Part-A

1) What library is used to extract statistics from time series data?

a.Numpy b. Pandas c. OpenCV d. Matplotlib

2)Time series data is always not numerical.

a.True b. False

3)To visualize time series data plot it using

a.Visualize() b. plot() c. Barchart d. chart()

4)What content is extracted from time series data?

a.Text b. Image c. Statistics d. Speech

5)To extract starting and end dates

a.string() b. extract() c. date() d. str()

6)Which is known as the properties of the signal that extend over interval?

(A). Hops

(B). Rate

(C). Frames

(D). All of these

7)Which is considered as a problem of probabilistic inference?

(A). Utterance

(B). Speaking

(C). Hearing

(D). Speech recognition

8)Fourier Transform is used in

(A). Slicing audio signals data

(B). Plotting audio signals data

(C). Transforming audio signals data

(D). Generating audio signals data

9)Additional variables are added in HMM in Which of the following model?

(A). Temporal model

(B). Reality model

(C). Probability model

(D). All the mentioned

10)Which of the following Artificial intelligence algorithm works by first running the standard forward pass to compute?

(A). Smoothing

(B). Modified smoothing

(C). HMM

(D). Depth-first search algorithm

11)The signal that is used in speech recognition is known as?

(A). Acoustic signal

(B). Electric signal

(C). Electromagnetic signal

(D). Radar

12)Select the dominant modality for communication between humans?

(A). Hear

(B). Speech

(C). Smell

(D). None of these

13)MFCC uses

(A). Filter banks and tan transform

(B). Features and sine transform

(C). Filter banks and cosine transform

(D). Features and cosine transform

14)How we can describe the state of the process in HMM?

(A). Literal

(B). Single random variable

(C). Single discrete random variable

(D). None of these

15)Which of the following algorithm is applicable for solving temporal probabilistic reasoning?

(A). Hill-climbing search algorithm

(B). Hidden Markov model

(C). Depth-first search algorithm

(D). Breadth-first search algorithm

16)Which function is used to load the letters data?

a.crf.load\_data() b. loaddata() c. load() d. data()

17)What is the method used to train the CRF?

a. train() b. crf() c. crf.train() d. crf\_train()

18)Which one is not a form of time series data?

a. int64 b. float64 c. bool d. double

19)How to import numpy?

a. import numpy as np b. import numpy c. import np d. import numpy as num

20)How to convert the data into a pandas data frame?

a. DataFrame() b. pd.DataFrame() c. pd\_DataFrame() d. pdDataFrame()

Part-B

Explain about Operating on time series data in python

Describe about Transforming data into the time series format in python

Extracting statistics from time series data with examples

What do you mean by ensemble learning?

What is the difference between Data Mining and Machine Learning?

Describe 'Training set' and 'training Test'.

What is the method to avoid overfitting?

Differentiate supervised and unsupervised machine learning.

Why instance-based learning algorithm sometimes referred to as Lazy learning algorithm?

Illustrate about Conditional Random Fields

How Hidden Markov Models performs in python

Write a program to display users selected year calendar on to the console.

Part- C

Discuss in detail about Building Hidden Markov Models for sequential data using python

Explain the Building Conditional Random Fields for sequential text data

Extract the features of Audio Signal using MFCC.

Construct a Speech Recognition Mechanism that is used in Infotainment System

Explain the concept of transforming audio signals into the frequency domain.

Build a Speech Recognition Model using Hidden Markov Model.

Describe the Time Series and Sequential Data with examples.

Explain Analyzing stock market data using Hidden Markov Models.