```
from google.colab import drive
drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).
```

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns

df = pd.read_csv('/content/drive/MyDrive/almabetter 1/cognoRise_datasets&task/Unemployment in India.csv')
```

```
df.head()
```

	Region	Date	Frequency	Estimated Unemployment Rate (%)	Estimated Employed	Estimated Labour Participation Rate (%)	Area
0	Andhra Pradesh	31-05-2019	Monthly	3.65	11999139.0	43.24	Rural
1	Andhra Pradesh	30-06-2019	Monthly	3.05	11755881.0	42.05	Rural
2	Andhra Pradesh	31-07-2019	Monthly	3.75	12086707.0	43.50	Rural

Next steps: Generate code with df View recommended plots

```
df.shape
```

```
(768, 7)
```

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 768 entries, 0 to 767
Data columns (total 7 columns):
 #   Column                                   Non-Null Count  Dtype
---  ------                                   --------------  -----
 0   Region                                   740 non-null    object
 1    Date                                    740 non-null    object
 2    Frequency                               740 non-null    object
 3    Estimated Unemployment Rate (%)         740 non-null    float64
 4    Estimated Employed                      740 non-null    float64
 5    Estimated Labour Participation Rate (%) 740 non-null    float64
 6   Area                                     740 non-null    object
dtypes: float64(3), object(4)
memory usage: 42.1+ KB
```

```
df[' Date'] = pd.to_datetime(df[' Date'])
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 768 entries, 0 to 767
Data columns (total 7 columns):
 #   Column                                   Non-Null Count  Dtype
---  ------                                   --------------  -----
 0   Region                                   740 non-null    object
 1    Date                                    740 non-null    datetime64[ns]
 2    Frequency                               740 non-null    object
 3    Estimated Unemployment Rate (%)         740 non-null    float64
 4    Estimated Employed                      740 non-null    float64
 5    Estimated Labour Participation Rate (%) 740 non-null    float64
 6   Area                                     740 non-null    object
dtypes: datetime64[ns](1), float64(3), object(3)
memory usage: 42.1+ KB
<ipython-input-6-1cfb1ea72026>:1: UserWarning: Parsing dates in  %d-%m-%Y format when dayfirst=False (the default) was specified. Pass `dayfirst=True` or sp
  df[' Date'] = pd.to_datetime(df[' Date'])
```

```
df.isnull().sum()
New_df = df.copy()
New_df['Region'] = New_df['Region'].fillna(method='ffill')
New_df[' Date'] = pd.to_datetime(New_df[' Date'].fillna(method='bfill'))
New_df[' Frequency'] = New_df[' Frequency'].fillna(method='ffill')
New_df[' Estimated Unemployment Rate (%)'] = New_df[' Estimated Unemployment Rate (%)'].fillna(New_df[' Estimated Unemployment Rate (%)'].mean())
New_df[' Estimated Employed'] = New_df[' Estimated Employed'].fillna(New_df[' Estimated Employed'].mean())
New_df[' Estimated Labour Participation Rate (%)'] = New_df[' Estimated Labour Participation Rate (%)'].fillna(New_df[' Estimated Labour Participation Rate (%)'
New_df['Area'] = New_df['Area'].fillna(method='ffill')
New_df.isnull().sum()
```

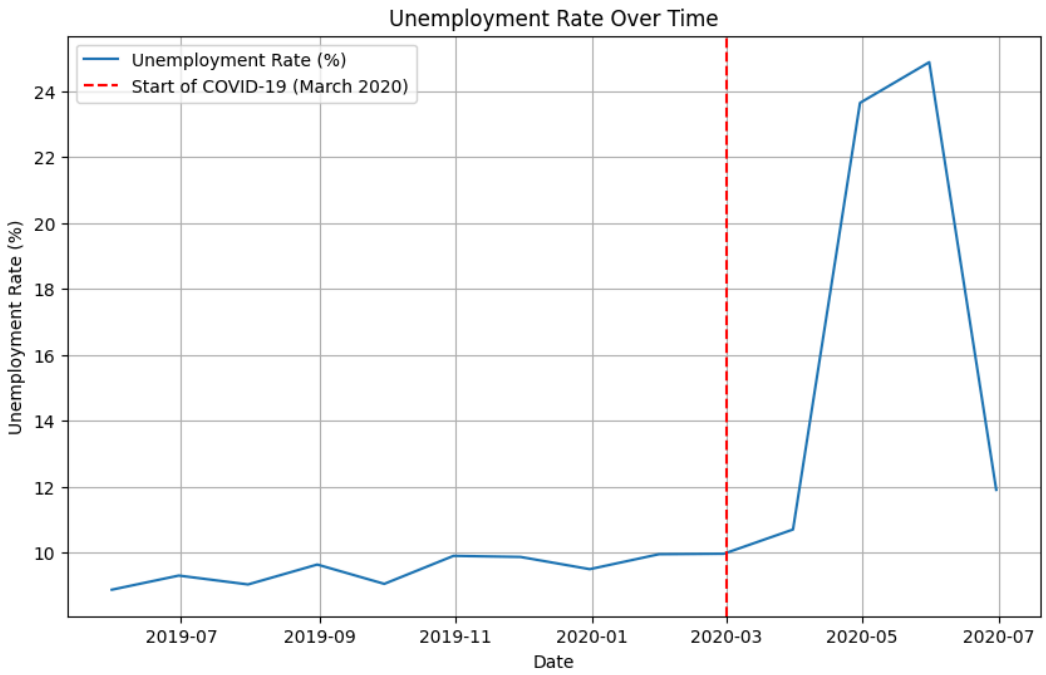
```
Region                                   0
 Date                                   14
 Frequency                               0
 Estimated Unemployment Rate (%)         0
 Estimated Employed                      0
 Estimated Labour Participation Rate (%)     0
```

```
Area                                   0
dtype: int64
```

```
# Sort data by Date
New_df.sort_values(by=' Date', inplace=True)
```

```
# Filter data for COVID-19 period (from March 2020 onwards)
covid_start_date = pd.to_datetime('2020-03-01')
data_covid = New_df[New_df[' Date'] >= covid_start_date]
mean_unemployment_over_time = df.groupby(' Date')[' Estimated Unemployment Rate (%)'].mean()

# Plot the overall trend of the unemployment rate over time
plt.figure(figsize=(10, 6))
plt.plot(mean_unemployment_over_time.index, mean_unemployment_over_time.values, label='Unemployment Rate (%)')
plt.axvline(covid_start_date, color='r', linestyle='--', label='Start of COVID-19 (March 2020)')
plt.xlabel('Date')
plt.ylabel('Unemployment Rate (%)')
plt.title('Unemployment Rate Over Time')
plt.legend()
plt.grid(True)
plt.show()
```



Start coding or generate with AI.