, and the Physical layer is responsible for the transmission of raw bit streams over a physical medium.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q143) Which of the following is a routing protocol used in computer networks?**

a) HTTP

b) SMTP

c) OSPF

d) FTP

Correct Answer: Option (c)

Explanation: OSPF (Open Shortest Path First) is a popular routing protocol used in computer networks to determine the shortest path for data to travel from one network to another. It is used by routers to exchange information about the network topology and find the most efficient path for data transmission. HTTP (Hypertext Transfer Protocol) is a protocol used for web communication, SMTP (Simple Mail Transfer Protocol) is used for email communication, and FTP (File Transfer Protocol) is used for file transfer. These are not routing protocols.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q144) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1fVEcips-SNQZIr3sOUX8u5O78VY\_-U4N/view?usp=share\_link**](https://drive.google.com/file/d/1fVEcips-SNQZIr3sOUX8u5O78VY_-U4N/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is not a characteristic of a computer network?**

a) Sharing of resources

b) Communication between devices

c) Transmission of data in a secure manner

d) Centralized control

Correct Answer: Option (d)

Explanation: A computer network is a collection of interconnected devices that share resources, communicate with each other, and transmit data. The network may be decentralized, with no single device controlling the entire network. Centralized control is not a characteristic of a computer network. In a centralized network, a single device controls the entire network, which can create a single point of failure and limit the network's scalability.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q145) Which of the following is an example of a network topology where all devices are connected to a single central device?**

a) Mesh

b) Ring

c) Star

d) Bus

Correct Answer: Option (c)

Explanation: In a star topology, all devices are connected to a central device, such as a hub or switch. The central device manages the network traffic and ensures that data is transmitted to the correct device. A mesh topology involves all devices being connected to each other, while a ring topology connects devices in a circular loop. In a bus topology, all devices are connected to a single cable.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q146) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1\_pAQwxZYqXCtCOOsEcIkabeO9k5RHvfP/view?usp=share\_link**](https://drive.google.com/file/d/1_pAQwxZYqXCtCOOsEcIkabeO9k5RHvfP/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is not a component of the TCP/IP protocol suite?**

a) HTTP

b) IP

c) TCP

d) DNS

Correct Answer: Option (a)

Explanation: The TCP/IP protocol suite is a set of protocols used for communication on the internet and other computer networks. It includes several protocols, including IP (Internet Protocol), TCP (Transmission Control Protocol), and DNS (Domain Name System). HTTP (Hypertext Transfer Protocol) is a protocol used for web communication, but it is not part of the TCP/IP protocol suite.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q147) Which of the following devices operates at the physical layer of the OSI model?**

a) Switch

b) Router

c) Repeater

d) Gateway

Correct Answer: Option (c)

Explanation: The OSI model consists of seven layers, with each layer having a specific function. The physical layer is the lowest layer of the model and is responsible for transmitting raw bits over a communication channel. A repeater is a device that operates at the physical layer and is used to regenerate signals to extend the reach of a network. It amplifies and retransmits the signals it receives, helping to overcome signal loss and interference that can occur as data travels along a network.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q148) Which of the following protocols is used for securely accessing a remote server?**

a) FTP

b) Telnet

c) SSH

d) SMTP

Correct Answer: Option (c)

Explanation: Secure Shell (SSH) is a network protocol used for secure communication between networked devices, typically between a client and a server. It is commonly used for remote login and secure file transfer over an unsecured network, such as the internet. It provides strong encryption and authentication, ensuring that sensitive data is protected from eavesdropping and tampering. FTP (File Transfer Protocol) is used for transferring files between servers, Telnet is used for remote login to a server, and SMTP (Simple Mail Transfer Protocol) is used for sending email messages.

Thus, the correct answer is option (c).

Difficulty Level- Very Hard

Bloom’s Taxonomy- Understand

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**Q149) Which of the following is not a type of network topology?**

a) Mesh

b) Ring

c) Tree

d) Cable

Correct Answer: Option (d)

Explanation: Network topology refers to the physical layout of a network, including the way in which devices are connected and the paths that data takes as it moves through the network. Mesh, ring, and tree are all examples of network topologies. Mesh topology is a network where each device is connected to every other device, ring topology connects devices in a circular fashion, and tree topology connects devices in a hierarchical fashion. Cable, on the other hand, is not a type of network topology but is a medium used for transmitting data.

Thus, the correct answer is option (d).

Difficulty Level- Very Hard

Bloom’s Taxonomy- Remember

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**Q150) In computer networking, what is the purpose of the Network Layer?**

a) To establish, maintain, and terminate connections between devices

b) To transmit data between devices on the same network

c) To provide error-free transmission of data

d) To route data packets across different networks

Correct Answer: Option (d)

Explanation: The Network Layer is responsible for routing data packets across different networks, which involves selecting the best path for data transmission based on network topology, traffic load, and other factors. It also ensures that data packets are delivered to the correct destination device by adding routing information to each packet. The Network Layer provides logical addressing, which enables devices on different networks to communicate with each other using a standardized addressing scheme.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q151) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1t8CN5dlc85kOow6dg\_n9Z9cgGynRrhmf/view?usp=share\_link**](https://drive.google.com/file/d/1t8CN5dlc85kOow6dg_n9Z9cgGynRrhmf/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is an example of an electronic payment system?**

a) Cash

b) Cheque

c) Credit card

d) Money order

Correct Answer: Option (c)

Explanation: A credit card is an example of an electronic payment system, as it allows for the transfer of funds electronically between the buyer and the seller. In contrast, cash, cheques, and money orders are all physical forms of payment that require physical exchange.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Remember

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**Q152) Which of the following is a potential disadvantage of social media?**

a) Increased social connections

b) Improved access to information

c) Increased risk of cyberbullying

d) Increased productivity

Correct Answer: Option (c)

Explanation: One potential disadvantage of social media is an increased risk of cyberbullying, which can have negative impacts on mental health and well-being. While social media can also provide benefits such as increased social connections and improved access to information, it is important to be aware of the potential risks and take steps to mitigate them.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q153) Which of the following is an example of an e-commerce website?**

a) Wikipedia

b) Amazon

c) YouTube

d) LinkedIn

Correct Answer: Option (b)

Explanation: Amazon is an example of an e-commerce website, as it allows users to purchase goods and services online. In contrast, Wikipedia, YouTube, and LinkedIn are all examples of websites that provide information and social networking services.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Remember

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**Q154) Which of the following is an example of a computer virus?**

a) Firewall

b) Trojan horse

c) Spam

d) Spyware

Correct Answer: Option (b)

Explanation: A Trojan horse is an example of a computer virus, as it is a type of malicious software that is designed to look like a legitimate program but can cause harm to the computer system. Firewalls are security measures that help to protect against viruses and other types of malware, while spam and spyware are types of unwanted messages and software, respectively.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q155) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1\_rGYcITVrqcimALFu\_SClWJ2aaH4sPk7/view?usp=share\_link**](https://drive.google.com/file/d/1_rGYcITVrqcimALFu_SClWJ2aaH4sPk7/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is an example of a cybercrime?**

a) Identity theft

b) Physical theft

c) Jaywalking

d) Littering

Correct Answer: Option (a)

Explanation: Identity theft is an example of a cybercrime, as it involves the theft of personal information through electronic means. Physical theft, jaywalking, and littering are all examples of crimes that do not involve electronic means.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q156) What is the full form of ICT?**

a) Integrated Communication Technology

b) Information and Computer Technology

c) Information and Communication Technology

d) Intelligent Computer Technology

Correct Answer: Option (c)

Explanation: ICT stands for Information and Communication Technology. It refers to the use of technology to manage and process information, as well as to communicate and share that information with others.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Remember

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**Q157) Which of the following is an example of a distributed denial-of-service (DDoS) attack?**

a) Phishing attack

b) SQL injection attack

c) Man-in-the-middle attack

d) Ping flood attack

Correct Answer: Option (d)

Explanation: A distributed denial-of-service (DDoS) attack is a type of cyber attack where a network of compromised devices is used to flood a target system with traffic, causing it to become unavailable to legitimate users.ping flood attack, is a type of DDoS attack where the attacker floods the target system with ping requests, causing it to become unresponsive.

Thus, the correct answer is option (d).

Difficulty Level- Easy

Bloom’s Taxonomy- Understand

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**Q158) What is the difference between a stack and a queue data structure?**

a) A stack is a LIFO (Last In First Out) data structure, while a queue is a FIFO (First In First Out) data structure.

b) A stack is a FIFO data structure, while a queue is a LIFO data structure.

c) A stack and a queue are the same thing.

d) A stack and a queue both use a random access method to access elements.

Correct Answer: Option (a)

Explanation: A stack is a LIFO (Last In First Out) data structure, while a queue is a FIFO (First In First Out) data structure. A stack is a data structure in which elements are added and removed from the top, and the last element added is the first to be removed. A queue, on the other hand, is a data structure in which elements are added to the rear and removed from the front, and the first element added is the first to be removed. Understanding the differences between these two data structures is important in computer science and programming, particularly when designing algorithms or data structures for specific tasks.

Thus, the correct answer is option (a).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q159) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/14wTt-GLiBYVmFnWG5JiDKqSk6mpNYN8c/view?usp=share\_link**](https://drive.google.com/file/d/14wTt-GLiBYVmFnWG5JiDKqSk6mpNYN8c/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is a benefit of using technology in education?**

a) Limited access to information

b) Reduced collaboration among students

c) Improved access to educational resources

d) Increased dependence on traditional methods

Correct Answer: Option (c)

Explanation: Technology can enhance education by providing students with access to a vast array of educational resources, including online libraries, multimedia learning tools, and interactive simulations. This can help to improve students' understanding and engagement with the material.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q160) Which of the following is not a social impact of technology?**

a) Increased communication and connectivity

b) Increased job opportunities

c) Increased isolation and loneliness

d) Increased access to information

Correct Answer: Option (b)

Explanation: While technology has certainly had a significant impact on the job market, the net effect is debatable. While some jobs have been lost due to automation, technology has also created new job opportunities. Therefore, increased job opportunities are not considered a negative social impact of technology.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q161) Which of the following is a negative environmental impact of technology?**

a) Reduced paper waste due to digital documents

b) Increased use of renewable energy sources

c) Increased electronic waste

d) Reduced energy consumption

Correct Answer: Option (c)

Explanation: Electronic waste, or e-waste, is a growing problem as more and more electronic devices are discarded each year. These devices contain hazardous materials that can pose a threat to the environment if not disposed of properly.

Thus, the correct answer is option (c).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q162) Which of the following is a positive economic impact of technology?**

a) Reduced employment opportunities

b) Increased productivity and efficiency

c) Increased social inequality

d) Reduced economic growth

Correct Answer: Option (b)

Explanation: Technology has enabled businesses to automate many processes, leading to increased productivity and efficiency. This can lead to cost savings and increased profits, which can have a positive economic impact.

Thus, the correct answer is option (b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q163) Which of the following is a positive social impact of technology?**

a) Increased social isolation

b) Increased access to education and information

c) Increased crime rates

d) Increased cultural homogenization

Correct Answer: Option (b)

Explanation: Technology has made it easier than ever before to access educational resources and information. This can help to reduce social inequality by providing access to education and information to people who might not otherwise have access.

Thus, the correct answer is option b).

Difficulty Level- Easy

Bloom’s Taxonomy- Analyze

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**Q164) Which of the following is a potential consequence of technology addiction?**

a) Increased productivity

b) Improved mental health

c) Decreased social skills

d) Increased physical fitness

Correct Answer: Option (c)

Explanation: Technology addiction can lead to a decrease in social skills, as excessive use of technology can lead to decreased face-to-face interaction and increased isolation. While technology can also provide benefits such as increased productivity and improved access to information, it is important to use technology in moderation and be aware of the potential negative consequences.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q165) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1XNb10NkaaKEGqZAppd45UVnxOa9a0Gzk/view?usp=share\_link**](https://drive.google.com/file/d/1XNb10NkaaKEGqZAppd45UVnxOa9a0Gzk/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is an example of a privacy violation?**

a) Sharing personal information with a trusted friend

b) Giving a false name on a social media profile

c) Posting a picture of someone without their permission

d) Keeping personal information private

Correct Answer: Option (c)

Explanation: Posting a picture of someone without their permission is an example of a privacy violation, as it involves sharing personal information without the individual's consent. Sharing personal information with a trusted friend can be appropriate in certain contexts, while giving a false name on a social media profile and keeping personal information private are both ways to protect privacy.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q166) Which of the following is an example of a computer network?**

a) A single computer

b) A printer

c) A modem

d) The Internet

Correct Answer: Option (d)

Explanation: The Internet is an example of a computer network, as it allows multiple computers and other devices to connect and communicate with each other. A single computer, printer, and modem are all individual devices that are not part of a network.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q167) What is the purpose of a MAC address in computer networking?**

a) To identify the physical location of a device on the network.

b) To uniquely identify a device on the network.

c) To provide security to network traffic.

d) To route network traffic between devices.

Correct Answer: Option (b)

Explanation: A MAC (Media Access Control) address is a unique identifier assigned to a network interface controller (NIC) for use as a network address in communications within a network segment. The purpose of a MAC address is to provide a unique identification for each device on a network, allowing network protocols to distinguish between different devices and direct traffic accordingly. MAC addresses are used in Ethernet and Wi-Fi networks, and are necessary for the functioning of the Data Link layer of the OSI (Open Systems Interconnection) model. Understanding the purpose of MAC addresses is important in computer networking, as they play a crucial role in the communication and organization of devices on a network.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q168) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1FXVbFVSec4M-uF8ILLrk8CNmRnZs1BqN/view?usp=share\_link**](https://drive.google.com/file/d/1FXVbFVSec4M-uF8ILLrk8CNmRnZs1BqN/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is a potential risk associated with the use of social media?**

a) Increased social connections

b) Improved communication skills

c) Cyberbullying

d) Better mental health

Correct Answer: Option (c)

Explanation: While social media can offer many benefits, such as increased social connections and improved communication skills, it also presents a potential risk of cyberbullying. Cyberbullying involves using technology to harass, intimidate, or humiliate another person, and can have serious consequences for the victim's mental health and well-being. Therefore, it is important to be aware of the potential risks associated with social media use and take steps to mitigate them.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q169) Which of the following is an example of an e-waste item?**

a) A printer

b) A mouse pad

c) A USB cable

d) A power strip

Correct Answer: Option (a)

Explanation: E-waste, or electronic waste, refers to discarded electronic devices and equipment that may contain hazardous materials such as lead, mercury, and cadmium. A printer is an example of an e-waste item, as it contains electronic components and may also have ink or toner cartridges that need to be disposed of properly.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q170) Which of the following is an example of a phishing scam?**

a) A pop-up window asking for your email address

b) A text message from your bank asking you to confirm your account information

c) A phone call from a telemarketer selling a product

d) A notification from a social media platform about a new friend request

Correct Answer: Option (b)

Explanation: Phishing is a type of cyber attack in which an attacker attempts to trick a user into revealing sensitive information, such as usernames, passwords, or bank account numbers. A common phishing scam involves sending a fake email or text message that appears to be from a legitimate source, such as a bank or social media platform, and asking the user to provide personal information.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q171) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1KJoCgV9qH4L\_7RkeM0jQvyHSHI3xNESt/view?usp=share\_link**](https://drive.google.com/file/d/1KJoCgV9qH4L_7RkeM0jQvyHSHI3xNESt/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is an advantage of using open-source software?**

a) Higher costs

b) Limited customizability

c) Greater security

d) Limited availability

Correct Answer: Option (c)

Explanation: Open-source software refers to software that is freely available for use and modification by anyone, and often has a community of developers contributing to its development and improvement. One advantage of using open-source software is that it may have greater security, as the source code is available for inspection by anyone and vulnerabilities can be identified and addressed quickly.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q172) Which of the following is NOT a societal impact of information and communication technology (ICT)?**

a) Increased access to education and healthcare

b) Widening the digital divide

c) Encouraging globalization and cultural homogenization

d) Enhancing political participation and transparency

Correct Answer: Option (a)

Explanation: Information and communication technology has had a profound impact on society, and its effects can be both positive and negative is incorrect because increased access to education and healthcare is a positive impact of ICT. Widening the digital divide is correct because the digital divide refers to the gap between those who have access to technology and those who do not, which is a negative impact.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q173) Which of the following is an example of cybercrime?**

a) Using social media to share news articles

b) Creating a fake profile on a dating app

c) Shopping online using a credit card

d) Posting a comment on a blog

Correct Answer: Option (b)

Explanation: Cybercrime involves criminal activities conducted through the internet, such as identity theft, phishing, hacking, and creating fake profiles. Legitimate activities like sharing news articles on social media, shopping online using a credit card, and posting comments on a blog are not considered cybercrime. However, activities like creating a fake profile on a dating app are considered cybercrime as they are intended to deceive and potentially cause harm to others.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q174) Which of the following is NOT a way in which ICT can be used to promote sustainable development?**

a) Improving access to clean energy

b) Reducing greenhouse gas emissions

c) Facilitating e-waste management

d) Promoting the use of disposable products

Correct Answer: Option (d)

Explanation: Sustainable development aims to meet the current needs without jeopardizing the ability of future generations to fulfill their own needs. ICT has the potential to promote sustainable development by facilitating e-waste management, reducing greenhouse gas emissions, and improving access to clean energy. However, promoting disposable products contradicts sustainable development principles by increasing waste and environmental damage.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q175) Which of the following is an example of cyberbullying?**

a) Complimenting someone online

b) Sharing someone's personal information without their consent

c) Ignoring someone's messages

d) Posting a funny meme

Correct Answer: Option (b)

Explanation: Cyberbullying refers to the use of digital technology to harass, intimidate, or harm another person. Sharing someone's personal information without their consent is a common form of cyberbullying, as it can lead to embarrassment, humiliation, and even physical harm. Complimenting someone online or posting a funny meme is not considered cyberbullying, while ignoring someone's messages could be considered a form of social exclusion but not necessarily cyberbullying.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q176) Which of the following is not an example of cybercrime?**

a) Hacking into someone's computer

b) Spreading a computer virus

c) Using someone's credit card without permission

d) Posting a negative review online

Correct Answer: Option (d)

Explanation: Cybercrime refers to criminal activities that involve the use of digital technology, such as hacking, spreading viruses, and stealing personal information. Posting a negative review online is not considered cybercrime, as long as it does not involve defamation, harassment, or other illegal activities.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q177) Which of the following is a potential impact of social media on mental health?**

a) Reduced feelings of loneliness and isolation

b) Increased social support and connection

c) Negative self-comparisons and body image issues

d) Improved self-esteem and confidence

Correct Answer: Option (c)

Explanation: Social media can have both positive and negative effects on mental health. On the one hand, it can increase social support and connection, leading to positive outcomes. On the other hand, social media can also contribute to negative self-comparisons and body image issues.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q178) Which of the following is NOT a factor that contributes to the digital divide?**

a) Socioeconomic status

b) Geographical location

c) Age

d) Gender

Correct Answer: Option (d)

Explanation: The digital divide refers to the gap between those who have access to technology and those who do not. Socioeconomic status, geographical location, and age are all factors that contribute to the digital divide. However, gender is not a significant factor, as both men and women have similar levels of access to technology.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Remember

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**Q179) Which of the following is an example of a cyber-attack?**

a) Using a search engine to find information online

b) Sending an email to a friend

c) Infecting a computer with malware

d) Posting a photo on social media

Correct Answer: Option (c)

Explanation: A cyber-attack refers to a deliberate attempt to damage or disrupt computer systems, networks, or devices, often with malicious intent. Infecting a computer with malware is an example of a cyber-attack, as it is intended to cause harm. Others are all legitimate activities that do not involve any malicious intent or harm.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q180) Which of the following is an example of an ethical issue related to information technology?**

a) Choosing a secure password for online accounts

b) Protecting personal information from identity theft

c) Ensuring software and hardware are up to date

d) Balancing privacy and security concerns

Correct Answer: Option (d)

Explanation: Ethics refers to moral principles that guide behavior and decision-making. An ethical issue related to information technology is one that involves ethical considerations, such as privacy, security, and social responsibility. Balancing privacy and security concerns is an example of an ethical issue related to information technology, as it requires making decisions that balance the need for privacy with the need for security. Others are all important considerations related to information technology, but they are not necessarily ethical issues.

Thus, the correct answer is option (d).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q181) In the context of societal impacts, which of the following is an example of the digital divide?**

a) A company selling outdated computers to low-income families

b) A school providing free Wi-Fi to all students

c) A government agency requiring citizens to submit online forms

d) A social media platform banning hate speech

Correct Answer: Option (a)

Explanation: The digital divide refers to the gap between those who have access to technology and those who do not. This divide can be caused by various factors such as income, location, age, and education. In option (a), the company is selling outdated computers to low-income families, which can further widen the digital divide as these computers may not be able to run the latest software or applications. Others do not represent examples of the digital divide.

Thus, the correct answer is option (a).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q182) Which of the following is an example of a negative impact of social media on mental health?**

a) Increased social support and connection

b) Reduced feelings of loneliness

c) Increased negative self-comparisons

d) Improved self-esteem and confidence

Correct Answer: Option (c)

Explanation: Social media has both positive and negative impacts on mental health. Although it has the potential to increase social support and connection, it can also lead to negative self-comparisons and body image issues, resulting in negative effects.

Thus, the correct answer is option (c).

Difficulty Level- Medium

Bloom’s Taxonomy- Understand

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**Q183) Which of the following is an example of a positive impact of artificial intelligence (AI) on society?**

a) Increased unemployment due to automation

b) Improved accuracy in medical diagnosis

c) Decreased privacy due to surveillance

d) Increased dependence on machines and technology

Correct Answer: Option (b)

Explanation: Artificial intelligence can have positive impacts on society, such as improving medical diagnosis, increasing industry efficiency, and enhancing access to information. For example, AI can help medical professionals diagnose illnesses more accurately, leading to better treatment outcomes. However, AI can also have negative impacts, including increased unemployment due to automation, decreased privacy due to surveillance, and increased dependence on machines and technology.

Thus, the correct answer is option (b).

Difficulty Level- Medium

Bloom’s Taxonomy- Analyze

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**Q184) Which of the following is an example of an ethical issue related to artificial intelligence?**

a) A self-driving car causing a fatal accident

b) An online retailer using customer data to personalize ads

c) A virtual assistant providing incorrect information

d) A social media platform banning hate speech

Correct Answer: Option (a)

Explanation: Artificial intelligence poses ethical concerns related to privacy, bias, accountability, and potential harm or accidents. For instance, a fatal accident caused by a self-driving car raises questions about the accountability, liability, and responsibility of designers and programmers to ensure the safety of the technology.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q185) Which of the following is an example of a negative impact of social media on society?**

a) Increased political engagement and awareness

b) Improved access to educational resources

c) Cyberbullying and harassment

d) Increased social support and connection

Correct Answer: Option (c)

Explanation: Social media has various impacts on society, including positive and negative effects. Cyberbullying and harassment are examples of negative impacts of social media on individuals and society, as they can cause emotional distress, damage reputations, and even lead to violence. Others represent positive impacts of social media.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q186) Which of the following is an example of a privacy-preserving technology?**

a) Facial recognition software

b) GPS tracking devices

c) Encryption software

d) Social media platforms

Correct Answer: Option (c)

Explanation: Privacy-preserving technologies are designed to protect user privacy and data by preventing unauthorized access, disclosure, or use. Encryption software is an example of such technology, as it uses complex algorithms to encode data and ensure that only authorized parties can access it. Facial recognition software and GPS tracking devices are examples of technologies that can potentially compromise user privacy, while social media platforms are known for their privacy issues and data breaches.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q187) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1qYbmZffZzgwOF0PlhDUTm2sDWK3cSGko/view?usp=share\_link**](https://drive.google.com/file/d/1qYbmZffZzgwOF0PlhDUTm2sDWK3cSGko/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is an example of an impact of automation on the workforce?**

a) Increased demand for skilled labor

b) Decreased productivity and efficiency

c) Increased job security for low-skilled workers

d) Decreased wages and employment opportunities

Correct Answer: Option (d)

Explanation: Automation refers to the use of technology and machines to perform tasks that were previously done by humans. The impact of automation on the workforce can be both positive and negative, but one common negative impact is the displacement of workers and the potential for decreased wages and employment opportunities. Others Represent potential positive impacts of automation.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q188) Which of the following is NOT a potential societal impact of information technology?**

a) Job displacement

b) Increased surveillance and loss of privacy

c) Improved healthcare and access to information

d) Increased social inequality and exclusion

Correct Answer: Option (c)

Explanation: Information technology has the potential to bring about various societal impacts, both positive and negative. Job displacement and increased surveillance are examples of negative impacts, while improved healthcare and access to information are examples of positive impacts. Increased social inequality and exclusion are also potential negative impacts, as technology can create a digital divide between those who have access to technology and those who do not. However, improved healthcare and access to information are not considered negative impacts, but rather positive impacts that technology can have on society.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q189) Which of the following is an example of digital colonialism?**

a) The development of e-commerce platforms in developing countries

b) The outsourcing of call center jobs to developing countries

c) The use of social media to spread propaganda and influence elections in other countries

d) The use of drones to monitor and control populations in other countries

Correct Answer: Option (c)

Explanation: Digital colonialism refers to the domination and control of digital resources and infrastructure by powerful countries or corporations over less powerful ones, often resulting in economic exploitation and cultural imperialism. The use of social media to spread propaganda and influence elections in other countries is an example of digital colonialism, as it involves the manipulation of digital resources to exert control.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q190) Which of the following is an example of indirect discrimination?**

a) Refusing to hire someone because of their gender

b) Only hiring candidates who speak a certain language fluently

c) Paying female employees less than male employees for the same job

d) Providing access to a building only through stairs, without an elevator

Correct Answer: Option (b)

Explanation: Indirect discrimination occurs when a policy or practice that appears to be neutral has a disproportionately negative impact on a particular group. In this case, hiring candidates who only speak a certain language fluently could indirectly discriminate against candidates who do not speak that language fluently, even if language fluency is not explicitly listed as a job requirement. This could disproportionately impact candidates from certain ethnic or language backgrounds, and thus constitute indirect discrimination.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q191) Which of the following is a limitation of using social media data for sentiment analysis?**

a) Social media data is readily available and easy to collect

b) Social media data may not be representative of the overall population

c) Social media data is always accurate and reliable

d) Social media data can be analyzed without taking into account the context or nuances of the conversation

Correct Answer: Option (b)

Explanation: While social media data can provide a wealth of information for sentiment analysis, it may not always be representative of the overall population. People who use social media may not be a representative sample of the general population, and certain groups may be over- or under-represented. Additionally, people may not express their true feelings on social media, or may be more likely to express extreme opinions than they would in other contexts. Therefore, it is important to take these limitations into account when analyzing social media data for sentiment analysis.

Thus, the correct answer is option (b).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q192) Which of the following is an example of a positive societal impact of technology?**

a) Increased privacy and security concerns

b) Increased social isolation and disconnection

c) Improved access to education and healthcare

d) Increased inequality and social division

Correct Answer: Option (c)

Explanation: Technology has the potential to provide many positive societal impacts, such as improving access to education and healthcare. For example, online education platforms can make learning more accessible to people in remote or underserved areas, while telemedicine can enable people to receive medical care remotely. By providing these services, technology can help improve the quality of life for many people, especially those who may not have had access to these resources otherwise.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q193) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1gJs8845umaGOYOFM\_AwK0M-cHycUk9Pu/view?usp=share\_link**](https://drive.google.com/file/d/1gJs8845umaGOYOFM_AwK0M-cHycUk9Pu/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is a potential ethical concern related to the use of facial recognition technology?**

a) It may be too accurate and invade people's privacy

b) It may be too costly and only available to the wealthy

c) It may be used to identify and track people without their consent

d) It may be used to unfairly target certain groups based on their appearance

Correct Answer: Option (c)

Explanation: Facial recognition technology has the potential to be used for many purposes, both positive and negative. However, a potential ethical concern is the use of this technology to identify and track people without their consent. This could be used for surveillance purposes, such as tracking people's movements in public spaces or monitoring their online activity. Additionally, facial recognition technology may not be accurate or reliable, leading to false identifications and potential harm to innocent people. Therefore, it is important to consider these ethical concerns when implementing facial recognition technology.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q194) Which of the following is not a negative impact of the use of ICT on society?**

a) Cyberbullying

b) Addiction to technology

c) Increased global communication

d) Social isolation

Correct Answer: Option (c)

Explanation: The use of ICT (Information and Communication Technology) has both positive and negative impacts on society. Cyberbullying, addiction to technology, and social isolation are all negative impacts of ICT use. However, increased global communication is not a negative impact. Rather, it is a positive impact as it allows people to communicate and connect with others from around the world, breaking down geographic barriers and promoting cultural exchange.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q195) Which of the following is a privacy threat posed by the use of social media?**

a) Identity theft

b) Increased social connectivity

c) Improved access to information

d) Enhanced collaboration

Correct Answer: Option (a)

Explanation: One of the negative impacts of social media on society is the privacy threat it poses. Social media platforms collect vast amounts of personal data from their users, which can be used to steal their identities. This can lead to financial losses, reputational damage, and other negative consequences. Increased social connectivity, improved access to information, and enhanced collaboration are all positive impacts of social media use.

Thus, the correct answer is option (a).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q196) Which of the following is a legal and ethical issue related to the use of ICT?**

a) Increased efficiency

b) Improved productivity

c) Cybercrime

d) Enhanced communication

Correct Answer: Option (c)

Explanation: Cybercrime is a legal and ethical issue related to the use of ICT. The use of ICT has made it easier for criminals to engage in activities such as hacking, identity theft, and online fraud. This has led to an increase in cybercrime, which is a major concern for individuals, businesses, and governments. Increased efficiency, improved productivity, and enhanced communication are all positive impacts of ICT use.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q197) Which of the following is not a benefit of e-governance?**

a) Improved transparency

b) Increased efficiency

c) Reduced corruption

d) Increased bureaucracy

Correct Answer: Option (d)

Explanation: E-governance refers to the use of ICT to improve the delivery of government services to citizens. It has several benefits, including improved transparency, increased efficiency, and reduced corruption. However, it does not lead to increased bureaucracy. Rather, e-governance is intended to streamline government processes and reduce bureaucracy.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Understand

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**Q198) Answer the following question with reference to the audio**

**(** [**https://drive.google.com/file/d/1NeS8hl1Ajutok6OCGHs5LPup\_c16CuoT/view?usp=share\_link**](https://drive.google.com/file/d/1NeS8hl1Ajutok6OCGHs5LPup_c16CuoT/view?usp=share_link) **)**

**TYPE: Audio**

**Which of the following is not a challenge faced by developing countries in adopting ICT?**

a) Limited access to technology

b) Lack of digital skills

c) Insufficient financial resources

d) Excessive dependence on ICT

Correct Answer: Option (d)

Explanation: Developing countries face several challenges in adopting ICT (Information and Communication Technology), including limited access to technology, lack of digital skills, and insufficient financial resources. However, excessive dependence on ICT is not a challenge faced by these countries. Rather, it is a challenge faced by developed countries, where people may become overly reliant on technology and lose important skills such as face-to-face communication and critical thinking.

Thus, the correct answer is option (d).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q199) Which of the following is an example of a non-tariff barrier to trade?**

a) Import quotas

b) Export subsidies

c) Voluntary export restraints

d) Dumping

Correct Answer: Option (c)

Explanation: Non-tariff barriers to trade are any policy measures other than tariffs that can impact trade between countries. Examples of non-tariff barriers include import quotas, export subsidies, voluntary export restraints, and dumping. In this case, option (c) is the correct answer, as voluntary export restraints are a type of non-tariff barrier where the exporting country agrees to limit the quantity of its exports to the importing country in order to avoid trade disputes or tariffs.

Thus, the correct answer is option (c).

Difficulty Level- Hard

Bloom’s Taxonomy- Analyze

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**Q200) Which of the following is an example of a positive externality?**

a) A factory polluting a nearby river

b) An individual smoking in public

c) A homeowner planting a garden in their front yard

d) A company building a new shopping mall

Correct Answer: Option (c)

Explanation: Positive externalities are benefits that are enjoyed by society as a whole, but that are not fully reflected in market prices. Examples of positive externalities include education, healthcare, and environmental protection. Option (c) is the correct answer, as a homeowner planting a garden in their front yard can provide benefits such as improved air quality, increased property values, and enhanced aesthetic appeal for the community as a whole.

Thus, the correct answer is option (c).

Difficulty Level- Very Hard

Bloom’s Taxonomy- Analyze

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