BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – MBA(HM)-2023
Course Name – Health Care Analytics
Course Code - MBAHM405
(Semester IV)

Full Marks : 60 **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question) 1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Explain the statistical method commonly utilized for analyzing healthcare data.
a) Linear regression b) Tasting food
c) Identifying customer preferences d) Predicting stock prices

(ii) Discuss the significance of data analysis in influencing healthcare decision-making.
a) None b) Provides evidence-based insights
c) Increases uncertainty d) Encourages random decision-making

(iii) How is machine learning used in healthcare data analysis?
a) To brew coffee b) For disease diagnosis
c) To predict the outcome of sports events d) To design fashion trends

(iv) Identify the importance of data visualization in healthcare analysis.
a) Makes data more confusing b) Helps interpret complex data
c) Adds irrelevant information d) Delays decision-making

(v) Which analysis identifies relationships between variables and predictive factors?
a) Chi-Square test b) t-Test
c) Correlation analysis d) Cost Effectiveness Analysis

(vi) Predict the plot Which would be appropriate for visualizing distributions of continuous variables.
a) Scatter Plot b) Box Plot
c) Pie Chart d) Bar Graph

(vii) KPI stands for_____
a) Key Performance Indicators b) Key Performance Identifer
c) Key Processes Identifer d) Key Processes Indicators

(viii) Choose the name of method, is commonly employed for assessing population variation when the dependent variable is continuous.
a) Maximum Likelihood Test b) Correlation analysis

c) Analysis of Variance (ANOVA) d) Cost Effectiveness Analysis

(ix) What is the primary purpose of data visualization in R?

a) To make data analysis more complicated b) To simplify complex data

c) To increase data redundancy d) To decrease data security

(x) Determine the function in R ,which is commonly used for creating scatter plots.

a) plot() b) table()

c) barplot() d) hist()

(xi) Predict which statistical technique is employed to analyze the impact of geographic factors on healthcare outcomes.

a) Linear Regression b) Trends Analysis

c) Exponential Smoothing d) Seasonal Decomposition

(xii) Select the statistical technique commonly employed for analyzing the variation in healthcare processes.

a) Analysis of Variance (ANOVA) b) Chi-Square Test

c) T-Test d) Correlation Analysis

(xiii) Illustrate which statistical method is used to analyze the relationship between two continuous variables.

a) Correlation Analysis b) T-Test

c) Analysis of Variance (ANOVA) d) Chi-Square Test

(xiv) Illustrate how systems medicine incorporates interactions between genotypic and phenotypic data.

a) By integrating them into predictive models b) By focusing solely on one type of data

c) By ignoring their relationship d) By simplifying disease modeling

(xv) Explain the primary benefit of incorporating behavioral and environmental factors in systems medicine.

a) It provides a holistic view of health and disease b) It complicates disease modeling

c) It reduces the need for data integration d) It ignores the influence of external factors

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Explain the role of analytics in supporting a data-driven learning healthcare system. (3)
3. Explain how cost-effectiveness analysis is utilized in healthcare decision-making and contrast it with other decision-making methods. (3)
4. Explain the process of conducting geography-based service assessments. (3)
5. How do data mining standards contribute to the healthcare industry? (3)
6. Analyze how Systems Medicine incorporates genotypic and phenotypic data into predictive models and justify its significance in healthcare research. (3)

OR

Justify the primary objective of Systems Medicine and argue its significance in healthcare research and practice. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Describe the process of implementing clinical intelligence solutions in a healthcare setting. (5)
8. Name some key terminologies and describes how they are used in the healthcare system for standardizing healthcare data. (5)
9. Discuss the importance of considering interactions between health-related components. (5)
10. Explain the t-Test and its applications in data analysis. (5)
11. Explain some common techniques used in mining healthcare data. (5)

12. Evaluate how the R language contributes to healthcare data analysis, discriminating by estimating its role in data manipulation, visualization, statistical analysis, and predictive modeling compared to other programming languages. (5)

OR

Evaluate the significance of integrating various types of healthcare data for analysis and decision-making in healthcare. (5)

****