1

Question: What is the primary goal of the paper being analyzed?

A) To develop a new machine learning algorithm for COVID-19 diagnosis.

B) To identify frequent symptom patterns across demographic groups and explore correlations with outcomes.

C) To predict the spread of COVID-19 in different geographical regions.

D) To evaluate the effectiveness of various COVID-19 vaccines.

Correct Answer: B

2

Question: Which frequent pattern mining algorithm is employed in the paper?

A) Apriori

B) FP-Tree

C) FPGrowth

D) ECLAT

Correct Answer: C

3

Question: What is a key advantage of FPGrowth over traditional statistical models in this context?

A) It can predict future COVID-19 cases with higher accuracy.

B) It reveals complex itemset patterns and associations more effectively.

C) It requires less computational resources for analysis.

D) It is less sensitive to missing data.

Correct Answer: B

4

Question: What type of data is FPGrowth particularly well-suited for analyzing?

A) Time series data

B) Image data

C) Large transactional data

D) Text data

Correct Answer: C

5

Question: What is a quantitative comparison based on in the analysis using FPGrowth?

A) Statistical significance

B) Frequency of itemsets

C) P-values

D) Confidence intervals

Correct Answer: B

6

Question: Which of the following is NOT listed as an advantage of FPGrowth?

A) Interpretability

B) Scalability

C) Guaranteeing optimal solutions

D) Actionable insights

Correct Answer: C

7

Question: What is one limitation of the FPGrowth algorithm?

A) It can only handle small datasets.

B) It is insensitive to support and confidence thresholds.

C) It can be complex to interpret with high-dimensional data.

D) It is computationally very expensive.

Correct Answer: C

8

Question: Which of the following is a potential application of the method discussed in the paper?

A) Developing new COVID-19 treatments

B) Public health surveillance for symptom clusters

C) Designing clinical trials for vaccines

D) Manufacturing medical equipment

Correct Answer: B

9

Question: What symptom set was frequently associated with certain age groups in the simulations?

A) [Fever, cough, loss of smell]

B) [Sore throat, shortness of breath, nausea, headache]

C) [Chills, muscle pain, fatigue]

D) [Runny nose, sneezing, congestion]

Correct Answer: B

10

Question: What did the association rules generated in the simulation reveal?

A) Correlations between vaccination status and symptom severity

B) Strong confidence values for associations between hospitalization status and symptom co-occurrences

C) The effectiveness of different social distancing measures

D) The impact of pre-existing conditions on COVID-19 outcomes

Correct Answer: B

11

Question: How was the quantitative comparison between the simulation results and the paper's findings performed?

A) By comparing the number of frequent itemsets found

B) By comparing specific support, confidence, or lift values

C) By comparing the execution time of the algorithm

D) By comparing the size of the datasets used

Correct Answer: B

12

Question: What type of insights were used for the qualitative comparison between the simulation and the paper?

A) Statistical significance levels

B) Prevalence of specific symptom patterns in different groups

C) Precision and recall values of the algorithm

D) The number of association rules generated

Correct Answer: B