



- graphs, and charts
- (viii) Select the framework which is commonly used for quality/performance measurement in healthcare.
- a) HEDIS (Healthcare Effectiveness Data and Information Set)      b) HIPAA (Health Insurance Portability and Accountability Act)
- c) ICD-10 (International Classification of Diseases, Tenth Revision)      d) HITECH (Health Information Technology for Economic and Clinical Health)
- (ix) Identify the R package which is commonly used for data visualization.
- a) ggplot2      b) dplyr
- c) tidyr      d) readr
- (x) Select the primary statistical test for examining the relationship between two categorical variables.
- a) Chi-Square test      b) t-Test
- c) Analysis of Variance (ANOVA)      d) Correlation analysis
- (xi) Select the statistical method used to estimate parameters of a statistical model when the data follows a specific distribution.
- a) Maximum Likelihood Test      b) Correlation analysis
- c) t-Test      d) Chi-Square test
- (xii) Decide when a Chi-Square test is typically employed.
- a) To assess the correlation between variables      b) To examine variance between groups
- c) To determine association between categorical variables      d) To compare means of more than two groups
- (xiii) Select the technique employed to model the impact of geographic factors on healthcare service utilization.
- a) Geographic Information Systems (GIS)      b) Trends Analysis
- c) Linear Regression      d) Exponential Smoothing
- (xiv) Identify what systems medicine aims to achieve by incorporating interactions between various components of health and disease.
- a) Comprehensive understanding of disease mechanisms      b) Isolation of individual factors contributing to diseases
- c) Reduction of complexity in disease modeling      d) Limitation of data integration
- (xv) Identify how systems medicine utilizes genotypic and phenotypic data.
- a) By integrating them into predictive models      b) By ignoring their relationship
- c) By using only one type of data      d) By summarizing their complexity

### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Differentiate between tactical BI and strategic BI, highlighting their respective purposes in healthcare management. (3)
3. Explain the importance of data visualization in healthcare analytics and decision-making. (3)
4. What is the overview of the data mining process? (3)
5. Illustrate what sentiment analysis entails and provide examples of its applications in healthcare data analysis. (3)
6. Discuss about Big Data in the context of healthcare and discuss its implications for healthcare analytics. (3)

OR

Discuss the Overview-Overwhelm framework and its significance in healthcare analytics. (3)

### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe the role of analytics in supporting a data-driven learning healthcare system. (5)
8. Write about common forecasting challenges encountered in healthcare trends analysis. (5)
9. Illustrate some output protocols utilized in data mining. (5)
10. Explain the role of data mining in improving patient care and outcomes. (5)
11. Evaluate the scope of systems medicine. (5)
12. Evaluate statistical hypothesis generation and testing, and explain its conduct. (5)

**OR**

Explain the Chi-Square test and evaluate its application in statistical analysis. (5)

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